HANDBOOK OF RESEARCH IN ENTREPRENEURSHIP EDUCATION, VOLUME 1

Handbook of Research in Entrepreneurship Education, Volume 1

A General Perspective

Edited by

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Foreword: the third wave of entrepreneurship education and the importance of fun in learning

Jerome A. Katz

In my 2006 United States Association for Small Business and Entrepreneurship (USASBE) keynote address (Katz, 2006a), I made the point that the business-school based discipline of entrepreneurship was arguably the point of centrality for the new wave of growth in entrepreneurship education – a wave which is spreading out from business schools across campuses. The first wave of entrepreneurship education was a global one, spread by agricultural researchers through the model we have come to know as agricultural extension (Jones and Garforth, 1997; Katz, 2006b). The second wave came when the extension model was embraced by business school faculty and government business development specialists, and the business-school based approach to entrepreneurship education emerged, spreading across the United States, and then to business schools worldwide (Katz, 2006b).

Today, with business schools as the center or hub, we are seeing the third wave of growth, which is across individual campuses rather than jumping from one university to another. Called cross-campus entrepreneurship (Fountain, 2004; Shaver, 2005) or academic entrepreneurship (Shane, 2004), we see a renewed growth (cf. Vesper, 1985) across disciplines, and this volume showcases the nature and benefits of that third wave.

Part of this growth comes from the creation of new forms of entrepreneurship and academic programs to teach it. Part I of this volume focuses on this process. For example, in their chapters, David Kirby, Allan Gibb, Kevin Hindle, and Zelimir Todorovic conceptualize what forms that broader and more inclusive model of entrepreneurship might take. Why are new models needed? In part because of the burden of the intellectual legacy of business schools, with their fixation on the managerial (versus the entrepreneurial) model, which is wonderfully described in the chapter of Hjorth and Johannisson. It is also caused in part by the social legacy of business schools, with their fixation on perpetuating historical networks, networks which excluded women and minorities, a problem outlined and challenged in the chapter by Betters-Reed, Moore and Hunt in Part II. The potential for redefining the nature of entrepreneurship and entrepreneurship education comes from the power of groups to socially construct their realities. In her chapter in Part II, Denise Fletcher points out how moving away from the social constructivist model typical of business-school-based entrepreneurship education and toward a social constructionist approach could offer enhanced intellectual freedom to academics in search of a more realistic and inclusive paradigm.

This theme of a new paradigm of entrepreneurship education gets carried over into Part II of this volume. Part of maturity of a field is seen when there is general agreement on content, with continuing discussions on process. Through the lens of the new paradigm, even the traditional content becomes the subject of reflection and revision. Perhaps the *sine qua non* of the contemporary business-school approach to entrepreneurship is the business plan. Camille Carrier challenges the wisdom of propagating this model as

entrepreneurship evolves in business schools and beyond, and champions alternative pedagogies in her chapter.

While small-business advising and consulting was pioneered by the agricultural extensionists of the nineteenth century (Katz, 2006b), it remains a mainstay of the business school approach, and as such is ripe for a reconsideration. The Robinson and Malach chapter provides an opportunity to observe the operationalization of one such broader approach, in the specific form of a multi-disciplinary entrepreneurship clinic. The agricultural extension heritage included evaluation as an essential element in the process of improvement, and that focus on outcomes has continued in the business school and seems to have made the move to the new paradigm of cross-campus entrepreneurship education. The chapter by Fayolle, Gailly and Lassas-Clerc in Part II describes one such effort at fresh thinking for evaluating a business-school program. It is complemented by a pair of studies in Part III that articulate and operationalize evaluative approaches based on the new paradigm of entrepreneurship education. Béchard and Grégoire use the idea of internal coherence to compare four widely different business programs, while Henry, Hill and Leitch use a more conventional approach to evaluate entrepreneurial training programs.

As noted, Part III complements the evaluative concept introduced in Part II of this volume, but also includes distinctive material on the specific content of entrepreneurship education. Hills, Hultman and Miles offer a review of the work and concepts which underlie a marketing approach to entrepreneurship. While unquestionably a part of the business school approach, marketing has historically taken a secondary position to management as a contributor and supporter of business-school entrepreneurship education. As the less-heard voice of the business-school based discipline (following the argument of Betters-Reed, Moore and Hunt in this volume), it is important to give attention to the contributions and alternatives offered in this unique chapter.

The remaining two chapters in Part III actually complement the ideas in Part I, in effect suggesting how to operationalize the kinds of thinking necessary to move away from the old paradigms of business-based, managerially driven, entrepreneurship education and to embrace a more distinctive, inclusive and realistic model. Francisco Liñán talks about how to increase the supply of entrepreneurially minded individuals in the university, as well as how these supply-enhancement efforts might be supported educationally. Paula Kyrö and Annukka Tapani approach the idea of increasing entrepreneurialism, but do so from the standpoint of teaching people how better to handle insecurity and manage risk.

In this first edition of the *Handbook of Research in Entrepreneurship Education* there is considerable promise, but it is promise which carries a measure of irony. Despite the promotion of a new paradigm, and efforts to ask tough questions which are intended to challenge basic assumptions, like Hindle's 'Can entrepreneurship be taught?' this is a volume of works by *educators*, individuals steeped in a profession whose fundamental tenet *is* positivist. If we could not make a difference in other people or institutions by our teaching, why would we do this work?

A generation ago, Argyris and Schon (1974; 1978) demonstrated the difficulty of conducting what they called 'double-loop learning', learning which starts by challenging the fundamental beliefs and culture of an organization or profession. Argyris, ever the cynic and protagonist himself, admitted that double-loop learning was extraordinarily difficult to achieve, and often comes in momentary insights, not sustained bursts. He also admitted that being challenged by those from outside the dominant culture helped double-loop

learning – the fable of the 'emperor's new clothes' often was mentioned in his classes as the metaphor.

The contributors here are making efforts to achieve the insights and benefits of double-loop learning, and we can clearly see the benefits of their moments of double-loop learning insights. But it is also clear that there is still far to go. Consider, as you look at the biographical statements of the contributors, how many are based in business schools. If they can remain true to the dream of the new paradigm, contributions to the *next* edition of the *Handbook* will show a greater diversity of contributors and, with that, a greater chance of sustaining those moments of a double-loop learning perspective.

Those of you familiar with my work know that it is not characteristic of me to end on a note of negativism or even irony, and this Foreword is no exception. In these final words I want to draw your attention to a concept which recurs in a few of the chapters in this volume of the *Handbook*, which while by no means a common theme, is of great importance. It is the idea of fun in entrepreneurship.

Part of what this volume helped me recognize was the importance of fun. It is a subject I studied many years ago (Katz, 1987), and while I try to practice it in my teaching and work, I had not *thought* about it for years until reading this volume. Hindle infuses entrepreneurship education with Whitehead's vocational transcendence – the philosopher's polysyllabic expression for 'fun at work', and Allan Gibb talks about how entrepreneurship might be a way to help people draw enjoyment from an increasingly complex and uncertain world. When two thinkers of entrepreneurship who are from different generations and opposite corners of the world start talking about the same idea at the same time, I personally sit up and take notice. When we add to this how William Gartner implores our field to celebrate each other's contributions (Gartner, 2001), and the contributions of the entrepreneurs themselves (Carter et al., 2002), it brings me to the realization that fun should be a part of our approach to these other potential contributors to entrepreneurship across the campus.

Could fun have any practical value in the creation of a discipline or the process of educating individuals in it? The answer seems obvious – at least on the educating side. Students of all ages are attracted by the fun of a field, and that fun is part of what strengthens them to persevere when times are tough and not fun (Katz, 1987). How many students are attracted to chemistry by the initial chance to make something explode, burn or smell? It is fun like that which attracts and energizes young chemists to survive years of educational tedium. For those building a new discipline, often in institutionally hostile territory, the moments of fun may become all the more important as a way to sustain effort over the coming years.

In the old paradigm, with increasing numbers of courses in entrepreneurship majors, and high levels of consistency in what topics are taught and what techniques are used to teach, the potential for tedium in our own discipline increases. Professional schools promote professionalism, which seems to take a cultural position antithetical to the concept of fun. That is why MDs like 'Patch' Adams (who was portrayed on the screen by Robin Williams), get ostracized and remain the exception and not the rule in our professions (Adams and Mylander, 1993). Perhaps we need to make sure that part of the new paradigm of entrepreneurship education includes 'having fun' as one of its desiderata.

Can entrepreneurship education be fun? Arguably, our professional gatherings appear to be more fun than those of many other professions. Think of how many newcomers you

have met at some convention of entrepreneurship educators who remarked how friendly these educators were, or how much fun they seemed to have together. Part of this comes from the current dominant culture of the discipline, which is more interested in sharing ideas than claiming them, which is benefiting from a time when entrepreneurship education (and the resources and students devoted to it) are growing rapidly, and which is perhaps inspired by the fun that the entrepreneurs we study encourage in themselves, their firms and, by extension, us.

Seeing a professor who recognizes and knows how to capture and share the fun and beauty of their discipline becomes a reminder to us all of what education at its best is all about. Watching a classic lecture by physicist Richard Feynman or hearing Guy Kawasaki (2004) talk about the fun inherent in recognizing *The Art of the Start* reminds us all of the awesome power of beauty and fun in our lives and in our teaching.[1]

It is a rare world which would have too much fun, and we are centuries from discovering one in the cosmos or creating one on this earth. However, we absolutely have the potential, the ability and (through efforts like this volume and the work you do every day) the material to bring moments of fun before our students, colleagues, and communities. Although we do not spend enough time or thought considering fun, whenever you can offer it to others, you make them, and our discipline, stronger.

So, welcome to the first volume of the first edition of the *Handbook of Research in Entrepreneurship Education.* Please remember to have some fun while you visit, and feel free to use the closing quote – after all, it *was* published in a respected handbook:

> Done right, entrepreneurship should be fun, and done right, so should entrepreneurship education. (Jerome Katz)

Note

1. Those interested in videos showing Richard Feynman in action can find his filmography at www.imdb.com/name/nm0275509/, and can see some of his lectures online at www.vega.org.uk/video/subseries/8. Those interested in Guy Kawasaki's presentations can go to http://edcorner.stanford.edu/AdvSearchServe3?x=32&y=11&openkeyword=&authors=24&eterms.

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1 Cornerstones of change: revisiting and challenging new perspectives on research in entrepreneurship education

Jill Kickul and Alain Fayolle

Entrepreneurial organizations have undergone substantial changes and transformations during the last two decades in order to compete successfully on a global scale. Sustaining revenue growth and increasing shareholder value as well as adding value to products/services have become the key ingredients in defining organizational success. In order to achieve many of these goals, the entrepreneurs of these companies must find creative and innovative ways to increase levels of efficiency, lower costs, and improve processes throughout the entire organization. In addition, these entrepreneurs must also be able to formulate strategies that are flexible to allow for continual redesign and reconfiguration of the organization as it grows and matures (Hitt, 1998; Teece and Pisano, 1994; Teece et al., 1997).

With all these changes and demands on an entrepreneur's skills and abilities, entrepreneurship educators must find alternative and non-traditional methods of teaching entrepreneurship. Entrepreneurship educators need to be more proactive and innovative in how they plan and organize their programs to develop entrepreneurs. That is, educators need to be more responsive to the changing conditions of the marketplace in order to develop future entrepreneurs. Moreover, they also need to teach students in the field concepts and skills that can be directly applied toward starting, managing, and growing an enterprise. Skills that require nonlinear learning and thinking (Hitt et al., 1998; Kerr and Jackofsky, 1989) may become critical to the survival of their business. In addition, a diversity of knowledge in finance/cash management, accounting, strategic thinking, and entrepreneurial leadership are often the most cited requisite areas of development for successful entrepreneurship (Hood and Young, 1993).

The focus of this introductory chapter is to demonstrate how universities and educators teaching entrepreneurship can take a multidisciplinary approach in how they design and implement their curriculum. Rather than increasing the number of courses offered in a program, this approach advocates for an integrative approach that capitalizes on all facets of entrepreneurship. The challenge in designing the curriculum would not be to increase the breadth of offerings, but rather to increase the quality of offerings so that the focus incorporates all areas of the entrepreneurial experience from start-up to growth and maturity. Students should not only learn about the skills involved in the operational side of managing a new venture (for example, accounting, finance, marketing, team communications) but also begin to comprehend how the interrelationships of these skill areas are inherent in complex business problems. Moreover, by adopting an interdisciplinary perspective, students would be better able to understand issues that are relevant to managing a venture as it moves through different stages within the entrepreneurial life-cycle.

In addition, this introductory chapter introduces pedagogical elements of how entrepreneurship can be taught in order to facilitate and enhance the knowledge and abilities of

future business owners. Instead of relying on formal didactic methods to teach entrepreneurship, other approaches that allow for learning under conditions of ambiguity and uncertainty are recommended. Additional programs that universities could implement within the structure and framework of their curriculum are also discussed. These support programs include establishing an incubator program together with an intensive mentoring program. Furthermore, setting up special venture capital funds for students and alumni as well as developing student consulting groups that allow the students to learn about the intricacies and complexities of managing a growing organization should also be considered. Finally, given the focus of the *Handbook*, we comment on how, along with the following chapters, we can make recommendations based on providing future research.

Redesigning the entrepreneurship curriculum: the path towards learning

Due to the changing economic landscape, entrepreneurship educators need to be more flexible and demonstrate a willingness to alter their plans in order to meet the diverse and growing needs of our students. In many cases, educators need to assist future entrepreneurs in the learning process by making them recognize multiple opportunities for learning and develop the necessary skills and abilities to become more effective at self-direction. The way in which entrepreneurship educators' design their curriculums can be based on many of the same elements found within learning organizations. In these types of organizations, employees are free to think for themselves, to identify multiple problems and opportunities, and to have the ability to take measures for the complete implementation of those opportunities (Aubrey and Cohen, 1995).

Thus, one particular way to redesign an entrepreneurship curriculum is to shift from a teaching perspective to a learning perspective (see Figure 1.1). A focus on teaching incorporates an input orientation where students only concentrate on narrowly defined, specialized content and knowledge. Most of the curriculum is organized around specific disciplines that compliment the departments within a business school. This specialized-based approach to curriculum design mirrors the faculty's framework for knowledge and not essentially the student's. Faculty also control the input and make the determination on what type of material is necessary to teach the students. Attention within the teaching perspective is placed primarily on faculty members and individuals with their respective specialized fields, with minimal integration among the different areas of knowledge (Boyatzis et al., 1995).

Conversely, the learning perspective focuses on an output orientation where both content and process are examined to achieve the desired output. In this perspective, educators take an active role in gauging a student's learning progress. 'An output orientation also requires discovery and determination of what a student is learning' (Boyatzis et al., 1995, p. 9). The learning perspective shifts the responsibility of organizing knowledge onto the student. It focuses more on problem-centered or contextually defined knowledge as opposed to disciplined-defined knowledge. The rate and flow of understanding are concentrated around the student's own competencies, not necessarily the faculty's orientation. By taking a learning perspective, universities are forced to consider all internal and external stakeholders, including faculty, students, administrators, employers, alumni, and the community, since it is the entire environment and context in which learning occurs.

By making the transition to more of a learning perspective, entrepreneurship education can move toward more holistic, comprehensive, and integrative programs, as recommended by many educators in the field (for example, Gibb, 1993; Plaschka and

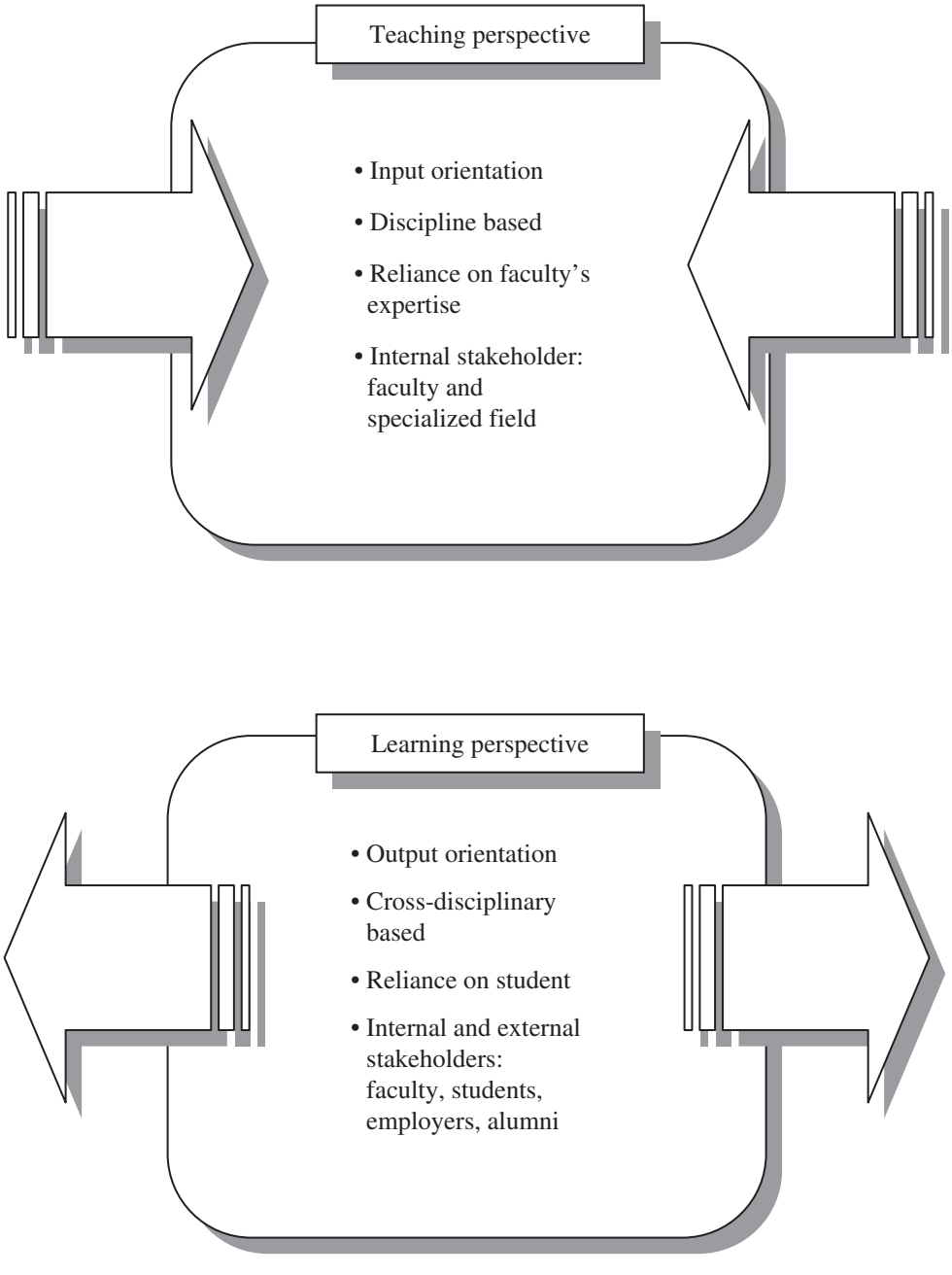

Figure 1.1 Teaching and learning perspectives

Welsch, 1990; Solomon et al., 1994). By taking an interdisciplinary approach, educators may be better able to assist entrepreneurs with many of the learning needs and issues of growing organizations as they move through the various stages of the entrepreneurial life-cycle (Churchill and Lewis, 1983; Scott and Bruce, 1987; Watson and Plaschka, 1993). Many of the growth issues include:

- strategy development
- resource assembling
- standardization of systems/controls
- organizational structure/design
- management style and roles
- evaluation of results
- reward allocation.

All these issues play a critical role within each of the stages of growth of an entrepreneurial organization (that is, inception, survival, growth, expansion, and maturity). To illustrate, an entrepreneur and his/her organization at the inception phase may have an initial strategy to differentiate from the current competition by using technology and to sell the product/service at a lower price range. However, as the firm grows, the strategy may be to form an alliance with another company whose products/services complement those of the present business. Moreover, the methods of funding and obtaining financial resources can also be diverse depending on the stage of development. Initial funding could come from personal and partners savings, family, and friends. As the business begins to expand, further funding may come through venture capitalists as well as stock offerings (initial public offering – IPO). Roles and responsibilities of key personnel also change from an entrepreneurial, individualistic style of managing to a more professional, administrative style of managing the business (Scott and Bruce, 1987).

The challenge for universities with entrepreneurship programs, therefore, is to design a curriculum that is both comprehensive and integrative in order to facilitate the learning needs of the students (see Figure 1.2). Within each particular stage of the entrepreneurial life-cycle, attention must be placed on how entrepreneurs could use the information as they encounter each of the relevant issues. Merely focusing only on new venture creation aspects of the business and those issues seen within that stage captures only one component of the entrepreneurial process and neglects those specific areas of management and development that are salient in the later stages of growth (for example, increasing value of business, staffing and retention, management succession; Sexton et al., 1997). Entrepreneurship programs are usually centered around where the students are currently in the venture development process, rather than on the evolvement and growth of the business. For example, based on their review of pedagogy, Carroll and College (1993) recommend several complementary methods, which include lectures, case studies, computer simulation, business plan development projects, and formal presentations of business plans. Although they are necessary and essential to new business development, these methods tend to focus more on the early stages of initiating and starting a venture.

Moreover, many universities still maintain a curricular structure based on separate disciplines and specialties. The traditional curriculum is usually organized and communicated through a menu of courses defined, labeled, and organized by discipline. Since disciplines

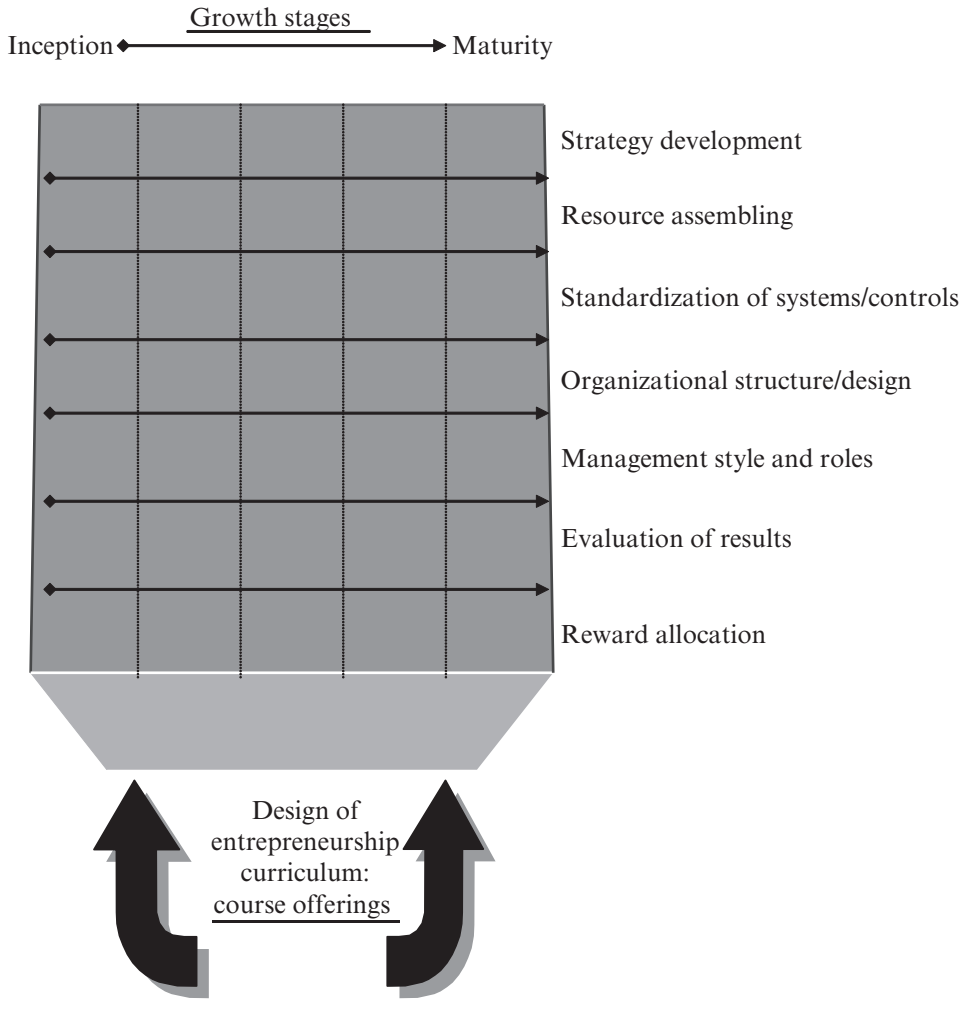

Figure 1.2 Entrepreneurial life cycle/issues

are often equated with departments, disciplines are also the basis for the organizational structure of universities and their curriculum. This type of structure does not allow for multidisciplinary thinking that is necessary in trying to reconfigure and reposition an organization for the new competitive landscape (Hitt et al., 1998). Many institutions have recently changed the design of the curriculum in order to incorporate an interdisciplinary orientation. Consider the following comment related to such a focus.

The school's curricular change shifted the program structure from a discipline-based focus to an interdisciplinary focus. With the changes, functional business courses were replaced by four fully integrated learning modules, along with a field-based, mentor company experience that extends throughout the first year. The product life cycle was adopted as the organizing framework for the courses that reflect a decidedly cross-disciplinary orientation.

Emerging pedagogical developments

In addition to designing an entrepreneurship program that includes an interdisciplinary orientation, new approaches in the instruction and delivery of entrepreneurship courses can also be incorporated into a program. These approaches depart from the conventional way in which educators have taught entrepreneurship in the past (see Figure 1.3). As recommended by Solomon et al. (1994), there is a need to move toward more unconventional, experienced-based teaching, and evaluation methods. They conclude that traditional paradigms will not be applicable when the focus of the learning is to broaden horizons and perceptions of entrepreneurship. Several approaches advanced in this chapter that deviate from traditional modes of entrepreneurship instruction are discussed below.

Theory–practice emphasis

One critical goal of an entrepreneurship program is to give the students an academically rigorous learning experience that translates into real-world value. According to Robinson and Haynes (1991), 'there is a need to develop and test entrepreneurship theories, models, and methods that go beyond an academic interest by being applicable to both the practitioner and the educator' (p. 41). One prevalent way that educators have used to combine theory and practice has been through the assignment of field or 'live' case studies. In these assignments, a team of students conducts a comprehensive study of an entrepreneurial firm using diagnostic, evaluative, and problem-solving skills to the firm's key strategic problems/issues. After conducting extensive research, the team of students present their ideas and recommendations to the client. As consultants to these clients, students learn more about the intricacies, complexities, and amount of effort necessary to manage an entrepreneurial firm. Another form of entrepreneurial consulting that can facilitate the learning process and assist entrepreneurs in planning for growth will be discussed later in the chapter.

Co-participation in knowledge creation

Within the learning perspective framework, there is co-participation in the knowledge created whereby the student and teacher have interchangeable roles. The traditional

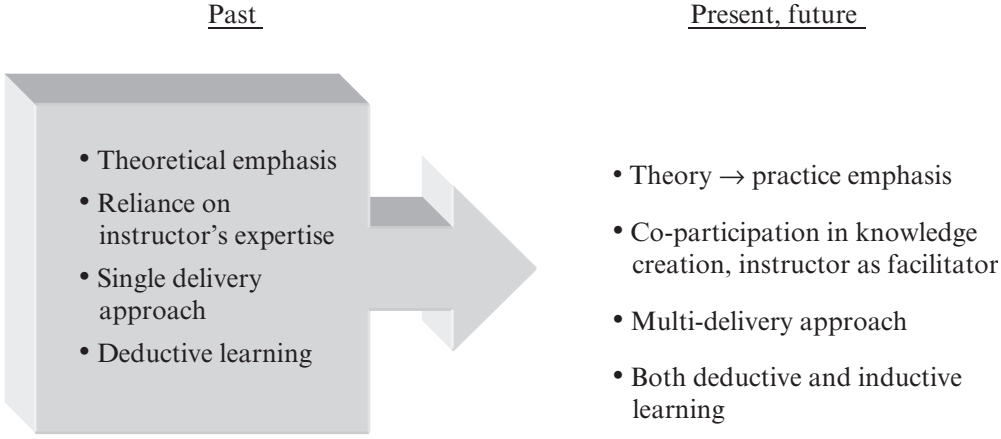

Figure 1.3 Pedagogical elements in entrepreneurship education

hierarchical relationship between the teacher and student is altered. Essentially, the teacher's role is to act as a facilitator or a coach in the learning process. The teacher's function is one that guides the students with the understanding of the different methods in which students learn. Instead of relying on formal didactic teaching methods, students actively participate in a variety of entrepreneurial projects, group discussions, and simulations.

In addition, the instructor creates an environment that allows the students to apply prior knowledge of theory and principles while developing commitment to the exercise and experiencing a sense of personal accomplishment or failure for the results obtained. Many of the experience-based activities can also allow for the development of immediate and personal experience (Kolb et al., 1986) that challenge their entrepreneurial skills and abilities. Allowing the students to co-participate in creating knowledge can also fulfill many of the psychological needs of entrepreneurship students who under conditions of complexity and ambiguity have the capability of arriving at creative and innovative solutions to business problems (Sexton and Upton, 1987).

Multi-delivery approach

Besides incorporating a cross-functional learning perspective within an entrepreneurship program, there are multiple ways in which students can learn, communicate, and interact with the instructor and other students outside a classroom setting. Communication and information technology has undergone fundamental changes over the past decade. The accessibility of technology and its utility has increased as organizations compete with each other for the latest knowledge in their respective industries. This technology holds considerable potential to increase the effectiveness in the acquisition of knowledge both in corporate training and in the higher education environment (Ives and Jarvenpaa, 1996).

With the use of current technology, students can be constantly engaged in learning by the stimulation of others who give varying perspectives and insights into entrepreneurial problems and opportunities. The Internet has become another tool in providing data, instructional materials and readings, as well as the opportunity for continuous interaction among the entrepreneurship students and the instructor (Katz and Green, 1996). Furthermore, the capability to analyse information on a specific industry, market, or competition has enabled entrepreneurs to investigate further the feasibility and market potential of a business. In addition, the Internet has become another mode of communication between group members, the instructor, and entrepreneurs in the field. Email, discussion groups, video conferencing and streaming as well as other advanced technologies (for example, Blackboard, WebCT) have added another dimension on how students can share their knowledge and expertise outside a classroom setting and collaborate on projects with individuals at other institutions to stimulate cross-university interaction (Wheeler, 1998). As the quality of technology increases, there will be greater opportunities for both instructor and student to converse on course material, field consulting cases, and international projects.

Both deductive and inductive learning

In order to produce lasting skill learning, many educators contend that both deductive and inductive learning should be emphasized (Bigelow, 1998). Deductive learning occurs when a student applies what others know. It does not in itself, however, change entrepreneurial skills and behaviors. With inductive learning, students do not necessarily emulate

others' solutions but rather identify entrepreneurial issues in a new and complex situation, set objectives, develop an action plan, and assess results of their decisions. By emphasizing inductive learning, students have the opportunity to not only apply what they have learned but also to formulate creative and innovative solutions that are unique to the problem/issue faced by an entrepreneur. The form of a student's behavior is generated internally thus allowing learners to become more self-prompting in situations.

By emphasizing more inductive learning within the entrepreneurship curriculum, educators are preparing their students for the ambiguities and transformations that occur as they improve their own organizations. As mentioned by Gartner and Vesper (1994):

> What may differentiate the 'basics' of entrepreneurship education from the 'basics' of business education may be the attention placed on equivocal situations, e.g., the development of new products, new services, new markets, and new organizations. It is not the ability to tolerate equivocally that is an important feature of entrepreneurship, but the ability to take equivocal situations and transform them into non-equivocal events that appears to be the essence of entrepreneurship. (p. 184)

Many of the field consulting cases and computer simulations that are currently used in entrepreneurship courses do allow for inductive learning to occur. However, other approaches that empower students continually to challenge and explore their potential ideas include establishing an incubator program along with an intensive mentoring program. Moreover, educators should also investigate the possibility of developing a venture capital fund for current students and alumni as well as offering field consulting projects that specifically address issues/problems encountered within a second-stage entrepreneurial company.

Transforming business innovations into entrepreneurial opportunities: applying the learning

Incubator program for both entrepreneurs and intrapreneurs

Typically, an incubation program's main goal is to produce successful graduates, organizations that are financially viable and freestanding once they have left the incubator. Based on research recently conducted by the National Business Incubation Association in 2005, approximately 80 per cent of incubator owners were able to obtain formal or informal access to seed and growth capital. Their study found that 77 per cent of entrepreneurs were able to access commercial bank loans and 61 per cent of the incubators assisted in linking the entrepreneurs to angel or venture capital investors. In addition to access to financial resources, incubators can provide hands-on entrepreneurial and management assistance and help orchestrate exposure to vital organizational or technical support services.

Within a university setting, students can continue their learning through the interaction with faculty advisors, alumni, graduate, and undergraduate students. Current entrepreneurship students can be used as 'in-house' consultants and aid these businesses in positioning them during the preparation stage of the new business formation process. For the students, it is another way in which high involvement learning can facilitate their understanding and knowledge base beyond the traditional framework of the classroom. For many students who wish to start their own business in the first few years after graduation, incubator programs can give new ventures the survival skills during the start-up

period when they are the most vulnerable. Students can also participate in the incubator program whether they are looking to take the business to another growth level or looking to explore other business opportunities within or outside their entrepreneurial experience. Incubator programs provide an encouraging and supportive environment for aspiring entrepreneurs to *explore* their entrepreneurial leanings, *validate* their experiences, and to gain the tools necessary to *build and grow* successful ventures.

Intensive mentoring program

Another approach designed to further challenge the ideas of entrepreneurship students is having an intensive mentoring program. By building alliances and relationships with other entrepreneurs, business professionals, alumni, and investors, students gain personal insights, develop concepts, and formulate new ideas with this form of training. The co-participation in knowledge creation is extended further to include alumni and outside professionals that have a vested interest in enhancing the success rate of the entrepreneurs in the program. Many of these entrepreneurs spend their 'spare' time assisting the students develop their product/service concept at the pre- and post-graduation stages. In addition, by bringing in these mentors, it also encourages and fosters lifelong learning and commitment to the university for all those involved.

There are a number of forms of mentoring that can take place: (1) one-on-one, (2) group mentoring, (3) team-to-team mentoring (Tyler, 1998). Although a student may receive focused attention at the one-on-one level with an entrepreneur, the group setting could have the optimum potential for a seasoned entrepreneur to reach many entrepreneurship students. Finally, since many ventures begin with a core team, team-to-team mentoring may be the ideal form in sharing skills and experiences especially as mentees formulate and implement management strategies and systems for their own businesses.

Venture capital and/or angel funds

While developing a social support system is a necessary component of an entrepreneurship program, a growing number of programs want to ensure that students and alumni obtain seed capital by establishing venture capital and/or angel funds. Funds can be used to foster an entrepreneurial culture and environment in which finance is provided to those who have conceived feasible business initiatives. The selection process may involve several steps of examining the new business before final approval for funding is determined. To illustrate, one such university entrepreneurship program has each student's plan critiqued by a number of faculty advisors and alumni before the business idea is formally reviewed by an advisory panel. Once the advisory panel has examined the plan, it is then referred to the Board of Directors who make the final selection for funding. The fund will have an equity stake and will receive a percentage of the newly funded venture's profits. As stated by a recent recipient, 'the whole process was the most rigorous aspect of my business school experience. The exposure to some of the most experienced entrepreneurs and venture capitalists and the attention I received from them would not have been possible without the fund.'

Similar to this type of fund, universities who support these ventures usually ask for an equity stake in the business as well as a return in three to five years. As for current students in the program, they can be involved by researching and examining potential investments and screening new applicants who apply for the funds. Students can have the

opportunity to perform due diligence on the new ventures (for example, critiquing business plans, uncovering strengths and weaknesses of the management team, and investigating the assumptions and risks associated with the business). For those who would later seek a position in the venture capital industry, this type of analysis gives them valuable insight and experience in the field. Once the venture receives the funding, students can also act as consultants to these businesses by giving them managerial and technical assistance that not only benefits the venture but further advances the educational and learning goals of the institution and the students.

Field consulting in emerging enterprises

Instead of merely focusing on field consulting work for start-up ventures, emphasis should also be placed on assisting organizations that are in the later stages of growth and development. Instructors work directly with student consultants and their assigned businesses to help them broaden their understanding, capabilities, and experiences. Students gain an awareness and knowledge of the intricacies, complexities, and amount of effort required in managing a growing company. They also acquire some of the relevant skills and abilities essential to solving management problems that are not necessarily encountered with new ventures. Analysing and recommending future avenues of expansion as well as exit strategies for business owners are all key elements of the entrepreneurial process that are often ignored in many current entrepreneurship programs.

Students are also involved in conducting practical fieldwork and organizational development consultation in interpersonal, group, intergroup, total organization, and interorganizational settings that are prevalent issues during the later stages of organizational growth. Moreover, by working cooperatively with community businesses to determine which concepts should be taught or reinforced, educators can identify those learning experiences that will lead to changes in students' behavior and skill levels related to emerging entrepreneurial organizations. In sum, the fieldwork/practicum component of a student's education achieves a number of goals and objectives in fostering entrepreneurial development for our future entrepreneurs, including:

- *unique outreach* (identifying entrepreneurs, across a variety of fields, disciplines to work directly with students in the form of a practicum)
- *community building* (building a collective group of entrepreneurs and entrepreneurial students with advanced business skills to collaborate on issues related to the growth of the entrepreneurs' businesses)
- *knowledge transfer and mentoring* (reciprocal relationship and knowledge sharing between the entrepreneurs and students)
- *business enhancement* (students to provide meaningful and substantive management assistance to the entrepreneurial firm).

The model in Figure 1.4 is an example of how a university can integrate multiple applications of learning and briefly highlights of how intra-organizational and interorganizational knowledge and resources (including mentors, advisors, entrepreneurs-in-residence, and scholars) can be infused within an entrepreneurship program to build and enhance the skills and development of our aspiring entrepreneurs. In multiple ways, we can build a solid foundation that gives them the opportunity to integrate varying social

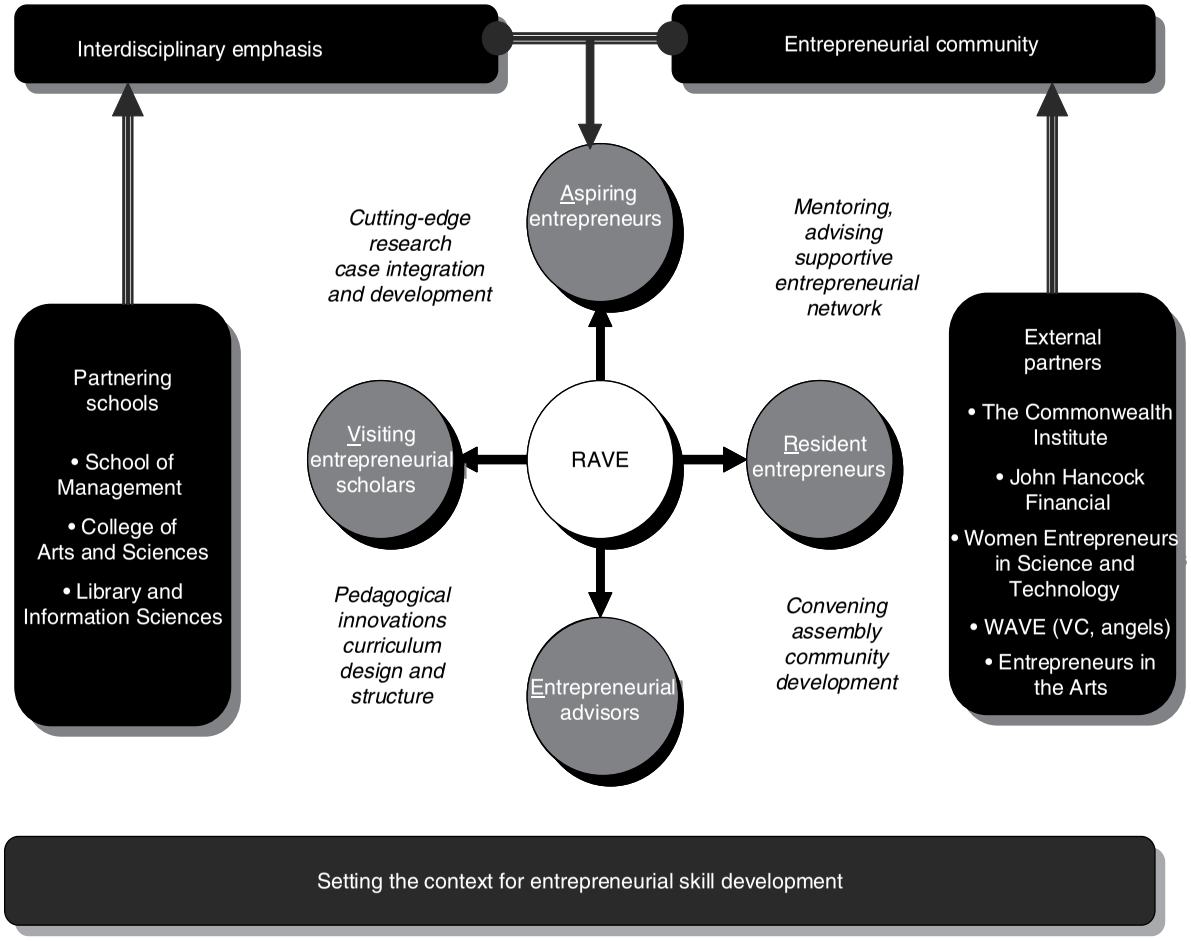

Figure 1.4 University integration of multiple applications of learning

and expert capital resources to create new value that contributes to the betterment of society and the economy.

New questions and new looks for future research in entrepreneurship education

In the following chapters of this *Handbook of Research in Entrepreneurship Education*, the authors are proposing a new map of entrepreneurship education and training. This section introduces the authors and their contributions around three main trends in the field, respectively called: changing paradigms, renewing methods and understanding contents.

Changing paradigms

This first part of the handbook includes five chapters which question current paradigms under different view angles. Chapter 2, 'Changing the entrepreneurial education paradigm', is written by David Kirby. Based on his opinion, there is no agreement over what constitutes entrepreneurship education. For some time it has been associated with new venture creation. There is growing awareness, though, that it is more than this, and that in an era of very rapid change it has to do with developing in students the abilities to see opportunities, cope with uncertainty and bring about change through innovation. These are the attributes of the entrepreneurial individual, but to achieve this, the chapter argues, will require a change in the content of courses, the process of learning and, probably, the place where learning takes place. This will require a complete shift in the educational paradigm away from one that has been dominated, traditionally, by a left-brain approach to learning to one that embraces right-brain thinking skills. Such a shift, it is argued, will not only release the entrepreneurial tendencies in students, but will create a fairer system of education that caters for those right-brain thinkers (such as entrepreneurs) who have not previously excelled in the traditional education system. The chapter provides a case study of how one UK university is attempting to do this.

Chapter 3, 'Learning as an entrepreneurial process', is proposed by Daniel Hjorth and Bengt Johannisson. They approach the question of how learning happens with the intention of opening up the discussion on learning so as to allow space for developing a conceptual framework. They present learning itself as an entrepreneurial process, as a process of social creation. Consequently, they discuss implications for how entrepreneurship is learnt and how learning is conceptualized and practiced by teachers in dialogue with students.

In the fourth chapter, 'Creating the entrepreneurial university: do we need a wholly different model of entrepreneurship?', written by Allan Gibb, a new way of thinking in entrepreneurship education is developed. The proposed model is based upon a view that the role of entrepreneurship in society is to provide an opportunity for individuals and organizations of all kinds and in all walks of life to cope with, provoke, and perhaps enjoy, an increasingly uncertain world. In this approach, it is posited that the propensity to behave entrepreneurially is not exclusive to certain individuals but may be more dominantly displayed by some rather than others. Different individuals will have a different mix of capacities for demonstrating and acquiring entrepreneurial behaviors, skills and attributes.

Chapter 5, 'Teaching entrepreneurship at university: from the wrong building to the right philosophy', by Kevin Hindle, examines in a critical way, the old and the new questions in the field: Can entrepreneurship be taught at all? If entrepreneurship can be taught, is the university an appropriate place to offer this teaching? Who should teach entrepreneurship? How should entrepreneurship be taught? As much of the rapidly proliferating

literature of entrepreneurship education eschews generic discussion of fundamental educational questions in favor of specific debate about curriculum detail, the answers from the author appear very helpful and stimulating both for researchers and teachers.

Zelimir Todorovic is the author of Chapter 6, 'The framework of static and dynamic components: an examination of entrepreneurial orientation and university ability to teach entrepreneurship'. His chapter starts with some concerns expressed by researchers about the effectiveness of present entrepreneurship education efforts and posits that entrepreneurship education is composed of static as well as dynamic components, both of which are influenced by the culture of the university. It is further advanced that the university institutional culture also contains dynamic and static elements. Borrowing from the theory of entrepreneurial orientation, the author presents a conceptual framework which provides an understanding of entrepreneurial education by examining the relationship between static and dynamic components of university culture, entrepreneurial teaching effort and the degree of a university's entrepreneurial orientation.

Renewing methods

Five chapters are proposed in our second part of the handbook. Methods are useful to teach, to assess the effectiveness of entrepreneurship teaching programs or to make research in the field. The word 'method' is seen here in a broad meaning and not only in a more restrictive sense, for instance, in relation to pedagogical dimension. Chapter 7, 'Strategies for teaching entrepreneurship: what else beyond lectures, case studies and business plans', is written by Camille Carrier. She argues for an urgent need to complete the traditional approaches and educational tools, such as lectures and business planning, to teach entrepreneurship at university level. Her answers cover a wide range of the new and less traditional approaches used in entrepreneurship education and proposed in the literature over the past 15 years. The main outcome of the chapter is to state that the value of an entrepreneurship teaching approach needs to be evaluated by its ability to help learners acquire entrepreneurial attitudes and skills.

Chapter 8, 'Social constructionist thinking: some implications for entrepreneurship research education', is by Denise Fletcher. Social constructionist ideas can significantly aid our understanding of entrepreneurial practices because they facilitate analysis of the interrelationship between individual acts of entrepreneurial agency *and* the cultural, social and opportunity structural environment in and through which such activities are recursively reproduced. First, social constructivist ideas are reviewed because it is this emphasis which has been applied most frequently in entrepreneurship. Second, the analysis is expanded to include social constructionist ideas. Through the application of social constructionist ideas, it is argued that teaching, learning and research not only can take account of how issues of culture, environment and society 'come together' in the production of entrepreneurial outcomes, but also, in emphasizing social construction rather than social constructive processes, our inquiry is moved from the study of individuals socially constructing their entrepreneurial realities through cognitive processing activities, to a wider understanding of the processes that contribute to the social construction of reality.

In Chapter 9, 'Multi-disciplinary entrepreneurship clinic: experiential education in theory and practice', Peter Robinson and Sandra Malach start by stating that entrepreneurship is a complex set of activities that encompass a wide range of knowledge,

behaviors, and motivations in the identification evaluation and development of business opportunities. Development of entrepreneurs requires an equally complex set of activities to facilitate the acquisition and understanding of the requisite entrepreneurial abilities, which are seen by the authors as a combination of behavior and knowledge, along with attitudes, focused on elements of the situation or environment. Teaching entrepreneurship requires consequently a multi-dimensional and cross-disciplinary approach with an emphasis on dynamic processes that will expose students to the complexity of entrepreneurial activities in such a way that their actions can be examined and understood relative to the context of their own entrepreneurial development.

Chapter 10, 'Towards a new methodology to assess the entrepreneurship teaching programmes', is written by Alain Fayolle, Benoît Gailly and Narjisse Lassas-Clerc. A main current research issue in the field of entrepreneurship education is to know to what extent the entrepreneurship teaching programs (ETP) influence students' attitudes toward entrepreneurial behavior and entrepreneurial intention. The aim of this chapter is to present a full experimentation of a new methodology designed for assessing the ETP, with the objective of shedding some light on the research question posed above. The focus of the chapter is clearly on entrepreneurship education and particularly on the assessing program question. The new methodology is based on the theory of planned behavior (Ajzen, 1991; 2002) and was described by Fayolle (2005). A first experimentation was reported by Fayolle and Gailly (2004). More precisely, the objective of the research is to apply the proposed theoretical and methodological framework to an experimentation consisting of a three-day pedagogical process with a sample of 275 French students following a specialized Master in Management.

Chapter 11, 'A conceptual approach to better diagnosis and resolution of cross-cultural and gender challenges in entrepreneurial research', by Bonita Betters-Reed, Lynda Moore and Laurie Hunt, proposes an explicit model that provides a conceptual grounding for the change model required for diagnosis and resolution of cross-cultural and gender challenges in entrepreneurial research and education. This model identifies factors that help both researcher and educator diagnose problems with dominant perspectives in much of the current literature and teaching materials. A main outcome of the research is to question the current entrepreneurial paradigm and to propose paradigm changes to move the research and teaching forward.

Understanding contents

The last part of the handbook focuses more specifically on entrepreneurship education contents and design. Chapter 12, 'Entrepreneurial marketing and university education', is written by Gerald Hills, Claes Hultman and Morgan Miles. For the authors, entrepreneurship is the nexus of entrepreneurial opportunity and enterprising individuals. Entrepreneurial marketing covers marketing activities in new and entrepreneurial ventures. But entrepreneurial marketing behavior may occur in larger firms. Many firms continue to be entrepreneurial for a very long period of growth or during the entrepreneurial stages of reorientation and reconstruction that some firms pass through as they evolve. The chapter is based on a cross-country study that explores how marketing-related behaviors actually occur in high growth small and medium-sized enterprises (SMEs) and it focuses on the educational implications for teaching marketing in an era in which many of the career opportunities for students are with high growth SMEs.

In Chapter 13, 'The role of entrepreneurship education in the entrepreneurial process', Francisco Liñán develops a viewpoint based on the importance of the individual's personal decision to start a new venture. The individual's decision is sometimes assumed to depend on personality traits, but even though some statistically significant relationships have been found between certain personality traits and being an entrepreneur, predictive capacity has been very limited. Entrepreneurship educators should keep these considerations in mind when designing, implementing and evaluating a training program. The author adopts a process perspective in his research and sees firm creation as a complex process whereby three variables are important: (1) the person(s) leading the project; (2) the environment in which it is embedded; and (3) the characteristics of the opportunity to be exploited. The role of entrepreneurship education should be therefore reassessed with respect to this entrepreneurial process view.

Chapter 14, 'Evaluating entrepreneurship education and training: implications for programme design', by Colette Henry, Frances Hill and Claire Leitch, addresses the question of how to assess the impact of entrepreneurship policies and interventions. The chapter focuses on a specific type of intervention, namely training programs for new business creation targeted at aspiring entrepreneurs, at the theoretical, methodological and practical levels. Based on the findings of their research, the authors propose a framework for informing the overall structuring and effectiveness of entrepreneurship training geared toward new business creation. They also highlight a number of issues related to program structure and evaluation. Among them, they discuss the complexity involved in the evaluation of entrepreneurship programs, the absence of a standard methodological approach to evaluation, the importance of recognizing selection bias, the need to build-on evaluation criteria at the program design stage, and the value of pre-, during and post-program support.

Chapter 15, 'Archetypes of pedagogical innovation for entrepreneurship in higher education: model and illustrations', is written by Jean-Pierre Béchard and Denis Grégoire. Observing the dearth of research-grounded discussions on the quality of pedagogical innovations in entrepreneurship education, and more specifically on what makes pedagogical innovations 'work', the authors develop an analytical framework that highlights the core characteristics of pedagogical innovations, and the coherence relationships between these characteristics. They illustrate the import of the framework by analysing four innovations in entrepreneurship education from four institutions in four different countries: the Oregon State University's Austin Entrepreneurship Program (USA); the Master in Management Global's Parcours Entrepreneuriat from l'Université Paris-Dauphine (France); the High-TEPP initiative from the Universities of Bamberg, Jena and Regensburg (Germany), and the University of Victoria's Entrepreneurship Program (Canada). By analysing these cases, the authors show that from the diversity of initiatives in entrepreneurship education, one can identify at least four archetypes of innovative practices. More importantly, Béchard and Grégoire develop a research-grounded framework that can be used not only to study the similarities and differences between different pedagogical innovations in entrepreneurship education, but also to evaluate their degree of internal coherence. In turn, they provide a practical tool for entrepreneur educators to reflect upon their own innovative practices.

Finally, Chapter 16, 'Learning risk-taking competences', written by Paula Kyrö and Annukka Tapani, suggests that we should extend our pedagogical approaches to the

concept of risk-taking in order to organize learning interventions that support the students we teach in learning entrepreneurial and enterprising behavior. The authors also assume that we know a little about the dynamics of risk-taking from a learning and teaching perspective, which has been a neglected area in entrepreneurship education research. In this chapter, the authors use Straussian grounded theory for investigating risk-taking competences in two different authentic contexts, first in the international Small Business Management course in the Jönköping International Business School and then in Finnish entrepreneurship education courses in the University of Tampere.

Conclusion

This introductory chapter has sought to address a number of key issues relevant to the design of an entrepreneurship curriculum as well as the programs and research needed to support entrepreneurship education. Although many of the issues discussed deviate from many of the traditional ideas of teaching entrepreneurship, they may be better suited to the changing demands of the economy and marketplace where complex problems and uncertainty are ever present. Each student brings to the entrepreneurship program a rich array of experiences, models, and theories to make sense of their world, and observations, values, and practices nurtured by their past work environments. The challenge for educators is to integrate different learning methods that capitalize on the opportunity to bring real business issues into the classroom, which can assist entrepreneurs in all stages of growth and development of their ventures. Just as future entrepreneurs must find creative ways to sustain their competitive edge through the introduction of new products/services, new processes, and new growth methods of redesigning their organizations, universities and educators must also find alternative means of acting entrepreneurially to survive in the twenty-first century.

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PART I

CHANGING PARADIGMS

2 Changing the entrepreneurship education paradigm

David Kirby

Introduction

For some time there has been considerable and growing interest in entrepreneurship education. From at least the early 1980s, though earlier in the United States, governments around the world have seen entrepreneurship education as an aid to creating

- an enterprise culture
- a more enterprising workforce
- new ventures.

There is no common agreement, however, over what constitutes entrepreneurship education or how it is taught. The traditional entrepreneurship education paradigm, dating back to the early programmes of the mid-twentieth century in the United States (Brockhaus et al., 2001), has had to do with new venture creation (Solomon et al., 2002), the objective being, according to Vesper and McMullan (1988, p. 9), 'to generate more quickly a greater variety of different ideas for how to exploit a business opportunity, and . . . project a more extensive sequence of actions for entering business'. Accordingly, most American entrepreneurship programmes and textbooks are about teaching students to start their own businesses on graduation (namely, Bygrave, 1994; Timmons and Spinelli, 2004). Inevitably this has influenced entrepreneurship educators around the globe in terms of determining programme aims, contents and processes. Recently, however, questions have been raised about whether this is the main purpose in the modern economy, especially outside of the US. Whilst there remains a need to create more new ventures and to encourage graduates to start their own businesses on graduation, there is also a need to develop graduates who can be innovative and take responsibility for their own destinies not just in a business or even a market economy context (Kirby, 2003b). Entrepreneurship educators are beginning to suggest, therefore, that the purpose should be not just to equip students with the functional management competences to start a business on graduation. For some, it is concerned with raising awareness of entrepreneurship – with teaching students *about* entrepreneurs and, in particular, their roles and functions in the economy and society (Carter and Jones-Evans, 2000; Glancey and McQuaid, 2000; Swedberg, 2000). For others it is more than this. For them it is about developing in their students the attributes of the successful entrepreneur (Kirby, 2003b; Ray, 1997). This is education *for* enterprise. In contrast, others (perhaps a small minority) are more concerned with education *through* enterprise – with using the new venture creation process to help students acquire a range of both business understanding and transferable skills or competences.

In this chapter, it is contended that the education system is being required to go beyond the traditional pedagogic process of teaching students *about* entrepreneurship. Rather, it

is being challenged to help create entrepreneurs – to develop in its students the attributes and behaviour of the enterprising or entrepreneurial person. Such people do not just know about how to create new ventures, or even possess the functional tools to enable them to do so. Instead, they are equipped with a set of personal attitudes and competences that enable them to see opportunities and bring them to fruition. In the process, they initiate change and create wealth or/and improve the quality of life. This being the case, then it would seem that, as Ray (1997, p. 199) has observed, 'the skills traditionally taught in business schools are essential but not sufficient to make a successful entrepreneur'. The issue then becomes what attributes need to be developed and what is the best way of developing them? Hence this chapter will address these two questions, proposing the need to change the education system so that it helps develop the right-brain thinking skills of its students as well as their left-brain analytical skills, thereby embracing a divergent model of education that includes lateral as well as logical thinking and emotional as well as rational intelligence. To do this, it is contested, will require a paradigm shift not only in what is taught and the way teaching and learning occur, but, possibly, also in the place of learning.

Before considering how the educational paradigm might need to change, it is necessary to justify why the change is needed and what, precisely, the education system is being required to do. Having done this, some consideration will be paid to how the system might need to change before providing a case study of the approach being adopted at the University of Surrey, in England.

Why produce entrepreneurs?

Since the research of Birch (1979), entrepreneurship has been seen as a major source of job-creation and innovation and it is largely for this reason that it has been equated with new venture creation and small businesses development. However, the reasons for the contemporary interest in entrepreneurship are probably much more profound than this. Indeed, Gibb (1996) has proposed three main reasons, namely:

- job creation and economic development
- strategic adjustment/realignment
- deregulation and the privatization of public utilities and state-owned enterprises.

However, important though these are, they are themselves manifestations of a more fundamental reason.

According to Peters (1987) and others, society is entering an era of unprecedented change, a 'world turned upside down'. This is not new. Change has always been a part of social and economic evolution. Previously, however, change was, as Handy (1990, p. 5) has observed:

> more of the same only better. That was incremental change and to be welcomed. Today, we know that in many areas of life we cannot guarantee more of the same, be it work or money, peace or freedom, health or happiness, and cannot even predict with confidence what will be happening in our own lives.

Under such circumstances, Drucker's (1989) 'new realities', society will need not only to accommodate change but also to be capable of anticipating and, more importantly perhaps, initiating it. The way to achieve this is through innovation and as Drucker (1997,

p. 17) has recognized, 'innovation is the specific tool of entrepreneurs, the means by which they exploit change as an opportunity'. Hence, as Moss Kanter (1984, p. 354) observed some 20 years ago: 'Today, more than ever, because of profound transformations in the economic and social environment it should be a national priority to release and support the skills of men and women who can envision and push innovations.'

At the same time, however, there is a somewhat paradoxical set of trends occurring within the world economy. While globalization and the inter-dependence of markets have been recognized increasingly in recent years, it has also become apparent that world citizenry can no longer rely upon 'they'. Whether 'they' are the wealthy nations of the world, the state or large firms, they cannot be relied upon to provide wealth, jobs, homes, healthcare, and so on. Increasingly, society is having to rely upon itself. So, individuals, communities, organizations and even nations are having to be empowered in a way that previously has been unrecognized. In a global economy, citizens are inter-dependent, but increasingly they will be required to take ownership of their own destinies – for the benefit of themselves, their families, their colleagues, their fellow countrymen and world citizenry. Thus, within individuals, communities, organizations and societies there needs to develop a greater sense of enterprise and self-help.

The entrepreneurial graduate

Against this background, the education system is being required to create people who can innovate – who can see opportunity and take responsibility for making things happen, and in the process bring about change. Although there is no standard definition of entrepreneurship or the entrepreneur, this, indeed, is what entrepreneurs do, as the French derivation of the word (the verb '*entreprendre*' – to undertake) emphasizes. The entrepreneur is an undertaker – someone who undertakes to make things happen, and does. As a consequence, he/she disturbs the status quo and may thus be regarded as a change agent. In such a capacity, he/she does not just start a new venture or work for him/herself in a small firm, but may be employed in a large organization. Frequently such organizations are in the private sector but, increasingly, in the public and voluntary sectors also (Kirby et al., 1991). Thus, according to Timmons (1989, p. 1): 'Entrepreneurship is the ability to create and build something from practically nothing. It is initiating, doing, achieving, and building an enterprise or organization, rather than just watching, analysing or describing one. It is the knack for sensing an opportunity where others see chaos, contradiction and confusion . . . .'

This would imply that the education system needs to produce not just people who can observe, describe and analyse, as has been traditional, but people who can see opportunity, cope with uncertainty and ambiguity, make sense out of chaos, initiate build and achieve, in the process not just coping with change but anticipating and initiating it.

All too frequently, though, this does not appear to be happening, as Bygrave's (1994) highly acclaimed *The Portable MBA in Entrepreneurship* appears to demonstrate. According to the promotional material, the text purports to provide the reader with an insight into: 'how top business schools are preparing students to meet the challenges of the entrepreneurial-driven business climate of the 1990s and beyond'. Yet, in 14 chapters and 450 pages, the student learns only about new venture creation and management – the entrepreneurial process, opportunity recognition, entry strategies, market opportunities and marketing, creating a successful business plan, financial projections, venture capital,

debt and other forms of financing, external assistance for start-ups and small business, legal and tax issues, intellectual property, franchising, harvesting, entrepreneurship economics.

Clearly it is important that business students understand such principles and practices, especially if they are to go on to create their own enterprises, but knowing about them will not, *per se*, equip them 'to meet the challenges of the entrepreneurial business climate of the 1990s and beyond'. However, this is only one, relatively minor, element in the equation. As has been shown above, the successful entrepreneur has a set of personal skills, attributes and behaviour that go beyond the purely commercial. It is these attributes, this way of thinking and behaving, which needs to be developed in students if their entrepreneurial capabilities are to be enhanced and they are to be equipped to meet the challenges of the entrepreneurial climate of the twenty-first century. This means that both the content of courses and the process of learning need to change, and it is possible to agree with Gibb (2004) that it is important to move away from the current narrow paradigm for entrepreneurship that equates it with new venture creation and the tools to start and run a business.

Changing the paradigm

Proposed changes to the content of courses

While students still need to develop their business skills and understanding, more attention needs to be paid to the development of their entrepreneurial skills, attributes and behaviours. This means introducing modules and courses specifically designed to develop in them the awareness and characteristics of the entrepreneur. According to Ray (1997), these need to include, amongst others:

- communication skills, especially persuasion
- creativity skills
- critical thinking and assessment skills
- leadership skills
- negotiation skills
- problem-solving skills
- social networking skills
- time management skills.

In itself, this is not sufficient, however. To succeed it will be necessary to create a learning environment that changes the way students learn and reinforces the development not just of such skills, but of their ability to 'take ownership', and to cope with ambiguity and uncertainty, if not risk.

Proposed changes to the process of learning

From a neuropsychological perspective (Ornstein, 1977; Sperry, 1968), it would appear that the brain is divided into two hemispheres.

- The left side handles language, logic and symbols. It processes information in a step-by-step fashion. Left-brain thinking is narrowly focused and systematic, proceeding in a highly logical fashion from one point to the next.
- The right side takes care of the body's emotional, intuitive and spatial functions. It

> processes information intuitively, relying heavily on images. Right-brained thinking is lateral, unconventional, unsystematic and unstructured. It is this right-brained lateral thinking that is at the heart of the creative process and the ability to see opportunity and cope with chaos and ambiguity.

According to Lewis (1987, pp. 38–9):

> while the left brain requires hard facts before reaching a conclusion, the right is happier dealing with uncertainties and elusive knowledge. It favours open-ended questions, problems for which there are many answers rather than a single, correct solution . . . The left specializes in precise descriptions and exact explanations; the right enjoys analogies, similes and metaphors. The left demands structure and certainty; the right thrives on spontaneity and ambiguity.

Thus, those who have learned to develop their right-brained thinking skills tend to:

- ask if there is a better way of doing things
- challenge custom, routine and tradition
- be reflective – often deep in thought
- play mental games, trying to see an issue from a different perspective
- realize that there may be more than one 'right' answer
- see mistakes and failures as pit stops on the route to success
- relate seemingly unrelated ideas to a problem to generate a solution
- see an issue from a broader perspective, but have the ability to focus on an area in need of change.

Although the two halves normally complement each other, on occasions they compete or one half may choose not to participate. Importantly, also, most formal education systems since the time of the ancient Greeks have tended to develop in their students left-brain capabilities. As Lewis (1987, p. 41) has recognized:

> In class, students are expected to acquire knowledge one step at a time, adding methodically to their storehouse of facts until they have sufficient to pass an examination. This demands left-brain skills. The problems students are given to solve more often demand an analytical rather than an intuitive approach. This, too . . . is a task for the left hemisphere. Written work, by which ability is chiefly evaluated, must be organized, well argued and logically structured . . . all left-brain skills. The students considered most intelligent and successful are those who strive after academic goals, can control their emotions in class, follow instructions, do not ask awkward questions, are punctual and hand in class assignments on time. Goal-setting, emotional restraint, time-keeping and matching your behaviour to other people's expectations are all left-brain skills. Children are meant to learn by listening, keeping notes and reading books. All these, too, of course, are tasks in which the left hemisphere specializes.

Interestingly, preliminary research by Nieuwenhuizen and Groenwald (2004), in South Africa, on the brain preference profiles of entrepreneurs, appears to confirm the right-brain thinking preferences of successful entrepreneurs, which may well explain why so many are known not to have succeeded in the formal education system and are dyslexic (Kirby, 2003b). It may also explain why Gibb (1987), apparently intuitively, has argued that to develop entrepreneurs or more enterprising individuals, the focus of the education system needs to be shifted away from the traditional to what he terms 'the Entrepreneurial'

Table 2.1 The focus of learning

Traditional focus on	Entrepreneurial focus on
The past	The future
Critical analysis	Creativity
Knowledge	Insight
Passive understanding	Active understanding
Absolute detachment	Emotional involvement
Manipulation of symbols	Manipulation of events
Written communication and neutrality	Personal communication and influence
Concept	Problem or opportunity

Source: Gibb (1987).

(Table 2.1). Thus, the challenge is to develop a system of learning (and assessment) that complements the traditional and develops in its students the skills, attributes and behaviours characteristic of the enterprising or entrepreneurial individual.

As observed elsewhere (Kirby, 1992), of particular relevance here are the proposals of Olsen and Bosserman (1984, p. 53). They suggest that 'individuals will exhibit entrepreneurial behaviour when they possess a combination of three attributes', namely:

- role orientation – emphasizing effectiveness
- abilities – to think both intuitively and rationally
- motivation – the driving force behind action.

To achieve these, it seems necessary to adopt an approach to learning that:

- gives students ownership of their learning, including negotiating with their tutor their own learning objectives, the resources, activities and processes required to meet these objectives and, importantly, the way in which it will be determined whether these objectives have been met (to stimulate motivation, reduce dependency and provide experience of role orientation)
- involves students in problem solving in real-world situations, possibly in teams (to develop both intuitive and rational thinking, to recognize the multi-faceted nature of problem and solution and to encourage communication and co-operation)
- encourages students to formulate decisions on data that are immediate, incomplete, 'dubious' and, as appropriate, personally generated (to stimulate effectiveness and the ability to cope with uncertainty)
- provides students with role models who are involved in both the learning and assessment processes (to demonstrate role orientation, ability and motivation).

Of the attributes identified by Olson and Bosserman, possibly the most difficult to develop from the perspective of the education system in general and business schools in particular is the ability to think both intuitively and rationally – to develop what may be termed the 'balanced brain'. As suggested already, most education systems tend to adopt left-brain approaches to learning. The emphasis has been on developing critical or verti-

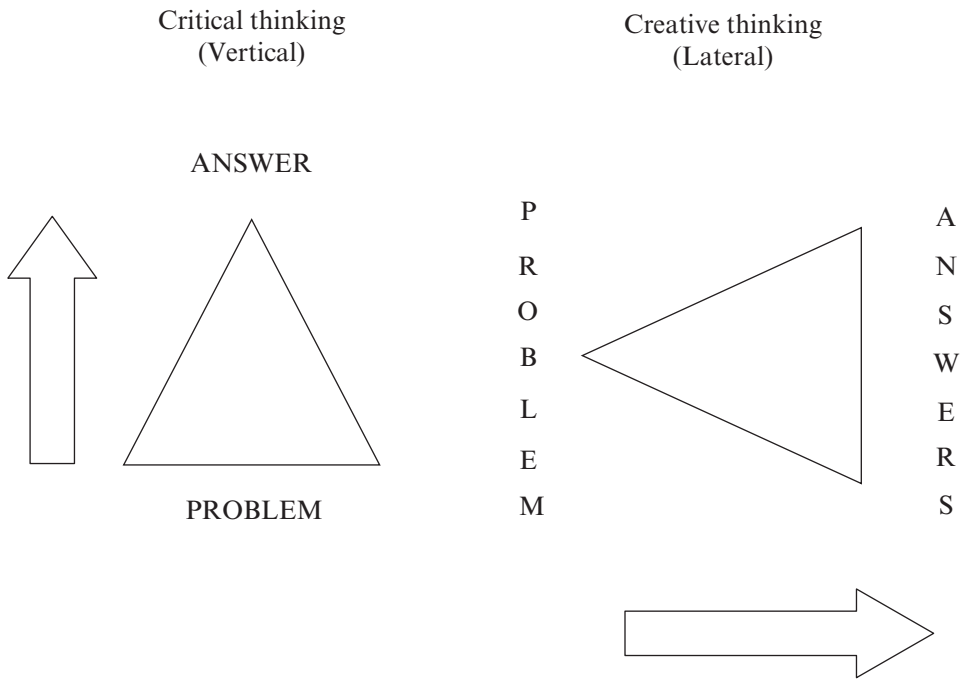

Figure 2.1 Critical and creative thinking

cal thinking. This is a function of the left-brain – it is objective, analytical and logical, and results in one or, at most, only a few answers. In contrast, creative thinking is lateral, imaginative and emotional resulting, through association, in more than one solution (de Bono, 1970). The two ways of thinking, summarized in Figure 2.1, are clearly complementary and it is apparent that in order to develop entrepreneurial capability, both critical and creative thinking are needed. If it is assumed that the brain is a computer that can be programmed, then presumably the right-brain functions can be developed. Hence, as with critical thinking, students can be trained to think creatively and to cope with ambiguity and uncertainty, because these are right-brain functions as has been pointed out. Indeed, there are many techniques for encouraging people to think laterally and to look at things in new ways, but perhaps the most important is to maintain at all times an open and enquiring mind. This should be the role of education but all too frequently it is not. As Lewis (1987, p. 240) has recognized: 'Under the domination of the present paradigm, schools teach *what* and *how* rather than *why*. Content is all-important, and the key to success lies in the acquisition of "knowledge" and its accurate representation to teachers and examiners. Facts are true, truth is sacred and information lasts a lifetime'.

Sadly this situation pertains not just in schools but also in most levels of education. In an era of very rapid change, where the life of the existing body of understanding will become increasingly shorter, this situation is unlikely to continue indefinitely. Change is inevitable. However, if the education system is to create more enterprising or entrepreneurial students, as it is being required to do, then it will need to change more

fundamentally and rapidly than perhaps might otherwise have been required. Indeed, it may be argued that the role of the academic entrepreneur is, in fact, to innovate and bring about such much-needed change.

Proposed changes to the 'place' of learning

For many, and especially given the sort of objectives that are being articulated above, universities are not equipped to meet the emerging demands being placed upon them. Apart from not possessing the requisite entrepreneurial cultures (Kirby, 2006), staff are often philosophically opposed to the objective and may not possess the requisite expertise to meet it, whilst at the same time there are frequently timetabling constraints and the constraints imposed by traditional racked lecture theatres and large classes. All militate against the creation of the sort of environments in which a new paradigm for entrepreneurship education may flourish. Not surprisingly, under such circumstances, Johannisson made the point in that: 'to teach individuals to become not only more enterprising but businessmen as well . . . is an undertaking that in both time and scope is beyond the capabilities of an academic business school' (1991, p. 79).

As demonstrated elsewhere (Kirby, 2003a), these difficulties can be overcome and it is possible to educate students not just *about* entrepreneurship but also *for* it, and to at least begin to develop in them the aptitudes and capabilities of the entrepreneurial person. However, it is not easy and 'developing entrepreneurs in the classroom is about developing the enterprising environments and approaches to learning' (ibid., p. 371), requiring 'a very significant transformation in not only what is taught but how it is taught' (ibid., p. 371). In this context, and bearing in mind the need to involve students in problem-solving in real-world situations, and to encourage them to formulate decisions on data that are immediate, incomplete, 'dubious' and, as appropriate, personally generated, it is interesting to note Albert and Gaynor's (2003, p. 20) assertion that 'incubators are becoming the entrepreneurial schools of tomorrow'.

While there is no formal or legal definition of the term 'incubator', it is generally accepted that, as the US National Business Incubation Association recognizes, incubators provide hands on management assistance, access to financing and orchestrated exposure to critical business or technical support services. They also offer entrepreneurial firms shared office services, access to equipment, flexible leases and expandable space – all under one roof.

An important feature of the definition is, undoubtedly, the provision of physical space and in all probability this was the *raison d'être* for the first generation 'incubators' of the 1980s, which were intended, primarily, to offer affordable space and shared facilities to fledgling businesses. However, the modern incubator places more emphasis on the process of incubation, which means that (a) incubators can be virtual, utilizing the benefits of modern communications technology, and (b) equal, if not more, emphasis is placed on training, mentoring and the creation of a learning environment. This emphasis on the process of incubation means that it is possible to conceive of an incubation continuum from, perhaps, enterprise laboratories where people (students) play around with ideas and concepts, through pre-incubators where they explore the market feasibility of their ideas, to incubators where they launch and grow the venture and science parks where they build the business. The student(s) would pass through this continuum working with their mentors (tutors) on their own, real-life cases and, in the process, developing the functional and personal attributes of the entrepreneur This is the 'for' and 'through' model of

entrepreneurship education that is being adopted and developed at the University of Surrey in England.

The Surrey case

Located approximately 30 miles south of London, in Guildford, the University of Surrey is a broad-based but technologically orientated university with a long tradition of promoting innovation and new ventures. In 1986 it opened its highly successful £70 million science park (the Surrey Research Park)[1] which houses its incubator (the Surrey Technology Centre),[2] the home of the SEEDA Enterprise Hub for Surrey.[3] Since its inception the park has contributed significantly to the economic development of the region and to technology transfer, as well as fostering innovation. Tenant companies employ over 2500 staff and many feed technology into local companies with which they have partnering arrangements. More than this, approximately two-thirds of the firms have links with the university and a number of the university's own spin-out firms have located there.

Over the years, the university has developed a successful track record of commercializing its research. Not only is the research park itself a successful venture in its own right, but numerous other ventures have been developed, including the internationally recognized Surrey Satellite Technology Ltd, the world's leading provider of small satellite applications. In the academic year 2000–2001 alone, the university created six businesses and signed 14 licence deals, providing £120 000 of revenue and the potential for future royalties.[4]

In addition, the university has been party to a number of successful bids to government to fund its activities in this area. To complement its own £1 million venture capital fund, for example, it has received further funding (in partnership with Brunel University, the universities of Reading and Sussex and Royal Holloway College, University of London) to create a two-tier fund providing members of the university who wish to commercialize their intellectual property with up to £30 000 for proof of concept, market studies, and so on, and up to £250 000 for growing a promising venture. Further funding is being made available through the business angel and venture capital networks currently being established locally, as well as through pre-existing regional and national networks.

In addition, a successful bid has resulted in the creation of a pre-incubator (SETsquared Centre[5]) on the research park to facilitate the commercialization of research from both within and outside the university. The centre (like its partners at the universities of Bath, Bristol and Southampton) is intended for nascent entrepreneurs with a sound business idea that shows high-growth potential and links into the knowledge (technology) base of the four universities. It offers managed workspace, including reception facilities, a telephone answering service, diary management plus meeting rooms. However, it is more than just a building providing accommodation and services. Rather, it can be viewed, as Albert and Gaynor (2003, p. 20) have suggested, as an 'entrepreneurial school of tomorrow'.

The intention of the centre is to help create and launch new ventures based on ideas that appear to have considerable market potential To do this, the members, whether from within the university or outside, are provided with the help and support needed to formulate a business plan, build the entrepreneurial team, identify customers and the route to market, and bring the venture to a stage where it is investment ready. This is done through both one-on-one mentoring and a programme of training, workshops, clinics and 'events'. In the process, the centre members learn how to launch a business. The key to the process is a regular three-monthly review that charts the member's development and

advises on what needs to be done and what skills need to be acquired. This is undertaken by a panel of experienced practitioners (including entrepreneurs), who offer advice and guidance with respect to future plans and progress, including guidance on exit strategies. To focus attention on the 'learning needs' of the individual, the centre member is required to complete a questionnaire (Appendix 2.1) in consultation with the panel. In effect, this is a negotiated learning agreement or contract (Stephenson and Laycock, 1993) and becomes the action or learning plan for the next period. It outlines what the member needs to do or learn and how he/she is going to do it, thereby giving him/her ownership of his/her own learning and ensuring that the learning meets his/her needs and is relevant and timely.

Clearly, by so doing, the centre is educating its members *for* entrepreneurship through a programme of action learning that deals with real-world problems and adopts many of the entrepreneurship education principles advocated elsewhere (Kirby, 2003a). Unlike in more traditional educational contexts, there is no formal curriculum. Rather, learning is tailored to the needs of the learner. In the process, tutors (mentors) become facilitators of learning rather than transmitters of information (lecturers), asking questions and challenging the entrepreneur on his/her journey of discovery (Doyle and O'Neill, 2001).

Not only has the university put in place the complete incubation process, from enterprise laboratory to pre-incubator through incubator to science park, but, like most other UK universities, it has responded to the 1997 exhortation of the National Committee of Inquiry into Higher Education in the UK to 'consider the scope for encouraging entrepreneurship through innovative approaches to programme design' (recommendation 40). Thus a range of new educational programmes[6] has been developed with the intention of raising awareness of the opportunities for new venture creation. Some of these initiatives, such as Future University of Surrey Entrepreneurs (FUSE), are intended to educate participants *for* entrepreneurship (see Appendix 2.2) and, although classroom based, are linked directly to the enterprise laboratory and pre-incubator. Others are intended either to educate participants *about* entrepreneurship or *through* it. For example,

- students on the MBA Entrepreneurship module are taught *about* entrepreneurship largely in the classroom but are given the opportunity of either developing their own business ideas or working with entrepreneurs in the pre-incubator as mentors. Some have actually gone on to become part of the entrepreneurial team
- students on the BSc in Entrepreneurship, IT, Technology and Business are given the opportunity to learn *about* entrepreneurship by using their placement year either to start their own business or work in one of the businesses in the pre-incubator, incubator or research park
- students on non-entrepreneurship programmes are able to learn more about their disciplines *through* entrepreneurship, by conducting projects for businesses in the pre-incubator, incubator and science park. These have included the preparation of national and international marketing plans as well as technology projects.

By so doing, the university is not only attempting to develop closer links with its pre-incubator, incubator and science park through the creation of a completely integrated incubation process, but it is seeing them as research and teaching laboratories for its staff and students, which helps increase the numbers and survival chances of new ventures

being spun both out of, and into, the university. However, by treating them in this way, the staff of the university are also able to provide their students with real-life work placements and projects. These reinforce student classroom learning not just of the entrepreneurial/incubation process, but *about* management and technology in general, at the same time helping develop them as more enterprising individuals (Kirby and Mullen, 1990).

Conclusion

As yet, there is no common agreement over what constitutes entrepreneurship education or how it is and should be taught. For some, it is concerned with raising awareness of entrepreneurship – with teaching students *about* entrepreneurs and, in particular, their roles and functions in the economy and society. For others it is more than this. For them it is about developing in their students the attributes of the successful entrepreneur and/or equipping them with the knowledge and skills to start and grow a business. This is education *for* enterprise. In contrast, others (perhaps a small minority) are more concerned with education *through* enterprise – with using the new venture creation process to help students acquire a range of both business understanding and transferable enterprise skills or competences.

In this chapter it has been argued that the need is not just to teach students *about* entrepreneurship but to educate them *for* it, and that this can be only be done by changing the content and process of learning, and possibly, even, the place where learning occurs, primarily by taking it out of the classroom and into the 'real world'. In particular, it has been argued that incubators (including pre-incubators and science parks) can be seen as enterprise teaching laboratories in which all three aspects of enterprise education can be undertaken. By transferring learning from the classroom in this way (whether to an incubator or not), it is possible to complete Kolb's (1984) learning cycle and move from classroom observations and reflections through the formation of abstract concepts and generalizations to the real world where it is possible to test implications of concepts in new situations and gain concrete experience. At the same time, it is possible to shift the emphasis away from passive to active learning, thereby enabling participants not just to gain experience of what Honey and Mumford (1986) have termed the 'Reflector' and 'Theorist' styles of learning, but the 'Activist' and 'Pragmatist' also. This is important. Traditionally classroom-based teaching has favoured the former rather than the latter, which may further help explain why successful entrepreneurs have not succeeded in the formal education system. Thus, by changing the content and process of learning and taking it out of the classroom, at the same time emphasizing the pragmatist and activist styles of learning, not only are the learners being encouraged to acquire some of the attributes, values and behaviour patterns commonly associated with entrepreneurs (Kirby, 2003b), but a fairer, more balanced education system is being created that recognizes and caters for the preferred learning styles of all participants, including those with a right-brain dominance, which appears to include the successful entrepreneur. To achieve this, though, requires a major shift in the education paradigm.

Notes

1. The Surrey Research Park accommodates approximately 110 technology-based firms of various sizes and stages of development. More details are available at www.surrey-research-park.com.
2. Approximately 69 new technology based firms are housed in the Surrey Technology Centre. See www.surrey.ac.uk/stc. for more information.

3. The Regional Development Agency for the South East of England (SEEDA) is developing a series of 20 enterprise hubs throughout its region. Each will be a business incubation network that will:

   - enable businesses to learn and do business with each other, collaborating on key strategic projects
   - identify the right sources of finance and link them with investment ready companies
   - ensure young and growing companies have access to flexible premises to support successive stages of development
   - link these firms to the business advice, mentoring and finance they need to ensure they develop the management capability to succeed.

   More information is available at www.seeda.co.uk/enterprise_hubs and www.surreyhub.co.uk.
4. In 2001–02 two new spin-out businesses were created and the income from licence deals was £104 000. In 2002–03 another four spin-outs were created and the income from licence deals was £107 000.
5. SETsquared stands for the Southern England Technology Triangle. Further information can be obtained from www.setsquared.co.uk.
6. Apart from entrepreneurship modules on its undergraduate and Master's programmes in the Management School, the university has a level 1 (30 credit) business start-up module that can be taken online and has introduced a highly popular full undergraduate degree (BSc in Entrepreneurship, IT, Technology and Business) through the School of Engineering. Additionally, non-accredited extra curricular courses are offered to students of any discipline through the Future University of Surrey Entrepreneurs (FUSE) Programme, run in conjunction with the Students' Union, which includes a summer school for those wishing to start their own businesses on graduation (Appendix 2.2). This complements short courses and boot camps intended for academics and the employees of technology companies who wish to commercialize their research and/or start their own business. Finally, it has developed three 'user-friendly' CD-ROMs intended to enable users to work at their own pace in order to develop the plans to start, grow and market their businesses.

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Appendix 2.1: Centre member's formal meeting record

This questionnaire is to help both you and us review your progress so that we can help you move your idea or enterprise forward. Please complete it *by filling in electronically* and ensure that it is with the centre manager at least one week before your next review panel, together with any supporting documentation, including updated business plan if relevant, you feel will help the review. We look forward to seeing you.

DATE ..... REVIEW DATE (1) .....
NAME OF MEMBER ..... REVIEW DATE (2) .....
NAME OF COMPANY ..... REVIEW DATE (3) .....

Progress to Date:

How far have you got with your idea? *(mark with an **X** in the appropriate box)*

Concept:	Proved	☐	Almost proved	☐	Still working on it	☐
Prototype:	Developed	☐	Almost developed	☐	Still working on it	☐
IP:	Granted	☐	Applied for	☐	Under consideration	☐
					Other	☐

Business Plan:

How far have you got with your business plan?

Completed* ☐ In progress* ☐ Not started ☐

**Remember to include a copy for your review panel with this questionnaire*

Mission Statement:

How far have you got with:

- Deciding on the legal form of your business? (Mark with an **X**)
  - Incorporation ☐
  - Memorandum and Articles of Association ☐
  - Shareholders' Agreements ☐
  - Director and Company Secretary appointments ☐
  - Registration for VAT, PAYE and Corporation Tax ☐

Are there any specific legal areas that you wish to discuss with the review panel?

- Producing a fully costed marketing plan?
  - Reviewing the market ☐
  - Setting your marketing objectives ☐
  - Formulating a marketing strategy ☐
  - Developing an action plan ☐

Are there any specific areas of marketing that you wish to discuss with the review panel?

How far have you got with:

- Writing a fully costed operation plan?
  - Production process ☐
  - Suppliers ☐
  - Distribution ☐
  - Quality control procedures ☐
  - Other (please specify)

- Producing a fully costed capital plan?
  - Premises ☐
  - Web site ☐
  - Equipment ☐
  - Other (please specify)

- Developing a fully costed human resources plan?
  - People ☐
  - Roles ☐
  - Skills and training needs ☐
  - Recruitment process ☐
  - Remuneration ☐
  - Other (please specify)

- Producing a set of financial statements?
  - Profit and loss account ☐
  - Cash flow forecast ☐
  - Balance sheet ☐
  - Break-even analysis ☐
  - Sensitivity analysis ☐
  - Other (please specify)

- Identifying the funding needs of your business?
  - Amount and purpose ☐
  - Type ☐
  - Timing ☐
  - Deal offered/repayment ☐
  - Other (please specify)

Funding:

How far have you got with funding?

Bank Loan:	Received	☐	Applied for	☐
	Application being prepared	☐	Rejected	☐
Venture Capital:	Received	☐	Applied for	☐
	Application being prepared	☐	Rejected	☐
Angel Funding:	Received	☐	Applied for	☐
	Application being prepared	☐	Rejected	☐
SMART Award:	Received	☐	Applied for	☐
	Application being prepared	☐	Rejected	☐
Vendor Finance:	Received	☐	Applied for	☐
	Application being prepared	☐	Rejected	☐
Corporate Partner Finance:	Received	☐	Applied for	☐
	Application being prepared	☐	Rejected	☐
Other:	Received	☐	Applied for	☐
	Application being prepared	☐	Rejected	☐

Other (please specify)

Your Personal Development:

I need to develop my *understanding* of:

	Yes	No
Patenting and IP protection	☐	☐
Business law	☐	☐
Support for the small firm	☐	☐
Business planning	☐	☐
Market	☐	☐
Marketing	☐	☐
Human resources and employment issues	☐	☐
Team building and development	☐	☐
Financial management	☐	☐
Finding and securing finance	☐	☐
Launching and growing the business	☐	☐
Business harvesting and exit strategies	☐	☐

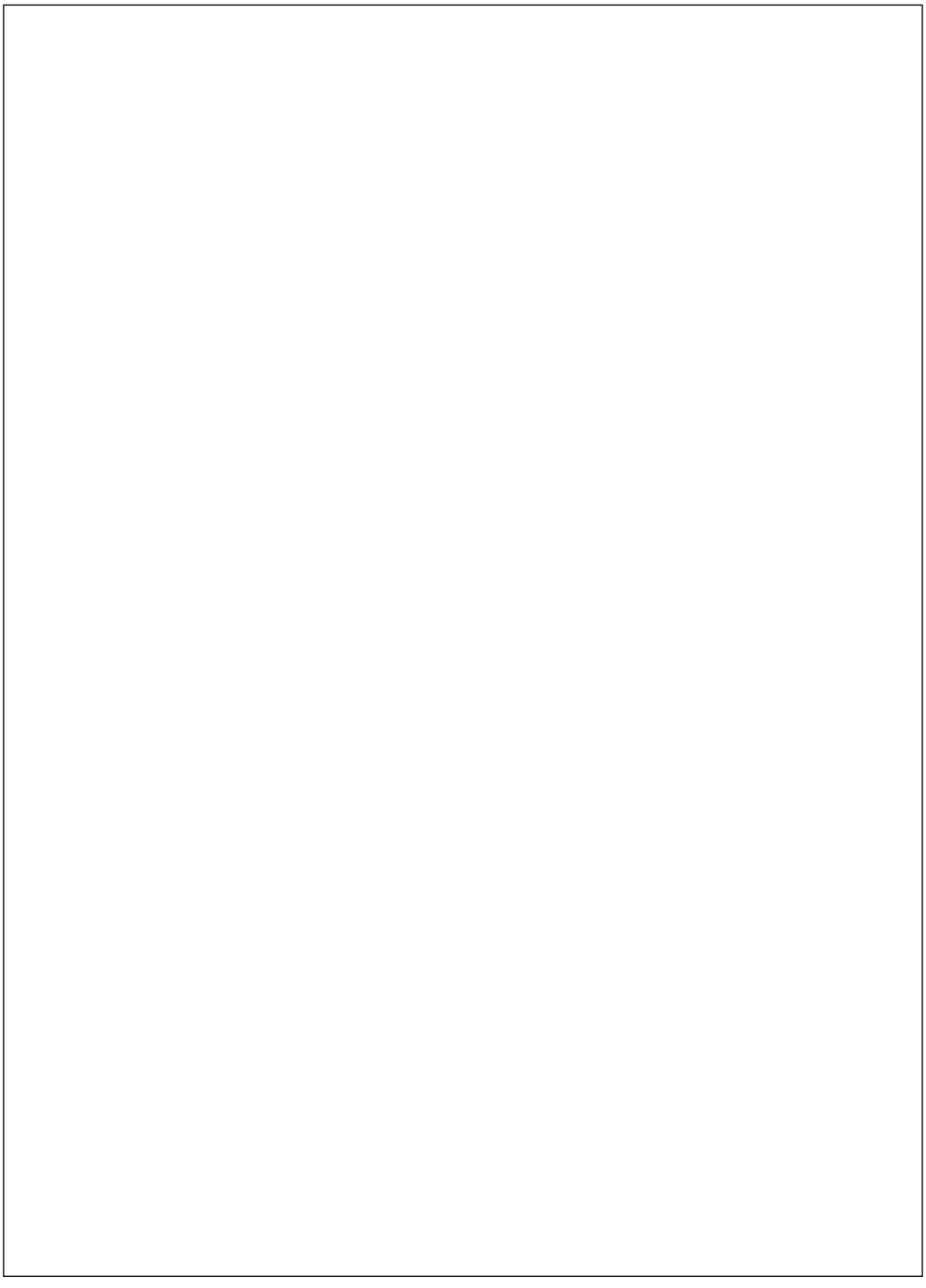
Other (please specify)

I need to develop my:

	Yes	No
Creative thinking skills	☐	☐
Problem-solving skills	☐	☐
Decision-making skills	☐	☐
Time and project management skills	☐	☐
Communication and presentation skills	☐	☐
Negotiation and persuasion skills	☐	☐
Selling skills	☐	☐
Leadership skills	☐	☐
Team-working skills	☐	☐
Social networking skills	☐	☐

Other (please specify)

Milestones and Objectives:
Review of how your business has progressed against agreed objectives (e.g. last review).



What are your plans for the next four months?
(You need to indicate what you are going to do and when and how you are going to do it – for example: 'Develop my networking skills – attend a SETsquared seminar in March'.)

Help Required:
How has SETsquared helped you so far (or since the last review)?

What assistance will you need over the next four months to help you achieve your objectives?

Appendix 2.2: FUSE (Future University of Surrey Entrepreneurs)

FUSE is an extra-curricular programme for students of any discipline, studying in the University of Surrey, who wish to explore the possibility of starting their own business. It has been developed by staff of the university's School of Management and is run in association with the Students Union and UniSdirect, the outreach arm of the university.

It comprises four two-hour classroom-based evening 'classes' and a week-long summer school intended for those who have a business idea, an outline business plan and the intention to start their own business on graduation. Details of the components are as follows.

Evening 'classes'

Session 1: Taster session This is intended to introduce participants to the idea of starting a business, what is involved and the support that will be available through FUSE. A business start-up video is used to stimulate and focus discussion and participants are asked to consider the attitudes and behaviours of the key players. This is then used to address the aims of FUSE and what will be provided.

A self-assessment questionnaire is used to ascertain the entrepreneurial tendencies of the participants, and it is pointed out that participants will either be helped to develop the requisite skills and attributes or to acquire them by 'building the entrepreneurial team'.

Student role models are used whenever possible.

Session 2: Idea generation/opportunity recognition Some students will have an idea for a business, others will not. This session focuses on (a) idea generation/opportunity recognition and (b) idea modification/adaptation. Once students have been introduced to the creative process and the various techniques used to generate and modify ideas, they are given the opportunity to work in groups in order to generate ideas for the modification of common household products.

Session 3: Idea verification Commercial verification of the idea is undertaken through the business plan. This session introduces the participants to the business plan – its role and structure – and to the process of business planning.

Participants are required to complete a pro-forma business plan for their idea that becomes the 'application form' for participation in the summer school. The purpose of this is to demonstrate commitment, to ensure the participant has an idea that seems as if it is likely to be feasible, commercially, and to focus on what is required if the participant does intend to launch the business (that is, the plan becomes the starting point for the 'summer school').

Session 4: Idea funding This introduces the main forms of funding – loans, equity finance and grants – and considers what financiers are looking for when deciding on whether to fund the business.

Participants are given the opportunity, in groups, to make an elevator pitch for the funding of an actual or hypothetical business to a panel of adjudicators, who provide feedback on the presentation and the reasons for their decision.

Session 5: Networking opportunity This is an informal meeting of the participants, together with tutors, representatives of the students union, entrepreneurs, mentors and

representatives of the start-up support network in order to get to know more about (a) each other, (b) the programme and subsequent activities, (c) networking and (d) the support available for start-up. It is held either in the university's pre-incubator (the SETsquared Centre) or the enterprise laboratory adopting similar principles to 'speed-dating'. Participants are required to meet at least five new people.

The summer school

This week-long programme is followed by (a) a month where the participant works on his/her own project and (b) a one-day review session where participants receive feedback from his/her peers and an expert panel on their idea and what they need to do to bring it to fruition.

During the week-long programme there are no formal lectures as such, though participants are brought together, periodically, for common 'training' purposes. Instead, participants are allocated a mentor who collaborates with them on determining what they need to know in order to bring their idea to fruition. As part of this process the participants agree with their mentors (a) how they acquire the necessary knowledge/information to strengthen their business plan and (b) a programme of work for the following month. This forms their 'learning contract/agreement' (see Appendix 2.1).

During the subsequent month they work on this contract/agreement, in consultation with their mentor, in order to produce a more robust business plan that they are required to present to an expert panel at the review session. The panel provides them with oral and written feedback on whether the idea should be taken forward and, if so, how.

As part of the process, participants are required to keep records of meetings, expenditure and contacts.

Those participants who appear to have a sound idea with growth potential may be offered a place in the university's pre-incubator (the SETsquared Centre), where they receive ongoing support to bring their idea to the stage where it is investment or market ready. Those businesses that are not eligible for a place in the pre-incubator (that is, those that are either not technology/knowledge-based or are not perceived to have high growth potential) are routed through alternative support channels in the community (such as the local Business Link offices).

3 Learning as an entrepreneurial process

Daniel Hjorth and Bengt Johannisson

3.1 Opening: points of departure

3.1.1 Challenge

Contrasting management and its concern for control and economic efficiency when governing people and resources, entrepreneurship, as we relate to in this chapter, is practised as the playful and desired making of opportunities and ultimately actualities (in unique ventures, new socialities, novel materializations) out of coincidences. Entrepreneurial processes are in this sense understood as forms of social creativity that are also opportunity-creating, not simply opportunity-recognizing/exploiting (Gartner et al., 2003; Hjorth, 2003a). Reflecting upon such descriptions, in the context of inquiring into entrepreneurship education – and we consider education to be the achievement accomplished through learning processes – it seems to us that students and practitioners are faced with a double challenge.

The general/classical paradox of learning is intensified in the case of 'learning entrepreneurship'. First, if new knowledge is incompatible with prior learning, and the latter is a precondition for understanding what is new, then there is no basis upon which to build new knowledge. Secondly, if entrepreneurship is a creation process, then learning in the case of entrepreneurship would be creating new knowledge about the making of the new, about creation. In the case of entrepreneurship education, it is not only about learning what to do, but also learning how to do *new* things, how to create. Nevertheless new knowledge *is* created and acquired.

The question is, do we have knowledge at all about entrepreneurship as a creation process, or has entrepreneurship become subject to managerial knowledge whose primary focus is on efficiency and control? One tentative conclusion would be that every attempt to study entrepreneurship as a creation process through representing, studying, and analysing in a managerial language would inevitably squeeze whatever entrepreneurship there is out of the study and leave the student with a managerialized process, that is, something other than entrepreneurship. Our point is that we need to intensify what is distinctly entrepreneurial by creating concepts and frameworks that affirm the uniqueness of entrepreneurship processes. This means letting go of a management-envy inherited from the inaugural time of entrepreneurship at the universities (1960s to 1980s; cf. Hjorth, 2003a; Katz, 2003; Landström and Johannisson, 2001) and related primarily to the strive for collegial status vis-à-vis established disciplines in business schools. Considering that entrepreneurship is a young academic discipline and its need for legitimacy strong, there are several forces driving entrepreneurship into management:

1. *Collegial*: for a long time enterpreneurship was not a stand-alone division at the US Academy of Management, but mainly part of the strategic management discussions. We have had too much unchallenged continuation of management knowledge and perspectives into the field of entrepreneurship. Entrepreneurship education is conse-

quently transformed to learning what to do within an existing repertoire rather than learning how to do new things – that is, it is transformed into management education. When this flow of management knowledge into entrepreneurship is discussed, it is usually from the point of view of 'how can entrepreneurship benefit from management' (cf. Sandberg, 1992).

2. *Institutional*: the role of generalizing theoretical models, as developed in business administration, as well as the design of pedagogical systems are nowadays increasingly directed by the needs of competitive educational markets (universities as businesses). Management knowledge, dominating not only today's business schools but also society more generally (Burchell et al., 1991; Dean, 1999; du Gay, 1997), is legitimized by its expertise in handling the problem of order and economic efficiency. Emphasis is put on the precise management of what already is there via the standardizing vocabulary of management. Such a frame for knowledge, such a conceptual and practical horizon for learning, forecloses the open nature of a relational involvement in life and the potentiality of the event, of life becoming.
3. *Discursive*: we live in the age of 'managerialized personal identities' (Gordon, 1991, p. 44) for which 'the enterpriser' (peaking during the 1990s) was launched as the latest 'thing to be'. It is therefore important to point out that what is represented as 'entrepreneur' and 'entrepreneurship' in everyday language and public debates is often a product of managerial discourse. Management turned to entrepreneurship to further its genesis: from being associated with bureaucracy (Weber) and administration (Fayol), via slowly moving into the sphere of personal government (phrased as HRM, Mayo), to finally targeting the individual through representations of her/him as entrepreneur and making employees governable according to enterprise discourse. In this chapter, we obviously reserve for entrepreneurship something other than what is prescribed for it by management.

We want to interrupt this tendency, this historically mediated and collegially sanctioned reproduction of management thinking within entrepreneurship studies and emphasize entrepreneurship as different in kind. In an attempt to intensify what is entrepreneurial about entrepreneurship, we thus end up with something quite different from management. Entrepreneurship is not one box-room in the oversized mansion of management (Hjorth et al., 2003). An original genealogy would rather trace the entrepreneurial along paths laid down by creation, desire, passion, play, spontaneity, immediacy and intensity. We will then discuss entrepreneurship as a social creation process, meaning it is the passage from the virtual to the actual in a process of creation. As indicated we need an approach, we need concepts, and we need a language that can affirm this view/practice of entrepreneurship. This is still emergent like a foreign language to the vocabulary of business administration. In this chapter we will face this double task of developing a language of entrepreneurship as creation and discuss the consequences for entrepreneurship education (*educare* – 'to rear', 'to erect by building', 'bring up'; *educere* – 'to lead forth', 'to draw out', 'to bring out as something latent'; *Merriam Webster's Collegiate Dictionary*, www.britannica.com) working towards our suggestion that learning,[1] in the case of entrepreneurship education, can become, indeed needs to be, an entrepreneurial process.

3.1.2 Purpose and structure

In this chapter we approach the question of how learning entrepreneurship occurs. The intention is to open up the discussion on learning so as to allow space for developing a conceptual framework in which the how-question can be given new meaning and illustrated accordingly. We present learning itself as an entrepreneurial process, as a process of social creation. This allows us to discuss implications for how entrepreneurship is learnt and how learning is conceptualized and practised by teachers in dialogue with students.

We believe we can clear up some of the mystique concerning learning when conceptualized as entrepreneurial from a processual perspective In order to accomplish such an endeavour we bring in a discussion of a becoming philosophy, or, what we with the help of the philosopher Gilles Deleuze will call a philosophy to enhance life. From such a conceptual horizon we conceive of learning from a dialogic perspective, inspired by the writings of Bakhtin. Such a re-thinking of learning, something we consider to be a central part of our output in this chapter, we argue, allows new imaginations and offers new possibilities for entrepreneurship learners. We demonstrate our view by way of two cases – one more elaborate than the other – in the context of academic education (in entrepreneurship).

The chapter proceeds towards its aim in the following order. After describing how we frame our approach, we move on to our task to re-think how learning entrepreneurship happens (section 3.2). From this basis for a conceptual development we move on to proposing a processual and dialogical approach with the help of the process philosophy and applications of Bakhtin and Vygotsky in discussions of learning (section 3.3). Setting the scene for our cases, section 3.4 reports a context for teaching entrepreneurship in Sweden. In section 3.5 we bring two stories from experiences of staging possibilities for learning in entrepreneurship courses/programmes. We analyse these (in section 3.6) with the help of our conceptual development in section 3.2 and conclude (section 3.7) with implications of our study for how we might approach learning as an entrepreneurial process.

3.1.3 Framing the approach

Creation processes are difficult to conceive and conduct. Also learning – when understood as an entrepreneurial and thus creation process – is a 'mystery' that thickens when concerned with knowledge about entrepreneurship. How is learning possible generally and learning entrepreneurship specifically? When perceived as an entrepreneurial process, learning can be described as the creation of concepts that bridge the familiar/understood and the alien/incomprehensible, and brings this alternative vocabulary into practical use. Learning, more specifically, thus is the process of becoming a user of concepts and their related (socially contextualized) language and practice, resulting in enhanced possibilities for living. Sarasvathy's (2001) notion of effectuation proposes a muddling-through image of entrepreneurial venturing. Latour (1987) discusses knowledge in terms of a resource for being able to 'act at a distance', while pragmatists and associates such as Weick (1995) talks about decisiveness and output-driven retrospective narrative history-making: prospectively as trial and error, retrospectively as reconstruction of a narrative that binds the outcome to a history. Lyotard (1979), in his 'report on knowledge' says that '[L]earning is the set of statements which, to the exclusion of all other statements, denote or describe objects and may be declared true or false' (p. 18) Lyotard's description points us in the direction of Foucault's, when discussing Nietzsche's concept of 'wirkliche historie' or effective history (history as 'introducing discontinuity into our very being'), saying

that 'knowledge is not made for understanding; it is made for cutting' (Foucault, 1977, p. 154). For our discussion, this emphasis on knowledge as cutting – as making breaks, drawing boundaries, differentiating – is an important background both when imagining how sense can be made out of ambiguity (Weick, 1995), and for making clear that knowledge is as much discursive as experiential.

Knowledge as cutting puts emphasis on the dynamic and creative/productive force of knowledge. This view of knowledge, as making breaks, singling out anomalies and producing the objects of its attention also discloses learning as an entrepreneurial process. Learning – and this will become clearer with the help of our discussion on becoming and dialogue in section 3 – is not limited to the acquiring of concepts through which our thinking is directed. Learning as an entrepreneurial process, in addition, we believe should not be limited to the synthesizing function of a brain (connecting 'a' with 'b'), the brain being the site where connection takes place.[2] What is central instead is the creative/imaginative function that starts to relate present and past and produce laws and models, ideas and images, anticipations and expectations that extend life beyond experience. Learning as an entrepreneurial process is the openness to the creative/excessive power of life in which sense happens. 'Sense expresses not what something actually is but its power to become' (Colebrook, 2002, p. 60), as when we sense the power of a knife, not what it actually is, but what it might become, the possible 'cutting' of the knife. We sense the fear of the knife, which is not a fear of what the knife is, but what it can become – a weapon. Sense is in this way related not to what something is but to what it could become – to its potential. A life-enhancing philosophy affirms this openness towards the becoming and transformation of life. So, and this is a central point for this chapter, cultivating such openness to the event of sense, through learning as an entrepreneurial process, would increase one's possibilities to enhance life, to create life beyond present experiences (Spinosa et al., 1997). That is, it would enhance our entrepreneurial possibilities.

Learning, when considered in perspective of life-enhancement, is also a process of self-creation and re-creation. Learning is then a process of becoming-other, of moving beyond the prescribed boundaries of a socially stabilized self, 'we are always more than the closed image of the self we take ourselves to be' (Colebrook, 2002, p. 142). So learning is a road to self-actualization (Foucault, 1986; Kostera, 2005). In addition, we have inherited a Cartesian reflex reproducing an essentialist view of the individual subject. The result being that we take every image of the self as expressing an underlying or original self. 'The idea of an original or underlying self or essence is the *effect* of the produced masks and copies. The simulacrum produces the effect of an original, producing new selves and originals with each performance' (Colebrook, 2002, p. 100). A self is rather an effect of a performance, a self-fashioning (Greenblatt, 1980).

This means that we share with relational constructionists and poststructuralists (such as Deleuze) the view that 'processes make people' rather than 'people make processes'. Social processes, including the now central process of learning, are relationally co-constructing self and other, self and world (Hosking and Hjorth, 2004; Hosking et al., 1995). This underlines the view of stabilized self-constructs as achievements, as the result of repetitive work of co-ordinating relations so that a self can be held in place. Such relational co-constructions always reference available repertoires of styles for doing this (Hosking and Ramsey, 2000). Learning as an entrepreneurial process breaks such patterns through moving people to new self-constructs: new self-other and self-world relations.

3.2 Learning entrepreneurship

Paraphrasing Schumpeter, entrepreneurship means initiating social processes of actualization, energized by desire to compete and create. Entrepreneurship education faces the challenge of becoming-knowledgeable of such processes as well as generating hands-on experiences of such processes for further reflection. How can that be accomplished? That is for us an open question, one we always have to deal with in contexts of education. Our case stories are suggested as examples of how to creatively respond to the challenges carried by this question.

The educational alternative, that is, the re-production of courses via standardized content, would distance learning from the creation of new knowledge and produce/frame entrepreneurial practice as an anomaly and a kind of mistake – happening against the odds. Such an effect is, from both a processual and an experiential-learning perspective, almost inevitable and has an unfortunate damaging impact on learners who become excluded from this 'strange entrepreneurship'. Thinking with concepts of management will keep it out of reach. This partly explains the difficulties experienced with business school students who enter into entrepreneurship studies only after their undergraduate education is almost finished. They bring with them management knowledge and perspectives, fit for a future anticipated position as manager, thus severely limiting their openness towards processes of becoming. Instead, educators responsible for learning processes in the context of entrepreneurship education need to be sensitive to local/temporal specificities. Together with students they would need to cultivate an openness before the event of sense, the power of becoming, the possibilities of creation. Sense has a power of incorporeal transformation, for example, whether I refer to an object as 'art', 'product' or 'stolen' will alter what it is in its incorporeal being. The event of sense – always on the verge of arriving and just having passed – anticipates the actuality of the virtual, addressing us towards what something could become rather than what it is (cf. Colebrook, 2000).

From an ontology of becoming, in which processes can be described and understood, it becomes clear that entrepreneurial processes of creation emerge out of multiple dialogic relations between actualities and potentialities: between what 'is' and 'what could become'. Learning – from a dialogic perspective – as we have described this here, that is, as a creation process of becoming user of concepts that allow an enhanced life, is an example of entrepreneurial processes. In addition, entrepreneurial processes need to proceed with an open mind and responsiveness to life, characterized by a 'learning mode' of becoming. Let us briefly develop this entrepreneurial perspective on learning and learning perspective on entrepreneurship.

3.3 Becoming and dialogue – towards a processual perspective

3.3.1 Becoming philosophy

Life comes into being as becoming. Becoming is the force of life, whereas every being (identity, origin or telos) is an achievement of representation. We constantly need to become open to the intensity of life, for this counters the 'normal' tendency to perceive life through fixed beings. As we have pointed out above, such beings are constructs, the effect of using repertoires of stabilizing relations. In order to achieve this openness we need to understand how experience is related to affect and concept. Our historically mediated tendency is otherwise to take experience as something given to a subject (the subject

being our most common instance of transcendence) who is made into the ground of knowledge (the Cartesian construct). Process philosophers (Whitehead, Bergson, Deleuze) relate to this subject as an effect rather than as a ground. There are experiences, movements, intensities that produce subjectivity, not subjects that experience. When we think we start from scratch saying 'What can I know?', we have already differentiated an 'I' from a 'world' that 'I' then strives to know.

Language is not a tool for speakers, but a 'differential force that produces speaking positions' (Colebrook, 2002, p. 76). A becoming philosophy points us beyond the more common notion of a subject determined by culture, class, gender, history. The subject has come to function as a transcendence – when God or truth has been abandoned for science and (statistical) certainty – filling the place of these external foundations, operating as this image of thought that we take to be an ultimate foundation. In a becoming-philosophical view, philosophy, science and art can help us overcome this over-coded, synthesized or composite tendency of thinking.

> Philosophy allows us to think the forces of becoming by producing concepts of the differentiated or dynamic power of life; science allows us to organise matter by creating functions that allow us to extend our perception beyond what is actually given; literature allows us to become by creating affects that transform what we take experience to be. (Ibid., p. 126)

The affects brings us back from the composites and help us start from intensities of experience which is from where the subject is created.

One central thinker for a philosophy of becoming is Henri Bergson. Gilles Deleuze devoted a book to the study of Bergson's philosophy – *Bergsonism* (1988) – for which a novel conception of time was central. Bergson argued that we experience 'real time' (*durée réelle*) as duration, apprehended by intuition. 'Chronos', the mechanistic clock-ticking measurement, was to him an analytical construct.[3] Intuition also receives the function of an approach (not to say method) in Bergson's writings. Relating to his processual view of the world, intuition also operates processually in processes of knowing, or, becoming-knowledgeable of things in the world. Linstead describes (2002, p. 103):

> Intuition, . . . pursues not what can be made to seem familiar within the object, but that which is unique to it, and consequently may be inexpressible or unrepresentable. It is 'knowable' only by the intuitive process of 'intellectual sympathy', placing oneself within the object – or as Deleuze might put it becoming-object – in order to know it without expression, translation or representation. For Bergson, this is the truth of the object, accessed by a truer empiricism than the abstracted empiricism which is the obsession of representational analytical strategies.

When we think with Bergson of organization, we are led to turn around the problem of creation or change. Organization would be the arresting of becoming, the flow of process that characterizes life, and result in temporary stabilities. Such stabilities are in conventional management and organization studies represented as order (and related to managerial control), in relation to which change has to be instigated from the outside, typically by a managerial initiative. Now such initiatives are false, Bergson would point out, as they operate with a false problem of change and movement. Order, in this perspective, is indeed an accomplishment, artificial and not natural. For this reason Chia (1999) can argue that organization contrasts change and is far from a fixed entity, but instead a 'repetitive activity of ordering and patterning itself'. This has implications for how we

think about learning in contexts of entrepreneurship education. It would take little to show that university courses approach learning processes from the point of view of stability as normal and change as its other. For entrepreneurship education we believe it is pivotal to approach the world as becoming. Learning needs an openness to this flow in order to understand the role of desire and creation in processes of actualization.

Change as a concept, of course, also stabilizes what we try to think by the concept. With Deleuze we would emphasize that language is problematic in this sense. We need to start thinking *from* experience – where we pragmatically-intuitively all know that things do not stay the same – and not from the concept (of change) *into* experience. That is, we need to keep the openness of experience alive and not box it into concepts of change. Education would then have to engage in both organization – to socially construct learning in recognizable forms – and in relaxing such order to allow the flow of life to become. As Linstead notes, we could think: 'organizing not as the opposite pole of the dualism to change, as its absolute other, but as a shifting qualitative relation between order and change which might at different times display more patterning than others, more evidence of environmental intervention than others, more creation and surprise than others' (2002, p. 106).

Gilles Deleuze's philosophy of becoming (or life-enhancing philosophy) can be said to be part of a poststructuralist reaction to structuralism more generally. That is, instead of studying the world through language as a closed system of signifier – signified – sign, poststructuralism is interested in how languages, cultures, political movements, organizations, institutions necessarily mutate or become. Life is an immense diversity of becomings. The temporary relation between a wasp and an orchid build a block of becoming through which both the flower and the insect become: the flower-becoming-feeder and the insect-becoming-fertilizer, and they together form a moment of movements (attraction and repulsion). Our habit of tracing every becoming back to an origin, to an original being, is described by Deleuze (and Guattari, together with whom he wrote a lot) as 'interpretosis': as a kind of pathological behaviour, the tendency to reduce, to operate negatively, backwards. We can see this as a heritage that rests on a representationalist view of language (language mirrors nature) and a Freudian model of psychoanalysis (always tracing backwards, negatively, to a reduced stage, primary, original). Desire, as an example, is conventionally interpreted as referring to a loss, a lack of something. Against this Deleuze stresses desire as a connection, a positive becoming, the wanting to increase the productive capacity, to expand and become-other through what is more then oneself. Desire is thus central for becoming. 'Life is desire, and desire is the expansion of life through creation and transformation' (Colebrook, 2002, p. 135).

'Becoming,' Colebrook further describes, 'in its true force, is not bounded by what has already become or is actualised, but it is spurred on by perceiving the virtual powers that are expressed in actions' (2002, p. 136). This describes that when we let go of the idea of an original, a founding thought, an essence of being, we are no longer bound by a general and cumulative model of knowledge/science into which we seek to fit every step called progression/evolution. Instead we approach life as a multiplicity of becomings. The powers of creation processes – processes of moving from the virtual to the actual – that are processes of actualization are what we desire. Humans can become more than they are in themselves by processes of becoming-hybrid with what is not itself. When education is also a creative process we become-hybrid by the help of co-learners as we desire images of the learned. That is, images of what we can do, think, create when having-become

learned. Deleuze calls such movements of becoming-hybrid or becoming-other 'lines of flight'. Art – working through creating affects – takes us back from composite meanings and makes us start from the non-human or the meaningless in order to experience the event of sense, the potential of becoming-other. In contexts of formal higher education, dialogue is crucial in order to prevent the tendency to closure that re-produces itself in knowledge. Teachers' responsibility in learning processes can in this sense be described as fighting for keeping the openness. Again, the role of art/literature is important here.

To exemplify: for the business school student there is not first a world of business and then a language representing this world in educational contexts, a language that should be polished and sharpened through training and examination. Before a language is representative it is intensive. Signs (meanings) are first intensive and then representative. A system of business school language – or a managerial vocabulary, the language of market – is formed by investments in various images, in their intensities. This is when a business world, a managerial praxis, a society of markets becomes stretched out before the student. These investments – for example, in the image of a manager, in the image of the market – produce an assemblage of bodies; the 'managerial class' or the business school students. An enjoyed image of 'manager' will become over-coded – in education and in society – so as to become a sign of something. It will receive a social meaning. This meaning will refer back to some assumed underlying real, truth. We thus come to think of language as 'a vehicle for messages among speakers, rather than as a creative and intensive event that produces speakers' (Colebrook, 2002, p. 109). We again lose becomings out of sight and relate to beings.

Deleuze gathered from Bergson his conception of creation as moving from virtual to actual in processes of actualization. He also made use of Bergson's idea of duration as this lived time in which all intensities will be experienced (for example, the dissolving of a piece of sugar in a cup of tea). Memory is a drive for repetition. It is, Goodchild (1996) points out – discussing Bergson's influence in Deleuze – the source of both passion and association.

> Passions are no longer to be considered as universal drives and instincts; they are effectively constructed through previous experiences – such experiences are grasped as synthetic wholes, and passion becomes a power of transference, a desire to repeat the quality of the whole . . . When knowledge is taken as a Bergsonian experience of durations . . . [T]he fundamental division is no longer that between the subjective and the objective, the mental and the material, artifice and nature, but between spontaneity and receptivity: the power to affect and the power to be affected. (Deleuze, 1988, p. 71; cited in Goodchild, 1996, p. 27)

This provides us with a new perspective on the importance we have reserved above for openness. Openness could be described in terms of receptivity and spontaneity, friendly 'cousins' to intuition. These forces are mutually creative, as with resistance/freedom and power: there is only power as there is first freedom. Creating this encounter, bringing into play the forces of passion – to affect and to be affected – is a central element of learning as entrepreneurial process. It is in such processes we are affected, that we experience affect and can enter into processes of creating concepts through which we form perceptions of the world and what we do. Let us now turn to dialogue as this style in which learning can happen.

3.3.2 Dialogue and its enemies

We turn to Michail Bakhtin as a dialogic thinker. We have made clear above the need for openness and Bakhtin's dialogism provides us with a conceptual possibility to stay in the

open (dialogue) when developing our thinking on learning. There is an ethics of dialogue which we find crucial to every attempt to counter the modernist heritage of thinking learning through a 'pedagogical peer' sitting on one's shoulders and whispering that you are in the gaze of the dark angel of correct answers. Bakhtin's dialogism points us into an ethics that Bauman has described as: 'one that readmits the Other as a neighbour . . . an ethics that recasts the Other as a crucial character in the process through which the moral self comes into its own' (1993, p. 84). It is within the context of such an ethics that the cultivation of desire for learning can takes place. This is an ethics that no longer relies on Kantian foundationalism, the subject as the grounding presence. Kant's subject is what must be presupposed in order to think a world; the unity of ordered experience. Instead, we are thinking here with an active ethics, not a passive ethics of a subject dealing with representations of a given world. Such an ethics unites Foucault, Derrida and Deleuze (poststructuralists) in the sense that they all shared a view of the world as created through language (as discourse). An ethics of a genuine dialogue is about how to actualize the world in its multiple becomings without foreclosing such processes by ideology and opinion.

Michelson (1999) makes use of Bakhtin's study of carnival to emphasize the sociality of experience and concludes that this also works as an antidote to Cartesianism. Descartes has set up what Michelson calls the 'paranoid knower' emerging from doubt and suspicion, which frames knowledge as an accomplishment of an autonomous individual in search of certainty. Withdrawing from our passions, denying the body, and grounding identity in the substance of the mind is a way to accomplishing certainty. But is it a way to learning? Bakhtin's carnivalesque approach to learning instead affirms relational identities, transformative/subversive knowledge and leads us to learning as what makes us less rather than more certain. Bakhtin's carnival, we believe, should be read in the history of governmentality (governmental rationality) and the control of 'docile bodies' being central in modernity. Learning in the carnivalesque sense would therefore operate against a heritage of education as part of an apparatus of social control. The carnival resists forces producing the docile – from Latin *docilus*, meaning 'teachable' – body and, again, brings learning into the open, experiential in a relational sense. This is where we might learn from Vygotsky's ideas of learning in collaboration with a 'capable peer' through which the 'zone of current development' (ZCD) can be expanded to the 'zone of proximal development' (ZPD, which becomes the new ZCD) (Harland, 2003).[4]

Bakhtin's and Vygotsky's ideas are fruitfully combined in so-called problem-based learning when the student's day can start with a writing session in which students are asked to explore their learning – to consider themselves as students of learning and not only students of entrepreneurship. This brings them into a double dialogue: between the student-becoming-professional and the student-becoming-learner; and between knowledge more or less instrumental to their future professional role and knowledge about how they learn. In addition Vygotsky emphasizes a dialogue between problems and whole situations rather than fragmented pieces presented de-contextualized (see support for this in Raffo et al., 2000). In contexts of business schools one might well argue that this dialogic style of learning is subversive. Today we do not control professionals by managers; instead, we convert professionals into managers through a certain self-awareness (Townley, 1995) that suggests the rationality of technologies of the self operating (via human resource management [HRM], self-assessment, screening) to maintain control and efficiency. Indeed, these tendencies are also realized in university-based education

where schools are encouraged to standardize according to international accreditation systems; where courses are standardized according to global textbooks and need for measurability of efficiency in reaching educational goals; and the subsequent gap between teaching and research, a kind of de-skilling demanded by the system. Universities are already factories, apparatuses optimized for the efficient 'production' of education to 'consumers' of knowledge. Such organizations need primarily managers. The learners – students and teachers – are policed, 'yet this may be placed in a rhetoric that celebrates student empowerment' (Avis, 2000, p. 48).

At a time when management knowledge has gained a status as normal and neutral, affecting universities generally, when management is applied far beyond its initial boundaries, learning processes generally and those within entrepreneurship education especially are threatened with becoming squeezed into models serving primarily control and efficiency, standardization and exchangeability. Such models, central for today's management practices, cannot serve learning processes as entrepreneurial creation processes any more than they can serve entrepreneurial processes as creative learning processes. We need to be moved by the concrete (read context-specific) orientation of entrepreneurship and cultivate intimate relations with student practices, professional practices, as well as research practices. Only then will a learning dialogue, relevant for entrepreneurship emerge.

3.3.3 Summing up: a processual approach

Our perspective on learning as a creative process, as an entrepreneurial process, urged us to develop a processual approach. We did so by turning to process philosophers; primarily Bergson and Deleuze. We learned from them the need to affirm life as creation and to cultivate a desire to connect and enhance the possibilities of 'lives' (in plural). A becoming philosophy – or a life-enhancing philosophy – made it important to consider learning as contextualized by an openness to the event of sense. Sense, in a processual perspective, expresses not what something is but its power to become. We emphasized that cultivating such openness to the event of sense would increase one's possibilities to enhance life, to create life beyond present experiences, which would be a responsibility of learners – students and teachers alike. The ethics of our approach is to be found in the relational constitution of self as a response to the call of the other's spontaneity of existence. Rejecting modernist foundations of the subject we instead turned – with Bakhtin – towards the dialogism language, meaning and self. With reference to Vygotsky we then developed some implications for learning in the context of business schools.

This is where we are interrupted by the silent dialogue with our case stories that have driven us up to this point. In order to provide you with a better likelihood of relating to those field reports we next contextualize them in a brief introduction to entrepreneurship education in Sweden.

3.4 Teaching entrepreneurship in Sweden

Three decades ago entrepreneurship was synonymous with small business in the Swedish context. When the academic community approached entrepreneurship, whether for research or education, the basic attitude was a need for knowledge transfer to the underdeveloped small firms and their (owner)management. As much as small firms then were considered as inferior supplements to large firms, the self-image of academics involved in education was that of a missionary needed to conscientisize the small firms of their

position in a hostile world. In this context Växjö University, in 1975 still just a college subordinate to Lund University, on the initiative of one of the authors (Johannisson) launched a full academic programme in small business management. Recognizing that small firms orientated towards change and renewal need to focus on (inter)action and vision, students were trained to cope with the needed bridging management activities, such as planning and control. The students themselves then epitomized bridges between the academic community and the everyday business world. By way of internships (two days every week) in one firm for the whole programme period, a needed space for genuine dialogue was created. In order to recognize the local context for learning, meetings between management and university staff generally were held on site in the company. Evaluating the student's ability to establish a dialogue with the staff of the partner company was especially considered. The students had to take responsibility in this dialogue by proposing appropriate measures to be taken based on their reflections in formal reports.

In order to gain legitimacy in the academic world the small-business management programme at Växjö University in the 1980s was turned into a complete bachelor programme. Two years of study were extended into three and a half years, where the first two covered general management courses and the final one-and-a-half years included internships in small firms as outlined above. This, on the one hand, meant that the students brought a more qualified managerial tool-kit to the company and, on the other, that they had adopted a vocabulary that was alien to the small-firm context. One purpose of the programme, therefore, was to 'unlearn' this management vocabulary and the dominant managerialism that made it normal (cf. Johannisson, 1991; Johannisson et al., 1998). In the 1990s the course administration, as a response to the increasing international concern for entrepreneurship (as opposed to small-business management), tried to make the students launch their own ventures. However the original academic formal training, preaching a wage-earner career in Sweden, then hit back. After a couple of years filled with tensions and frustration among students and teachers, the programme administration decided to cancel the programme altogether. After a few years, new academic staff replaced it with a programme in 'enterprise and business development', including internship not just in small firms but in large firms as well. Such a programme could be described as a natural product of enterprise discourse, productive throughout the 1990s. As such, it maintains a close affinity to management education (cf. Hjorth, 2003b).

In the mid-1990s a research team, including the present authors as well as educationalists, was commissioned by the Swedish government to study the Swedish educational system with respect to its concern for entrepreneurship (Government report: Ds 1997:3). The point of departure was an understanding of entrepreneurship as a way to approach the everyday world – interactively with alertness, curiosity and playfulness and with a sense of responsibility for one's own initiative. This approach constructed the uneducated child as genuinely entrepreneurial, and formal venturing as just a special case of entrepreneurship. Adopting this image of entrepreneurship as social creativity, the study proposed that children in the comprehensive school should mainly be encouraged to pursue their spontaneity while pupils in the upper secondary school should channel their need for interactive creativity into group assignments.

The report concludes that the Swedish comprehensive and upper secondary schools offer a reasonably decent setting for encouraging entrepreneurship, possibly because they do not explicitly preach an enterprise ideology. A recently published study (Lundström, 2005) not

only confirms but even enforces this finding. A national survey carried out in 2004 states that 21 per cent of Swedish elementary schools and 78 per cent of upper secondary schools use concepts such as 'entrepreneurship' and 'enterprising' to describe pedagogical activities (Holmgren, 2005, p. 313). Also, at the turn of the millennium, special 'Enterprise secondary schools' in an increasingly privatized Swedish school system have been established, emphasizing an already existing 'Young Enterprise' programme. In the educational system where the potential for formal venturing is greatest, the universities, the interest in entrepreneurship courses and full programmes sky-rocketed in the early 1990s. The students' dialogue with the business community was by far the most appreciated part of these course programmes. However, few firms were ever started as an outcome of young academic entrepreneurship in Sweden (cf. Johannisson et al., 1998). Today an abundance of national and regional public programmes are launched that encourage entrepreneurship generally in Sweden and in the educational system in particular. The regional authorities, implementing a 'decentralized state' policy, generally promote training for entrepreneurship and so do the financially strong local municipalities. Yet Swedish society and its institutions signal norms and values that do not recognize entrepreneurship as social creativity. The public discourse is rather dominated by large-scale high-technology driven growth reflected in one-sided, thus normative, concern for innovation systems and triple helix concepts. Obviously there is a mismatch here: the cultivation of an entrepreneurial approach in elementary and upper secondary schools creates life-enhancing graduates that run into a normality dictated by managerialism supporting the choice of a professional career in a major corporation.

In 1998 the other author (Hjorth) became academically responsible for starting a National Workshop on Entrepreneurship and Learning. This annual workshop, gathers some 40 participants from about 20 universities in Sweden, providing the participants with opportunities to debate challenges in running entrepreneurship courses. The workshops also provide an arena for presenting novelties such as new courses and programmes or innovative pedagogical/didactic approaches put to use in contexts of entrepreneurship education. Apart from learning from each other, the workshop provides educators in Sweden with an overview of the whole system, which per se drives the speed of development and challenges the individual universities to stay alert. Over the last years the workshop has gradually grown into a Nordic Workshop. In 2005 a second stream open to high-school teachers interested in entrepreneurship education was created (see www.esbri.se).

3.5 Cases

3.5.1 A Master's programme in entrepreneurship as social creativity

> This course has meant the best ignition possible.
>
> I was provided with possibilities to reflect about my ideas, and that did tear down all barriers I have had previously. (Student, Malmö, who started a business as a result of the educational programme)

At the universities of Stockholm and Malmö a Master's programme in entrepreneurship is open to all students. Developed by Björn Bjerke, it started in Stockholm in 2001 and in Malmö in 2003. Participants with backgrounds in such diverse fields as fine arts, medicine, engineering, biology, and business have graduated from this programme. They bring with them different professional identities (as rehearsed in educational contexts) and formal

knowledge bases which together constitute a generative set of in-betweens. These differences challenge the students to create new knowledge – knowledge that can make use of these creative tensions. In addition, their previous training is challenged by the organizing practices of entrepreneurship as this programme invites them to develop (and actualize) their own business concepts.

The programme invites students to approach entrepreneurship as part of *society* rather than simply part of *business*. A view on entrepreneurship is initially communicated, stating that (1) the world is not a perfect place; (2) there are alternative ways to deal with that; and (3) I want to be part of this challenge. Entrepreneurship is thus framed as a matter of life. The wholeness as context for learning is clearly emphasized as part of the introduction. Importance is placed on entrepreneurship education as providing room for diversity and multiplicity (in terms of knowledge backgrounds, as well as personal goals). Central to the programme is that students learn from each other: 'I have learnt that I should not do everything myself. That's what I did wrong before' (student, Malmö).

The more specific outline of the programme is that it runs over one year, comprising four courses during the first semester – (a) variations on entrepreneurship; (b) the practice of entrepreneurship; (c) the software of entrepreneurship (a processual perspective on creativity and innovativeness and on running projects); and (d) the hardware of entrepreneurship (a structural point of view; focus on marketing, financing, and business law, centred on the start-up phase) – and two projects during the second – (1) life-images of entrepreneurship (entrepreneurs visit the programme and tell stories; students write a report reflecting upon their learning from these 'live cases') and (2) my entrepreneurial project (students can choose from engaging in an entrepreneurial venture, developing their own business plan, or investigate a topic from an entrepreneurial perspective).

The programme seeks to simulate entrepreneurship as a process where possibilities and problems are formulated throughout the process. Students work with a business development project in relation to real-life cases. Precisely because the programme is based on 'real-life entrepreneurship' experiences, it is also firmly anchored in research in entrepreneurship. It is important to create knowledge for as well as about entrepreneurship. Students' different educational backgrounds are explored in training supervision: they guide each other according to their different lines of expertise (medical students; engineers; business school students; theatre students), thereby creating a heterarchical learning context. 'Now I know that it is not about atom physics, but rather knowledge of the everyday that shows how to take care of ideas' (student, Malmö).

3.5.2 Designing a multiplex educational space

The university offers a setting for organized activity that presents it as a general arena for more or less causal encounters and not as a fully fledged organization (Brunsson and Sahlin-Andersson, 2000). On the one hand, this suggests that boundaries (at least the outer ones) are easily crossed and, on the other, that commitment and responsibility, both crucial to the enactment of entrepreneurship, are not easily triggered in the university setting. This is especially the case in management programmes where there is an opportunity cost (for example, as a consultant) associated with being a teacher and a clear-cut labour market available for those who complete their studies. In such a setting, crossing the boundaries between the university and the (business) community should not cause confusing and calculating behaviour but release passion and playfulness.

Since the mid-1990s Växjö University, as a part of its standard bachelor programme in business administration, offers a one-month course on entrepreneurship. Its basic design means that the students in teams of three establish a dialogue with a nascent or recently established entrepreneur to tailor their accumulated skills in management to address a challenge as perceived by the (would-be) entrepreneur. Repeated evaluations suggest that all stakeholders – the students, the budding entrepreneurs, the small-business associations that operate as liaisons between the entrepreneurs and the university teachers – appreciate the course design (cf. Johannisson et al., 1999).

In November 2004 a more rigged version of the course was offered to a heterogeneous group of international students. The dramatized teaching events included stating management and entrepreneurship as different discourses (managerialism and entrepreneurialism respectively) (cf. above and Hjorth, 2003a; 2003b). Thus, the textbook on venture management and associated articles were formally presented by way of structured overhead slides and with the teacher formally dressed. In order to provide a contrast the teacher, when communicating the enterprising approach to venturing, in front of the students took off his dark suit, revealing a very casual dress. The presentation of the entrepreneurial mode to venturing then adopted a narrative style where the teacher provided stories that illustrated key practices associated with entrepreneurship as process, such as making opportunities out of coincidences, spontaneous dialogue and networking and micro-events as important beginnings in the venturing process. This change in apprehension turned the once silent student group into an intensively multi-conversing local community. In the evaluation of the course the students, however, made no reference to that happening, which suggests that they only for the moment broke out of their managerial mental cage.

The group of would-be entrepreneurs which was invited to collaborate with the students was very heterogeneous as well. At the time of their collaboration with the university and its international students, the nascent entrepreneurs participated in a one-year vocational programme on business venturing. The group thus included individuals who had just graduated with a Master of Science as well as those who had only passed the comprehensive school, not only well-experienced persons in their fifties but also young people who just finished school. Their venture ideas were equally diverse both with respect to substance and how far they had reached in the venturing process (in terms of how many measures they had already taken to enact the venture). Their training paralleled that of the international university students: normative managerial monologues were combined with visits by reflective practitioners narrating their experiences. The knowledge thus created was then fed into the experiential learning that guided their emerging entrepreneurial career.

At the very start of the course the university students were generally informed about the entrepreneurs and their ventures, organized into teams and encouraged to arrange meetings with the novice entrepreneurs. Soon several 'collaborative agreements' were established and, still in a managerial mode, the student groups presented 'their' firm to their classmates. This seminar was carried out the same day that the normative main course literature was examined in writing. A considerable proportion of the students failed or postponed the examination The course evaluation reveals that the literature was read quite selectively which meant that the students only could bring quite a rudimentary vocabulary in 'entrepreneurial management' to their encounter with the budding entrepreneurs.

As mentioned above the students were introduced to the entrepreneurial mode before taking on a more substantive task for their partner entrepreneurs. The students then, for two weeks, worked with the venture assignments in dialogue with the novice entrepreneurs, while being supervised by junior university teachers in meetings and by email. On the final examination day the students first reported their findings group by group to their respective entrepreneur. Then the student teams joined with their entrepreneurs in an 'Entrepreneurial Forum'. Facing a critical panel of qualified people, including for example an experienced entrepreneur who is also a business angel, the three students and 'their' entrepreneur(s) were asked for a joint presentation of the inquiry and associated proposed measures.

The evaluation of the course, as designed, revealed that the students generally recognized the collaboration with the budding entrepreneurs as the very essence of the course. All students contributing to the evaluation argued that the collaboration with the budding entrepreneurs had been exciting and/or had offered a genuine learning opportunity. However, although they were intrigued by the assignments in the firm and caught by the dialogue with the would-be entrepreneurs, their commitment did not reach far beyond what seems to be a standard in academic (business) studies. On the one hand, many students complained about time shortage while, on the other, a majority of them frankly stated that they spent a maximum of 20 hours a week on the course including all practical and academic assignments.[5] The nascent entrepreneurs revealed considerably more varied reflections from the dialogue with the students. Some were concerned by the indifference, occasionally even laziness, demonstrated by the students, while other would-be entrepreneurs were impressed by the students' industriousness. As much as the students generally appreciated the collaboration as an encounter with entrepreneurship in an everyday setting, the budding entrepreneurs often explicitly acknowledged the alternative perspectives on their operation that the foreign students highlighted.

> Collaborating with the international students provided the opportunity to test my business concepts on three more people with different cultural backgrounds. (Nascent entrepreneur, Växjö)

> The collaboration with the entrepreneur in the project, not the lectures, meant learning for entrepreneurship. (International student, Växjö)

3.6 Analysis and discussion

We open with a discussion more directly commenting on the cases in order to move from there into a further development of what might be concluded from our processual perspective.

3.6.1 Master's programme

The master's programme is developed to make the most possible of learning. Learning is then understood as a result from a dialogic openness to the potentialities, the becomings, of life. This 'dialogic space' and its openness is what can be organized by the person(s) responsible for the learning processes. The principle of openness is communicated also by the welcoming of students with diverse disciplinary backgrounds into the programme. As a master's programme, it simultaneously guarantees relatively well-established identities and reflexive competencies among the various students. This has proved important in the composing of project teams throughout the programme. Evaluations with students often include them stressing this point: that they have had to learn how to deal with skills and

forms of knowledge other than their own. The challenge thus has been not only to make each other contribute in the context of a project team, a group assignment, but also to make the most use possible of the heterogeneity of the team. We believe this is an important lesson to learn from the students' feedback: that heterogeneity drives creativity. We can understand this from a general view of entrepreneurship as creating in-betweens (in-between 'what is' and 'what could be'), openness, and opportunities in these fragile states.

Learning, for students in the master's programme, includes not only how to make use of the course literature and related lectures, but to an equal extent how to order one's history of knowledge in perspective of new experiences and constantly position oneself vis-à-vis other students' disciplinary training in shifting areas of knowledge. This puts pressure on students to move in-between a clear professional identity, something that helps them and others know how to deal with problems, and stay open to the relative advantage of that identity in the context of many other professions represented within the programme. We could describe this as a process of a Vygotskian 'zone of proximal development' (ZPD) set up in relation to fellow students' shifting professional-disciplinary knowledge. The advantage here, as we see this, are twofold: (1) we accomplish an intensified dynamics of the ZPD as the challenges shift with shifting disciplines represented by shifting student backgrounds; and (2) the hierarchical problem related to the historically mediated relationship between 'teacher and student' is here reduced – students function more as peers in self-reliant teams and have no reason to 'subject to' external authority as part of their learning. We arrive at the ZPD through a dialogic relationship between various professional-disciplinary identities.

As long as entrepreneurship is stressed as something belonging to society rather than simply economy (Hjorth and Steyaert, 2003) the upper hand of the business student is less evident, something that keeps the openness of these multiple dialogues (multilogues) between students of different training. The conditions are set for self-formation in the positive sense of creating one's professional identity in the context of an open dialogue, rather than self-awareness as a process of normalization vis-à-vis a generalized norm (management knowledge) to which the individual is made accountable (through writing, grading, and examination; Hoskin, 1998). Another central task for the educator (responsible for staging learning processes) emerges from this note: there is a continuous need to cultivate the kind of generosity and tolerance for failure in which entrepreneurial imagination enters the dynamics of spontaneity and receptivity, the power to affect and to be affected, and the passion of continuous learning that we above have emphasized in our 'life-enhancing philosophy'.

From the perspective of this philosophy, and the subsequent need to relax conventional processes of organizing in order to allow becomings to happen, we can also understand the point with 'interdisciplinary' educational set-ups as in the reported master's programme. Intra-disciplinary courses/programmes emphasize a thinking in 'depth', homogeneity and accumulation vis-à-vis a certain discipline. The inter-disciplinary set-up, in contrast, invites students to seek the in-betweens of a heterogeneous set of different forms of knowledge and to create sense dialogically, with fellow-students, in this openness where learning becomes an entrepreneurial process.

3.6.2 A diverse educational space

Owing to its short duration, the course in our second case could never trigger any reflexivity, not even a questioning of previous formal knowledge in business organizing, among

the students. Their restrained dialogue with the entrepreneurs and minimal adaptation to their local context suggests that they never left their traditional role as university students. Their limited involvement meant that they, in completing their assignment in the ventures, used the formal knowledge that they had acquired before joining the entrepreneurship course. Possibly this return to managerial framing and sense-making, its linear logic, established vocabulary and homeostasis, reflected an existential anxiety that they experienced when confronted with extramural challenges. Used to taking responsibility only for themselves, possibly also for classmates, they refrained from a genuine dialogue that might have caught them in commitments out of their role expectations and control.

The nascent entrepreneurs, for their part, under-socialized and (often) inexperienced, also renounced the opportunity to commit themselves to a genuine dialogue. Homogeneity rather than heterogeneity, monologue rather than dialogue were held on to. A major concern to several of the budding entrepreneurs was that the student teams did not wholeheartedly embrace their ideas, while one budding entrepreneur in contrast argued that the student group might steal her business idea. Thus, as regards the students, the problem was not a lack of practical mindset. Quite the contrary, several of the would-be entrepreneurs were locked into 'closed monologues' where the need for further conceptualization and information processing was taken as an excuse for failing to actualize their venture.

These dormant barriers to open dialogues may explain why the 'Entrepreneurial Forum' as a neutral arena was welcomed by both groups. The criticism communicated during that multilogue was perceived as constructive tensions and energizing friction, providing learning opportunities for all. When the students were asked about their overall experience of the collaboration with the nascent entrepreneurs no negative statements were made (although four students refrained from answering the question), the others showing either a generally exciting experience or a 'real' learning opportunity. The 'Entrepreneurial Forum' might have worked as a 'zone of proximal development' for both parties. Vygotsky, as we noted in section 3.3.2 above, emphasizes a dialogue between problems and whole situations instead of fragmented pieces confronted without context (Raffo et al., 2000), and the forum seems to have provided such a genuine learning experience. The forum is dialogic in organization and provides immediate reflection possibilities over the multiple ways ideas can be actualized in different business contexts.

The reflection and the learning that the encounter and induced dialogue between budding entrepreneurs and international students triggered opens up several interpretations. First, both groups partook in a formal educational process rigged up with a need for personal investments: a need to affect and become affected. Second, although the expectations regarding the collaboration differed, varied and were not always met, the dialogue between the entrepreneurs and the students took place in a setting that communicated an entrepreneurial and 'opportunizing' mode. Mismatching and surprises were integrated in a legitimizing context. Third, Normann (1977) points at the potentiality of tensions and Åkerman (1993) provides a number of perspectives on friction as a genuinely relational concept that creates knowledge by having both a stabilizing and destabilizing effect, undermining both linearity and a dominance of what is passing as rational for reasons of convention. More important to the production of friction than contrasting technical knowledge and learning modes was probably the use of the English language: the work of translation challenged the students to make sense of their reflection and

communicate this sense in everyday language. Fourth, the fact that both groups complained about lack of time for further encounters indicates that they were entangled in the dialoguing process. Fifth, the 'Entrepreneurial Forum' that was staged was not considered as the end of the learning experience, as an examination, but rather provided openings for further dialogue. Not only had the students and the nascent entrepreneurs given a concerted presentation, the panel also included both practitioners and academics.

In sections 3.2 and 3.3 we conceptualized learning as a creation-process of becoming-user of concepts that help learners extend life beyond the present. The point with internships, interdisciplinary set-ups, and staging of a forum can be understood in the perspective of such a definition: it brings immediacy and spontaneity into the learning process in providing possibilities of a direct feedback on experiments; the experience of the power to affect and the power to be affected (the passion of learning).

3.7 Concluding: the difference made

The staging of a learning context for entrepreneurship as reported from Växjö University has so far only offered initial lessons. Nonetheless these demonstrate the importance and potential of a diverse/heterogeneous learning context where asking what something could become and multiple dialogues become self-enforcing. Casual meetings with students who decades ago joined the small-business management programme with internships at the same university indicate some long-term effects in terms of dialogues between business and academic communities. At these encounters the students do not praise the university context in general or individual teachers. They, rather, repeatedly communicate a holistic learning experience associated with the challenge of always having to bridge the academic and business communities of practice by way of active involvement in a hands-on multilogue including peers. Training for entrepreneurship by necessity must actively deal with the multiplicity of becomings, which is life, by sensitive conversions with local situations. This not only means trusting Weick's (1995) point that sense-making is indeed retrospective, but also implies that the situated conversations are – by being open/responsive and spontaneous – also prospective. We would urge educators – teachers and students alike – to trust life in this sense, life as creation. Asking how conventions, structures, 'stabilities' generally have become, how they are accomplished as reproductions of social co-constructs, in itself opens up life as an arena for possibilities.

From the master's programmes in Stockholm and Malmö we learn that openness is important in order for learning to happen. This prompts reflections over the instrumentalism of managerial knowledge; generally limited by the horizon of economic efficiency and control. There is an inherent tendency towards closure in this knowledge. Management sees no limits for itself but manages both order and change. It seems important, therefore, to stress the need to disassociate entrepreneurship from management. Relational co-constructions always reference available repertoires of styles of co-ordinating or co-constructing (Hosking and Ramsey, 2000). As we pointed out in the opening section, business school students have a strong tendency to turn to dominant available repertoires or styles of constructing sense, that is, often textbook management. From a processual philosophy, entrepreneurship is closer to life in the sense that it is about creation (Hjorth and Steyaert, 2003). Again, approaching management as a 'science of control' provides entrepreneurship students with both analytical and practical possibilities to imagine their contribution as interruptions of such effects in fields of practices (cf. Chia, 1999).

Learning – as an entrepreneurial process – is about extending life beyond experiences. Facing a heterogeneous set of skills, in the inter-disciplinary set-up of an entrepreneurship programme, students are provided with multiple versions of sense as related to how different educational backgrounds make virtual different becomings of life. A challenge for 'teachers' in such processes of students' connecting with other desires to learn is to refrain from ordering these processes into the conceptually limiting horizons of general models or theories. Teachers, we learn from Bergson (Chia, 1999; Linstead, 2002), need instead to relax and allow the multiple becomings to happen as manifestations of life as creation.

Reframing entrepreneurship and learning, we think that we have provided another understanding of the relation between the concepts. The difference between learning *about* and learning *for* entrepreneurship is often pointed at, suggesting that the former is an intellectual activity while the latter calls for embodied knowledge as experientially acquired. However, in spite of different scopes, these learning modes are both monologues, assuming an example to follow. When experienced entrepreneurs learn (with)in their practice dialogue with peers as a reflective, intellectual activity is paramount. Our approach is based on dialogue as well but understanding and constructing learning as an entrepreneurial process suggests that all human senses must be invited, since what is aimed for – the invention of new practices, the making of new worlds – happens *in* entrepreneurship, in learning as an entrepreneurial process.

Indeed, if learning is becoming-other, is creating and becoming-user of concepts that enhance the possibilities for living, interdisciplinary set-ups or internships in business start-up processes seem indispensable for this to happen. We have stressed – particularly in section 3 – that processes make people. We believe that experiencing multiple processes of extending life beyond the present creates life-enhancing people, that is, people of becomings, entrepreneurs. We believe that our re-thinking of learning entrepreneurship in this chapter has demonstrated the effects of history and philosophy on our possibilities to imagine the present. We encourage such an approach also in entrepreneurship, a young discipline that needs to resist the stabilizing effects of a little schooling readily provided by neighbouring disciplines.

Notes

1. We do not use pedagogy in this discussion. Mainly for its highly problematic status, that is, how it has become inscribed in a history of schooling and its related hierarchized positions of teacher and pupil/student. Pedagogy (from Greek *ped-* meaning 'child', 'boy', and + *agōgos* meaning 'leader'; *Paidagōgos* meaning 'slave who escorted children to school') which was intended to support the practices of education. We discuss support in a language distanced from pedagogy as this is used in everyday language. Perhaps our discussion brings it closer to the ancient Greek meaning.
2. We have come to name this power of connections 'mind'.
3. 'Karios', or the 'right' moment is yet another image of time that relates to synchronicity and (therefore) invites itself to images of entrepreneurship as process.
4. Vygotskis original concept of 'zone of proximal development' referred to an arena for dialogue between a child and an adult where the child with its spontaneous reasoning appropriated the logic of adult reasoning (Kozulin, 1986, p. xxxiv–xxxv). Similar ideas, actually meaning that (child) spontaneity had to submit to (adult) rationality were put forward by Dewey (1902/1920).
5. This modest time involvement in full-time studies is by no means unique for this group of international students but, instead, is quite representative for (Swedish) students in business administration.

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4 Creating the entrepreneurial university: do we need a wholly different model of entrepreneurship?*

Allan Gibb

4.1 Introduction

This chapter addresses the issue of development of effective policies for the promotion of entrepreneurship in the higher education (HE) sector. The context is that of major initiatives currently being undertaken in Europe and the UK, which focus both upon the development of appropriate programmes for the teaching of entrepreneurship and the role of entrepreneurship in enhancing the university's engagement with the community. There is particular interest in the contribution of entrepreneurship education to the stimulation of technology transfer and commercialization of academic research.

Entrepreneurship development initiatives in Europe are frequently articulated under the banner of creation of an enterprise culture (usually as part of a 'competitiveness' agenda). The European Union (EU) has made a firm policy commitment in this respect (Enterprise Europe, see European Commission, 2005), has commissioned a number of major studies and reviews (European Commission, 2002) and is currently supporting many related initiatives. There is also a renewed interest in entrepreneurship education in the USA, involving a re-examination of the concept and its links with education at all levels (see www.entre-ed.org and below). Some useful lessons to be drawn from this experience are noted below.

In the UK, there have been several major policy initiatives. Publicly funded Science Enterprise Challenge Fund and Centres (www.ost.gov.uk) have created a base for the development and delivery of entrepreneurship programmes in universities aligned with the goal of enhanced exploitation of science-based intellectual property. A Higher Education Innovation Fund (www.hefce.ac.uk/reachout) has provided further incentives for activity and programme development but with a wider remit. Centres of Excellence for Teaching and Learning in Entrepreneurship have been established in the universities of Nottingham, Leeds Metropolitan and at the White Rose Consortium of Leeds, Sheffield and York universities (www.hefce.ac.uk/learning). The Higher Education Academy (www.heacademy.ac.uk) has undertaken a pilot project to explore the ways in which entrepreneurship can be introduced into the HE curricula: and the National Endowment for Science Technology and the Arts (NESTA, www.nesta.org.uk) also has declared a major interest in this area. Leading the way in the wider education field is an 'Enterprise Insight' campaign engaging all the major business associations, the government, regional development agencies and the education sector with the overall objective of stimulating an enterprise culture. A recently created National Council for Graduate Entrepreneurship (NGCE) sits astride these initiatives with objectives of bringing together the best of experience in this field, promoting good practice and stimulating innovation.

Against this backcloth of growing political interest this chapter addresses two key issues. The first is that of the most appropriate concept of entrepreneurship to be

adopted if the goal is to enhance the capacity and motivation of the HE sector to engage with the entrepreneurial community and, in particular, maximize the potential for technology transfer. It is currently unclear as to whether there is any clear consensus on the concept to be taught in respect of the various initiatives described above. Without a strong measure of agreement it will be difficult to fund coherent development and assess progress over time. Moreover, arguably, the concept has to be linked with a clear view as to how it will help achieve overriding policy objectives related to competitiveness and economic and social responses to the pressures of globalization. Any concept in the HE context will also need to minimize key concerns of the HE sector that its traditional values will be undermined by entrepreneurial programme development (Bok, 2003; Maskell and Robinson, 2002).

The second issue is that of what capacities will need to be developed, what changes will need to be made and how they may be best facilitated if the impact of current initiatives is to be sustainable.

This chapter is based upon a presentation to a NCGE International Conference in January 2005 and draws upon previous papers of the author, as well as other literature (wider references can be found by consulting earlier articles referred to below). The chapter is divided into several parts. Section 4.2 focuses upon the need for clarification of the entrepreneurship concept. Section 4.3 uses a previous analysis of initiatives across Europe and North America (Gibb, 2002a) and a number of more up-to-date studies in order to construct a 'revealed preference' model of how an entrepreneur is perceived by the education community. This is derived from what is being taught under this label by HE institutions – mainly, but not exclusively, by business schools. It is argued that what is being delivered is substantially a business-based model, underpinned largely by traditional notions of entrepreneurship drawn mainly from the economics literature. It is argued that this constitutes an inadequate response to current education policy needs.

Section 4.4 considers how an alternate model of entrepreneurship might serve to overcome some of the barriers to acceptance of entrepreneurship education and indeed facilitate the HE sector's engagement with the wider stakeholder environment. It is argued that there is little real threat to traditional university values in this model but that there will be a need for change. These changes are then set out. In particular the 'managerialist' models of university management and operations, alongside the prevailing emphasis on rewarding research and publication, rather than research and development, will need to be addressed. Teaching will need to focus more upon entrepreneurial pedagogy with a stronger and more holistic, integrated approach to knowledge.

4.2 The entrepreneurship concept

It is now widely accepted that entrepreneurship can be taught and developed, provided that the right kind of environment is created (Gibb, 2000b). It is also, however, increasingly acknowledged that progress in developing and building coherent concepts of entrepreneurship has been slow despite the enormous growth in the academic literature over the past decade (see Steyaert and Hjorth, 2003, and Welsch and Maltarich, 2004, for reviews). There are several possible explanations for this. First, is that of failure to integrate fully the different traditional social science disciplinary perspectives. Economic, sociological, psychological and anthropological explanations still sit alongside each other and compete for explanation. Second, is that business schools have captured the

phenomenon and have attempted to deal with it within their conventional (and largely corporate cultures) dictating ways in which they have organized explicit knowledge. The pressure has therefore been for entrepreneurship to legitimize itself as a discipline by seeking to fit within (or add value to) established management functional paradigms. It has been argued by the author that substantial change would be required in traditional business school norms of behaviour and ways of organizing and delivering knowledge for sustainable progress to be made in the field (Gibb, 1996) and that progress might best be achieved if entrepreneurship is taken out of the business school context in higher education (Gibb, 2002a). The arguments of this author in this respect join a growing body of heavyweight criticism of the way that management education in general is organized and delivered in business schools and its value in theory and practice (see, for example, recent works of Ghoshal, 2005, and Mintzberg, 2004).

Third, and perhaps the most fundamental of possible explanations of barriers to progress in developing the concept, lies in the way that academe has brought together knowledge in this area. The main journals of publication have not been particularly coherent in building, incrementally, intellectual property and knowledge around levels of agreement in concepts (Steyaert and Hjorth, 2003, ch. 1; Vesper, 2004). Moreover, it can be argued that many of the 'review' articles focus upon seeking to make sense of past endeavour, drawing together different social science perspectives, seemingly without any major imperative in this process to solve real-world policy or management problems (see, for example, chapter 1 of Steyaert and Hjorth, 2003). Such procedures have variously been described as seeking to assemble an elephant from individual parts which have been studied in depth but never with respect to the whole, or peeling successive layers from an onion only to find nothing in the middle (Stevenson, 2004). Perhaps an even more appropriate analogy would be that of seeking to assemble a jigsaw picture from parts of different puzzles.

The focus of this chapter is therefore on what purposes the entrepreneurial concept needs to serve to be of practical value for educational policy-making.

With this objective, a number of key questions of concept are addressed:

- Is entrepreneurship solely to be seen as a business phenomenon or has it wider contextual relevance?
- If it is confined to business, is it best taught in the context of small (independent) business initiation and development or is it really about high-tech new venturing and business growth in both an independent and corporate business context?
- To what degree should it focus upon the development of personal entrepreneurial behaviours, attributes and skills (as set out in Appendix 4.2) as opposed to the 'role' of the entrepreneur as innovator and so on (often difficult to pin down in practice). A useful distinction can be made in the English language between the 'enterprising person' (one who pursues entrepreneurial behaviours in many different contexts) and the 'entrepreneur' – practising these behaviours in a business context (Gibb, 1993). The fact that such a distinction is not easy to make in many other languages has constrained wider international discussion.

Answers to these questions are arguably essential before a number of other important issues can be addressed, for example, the contribution of entrepreneurship education to:

- the goal of stimulation of an 'enterprise culture' in society (itself a term in need of consensus definition)
- the policy goal of improving competitiveness through higher levels of innovation in the economy
- other, more specific, areas of policy concern and initiative, for example, stimulating the exploitation of intellectual property in universities; the preparation of graduates for a career in the global labour market, the desire to equip graduates with the capacity for lifelong learning (a major focus of EU policy), and the need to ensure that there is a ready supply of graduate-level jobs as the proportion of young people attending university expands.

Conceptual confusion hinders both policy and practice. An example of this occurs in respect of UK schools enterprise initiatives. Under the label of 'enterprise' in schools in the UK, there are a wide variety of different initiatives and programmes covering such diverse areas as financial literacy, industrial understanding, economic awareness, business education, small business education, business start-up and personal transferable skills (Gibb, 2005; Gibb and Cotton, 1998). Much of what is delivered here, although valuable in itself, has arguably little to do with entrepreneurship. That the confusion seems to be shared by key stakeholders is evidenced in some of the presentations at a recent UK national Enterprise Insight conference (Appendix 4.1, using key quotes from the conference shows a dichotomy between those who see entrepreneurship as almost synonymous with business and those who see it as a set of personal competencies). For all the concerned stakeholders, local and regional authorities and agencies, entrepreneurs, banks and professional service organizations, corporate business managers, parents, non-governmental agencies and, most importantly, students, concept clarification is an essential first step in their taking coherent initiatives in this area, individually or collectively.

For the HE sector, lack of clarity of the concept makes for difficulty in responding to wider policy initiatives which involve elements of entrepreneurship education. It is not always clear as to whether new policies and programmes are enhancing, compromising and/or undermining traditional tenets of university education.

4.3 The dominant concept of entrepreneurship – how has it been assembled?

There is no space in this chapter to explore the conceptual confusion in depth. This has been done elsewhere via analysis of what is taught and how it is taught in business schools (Gibb, 2002a; 2002b). More recent reviews of what is being delivered by the management education sector (efmd, 2004) substantially bear out the conclusions from the earlier papers. Figure 4.1 therefore goes directly to the point and constructs a metaphorical 'person model' based upon the 'revealed preferences' of teachers and institutions drawn from what is taught in Europe and North America. The label to the model is explained below.

The heroic heart

At the heart of this dominant model is the economist's rather heroic Schumpeterian view of the entrepreneur as the creative force for change, the force behind new combinations of the factors of production and the creative destructor of old ways of doing things in favour of new. High levels of change and scale of activity thus become associated with entrepreneurship. Widely accepted definitions of entrepreneurship derive from this view.

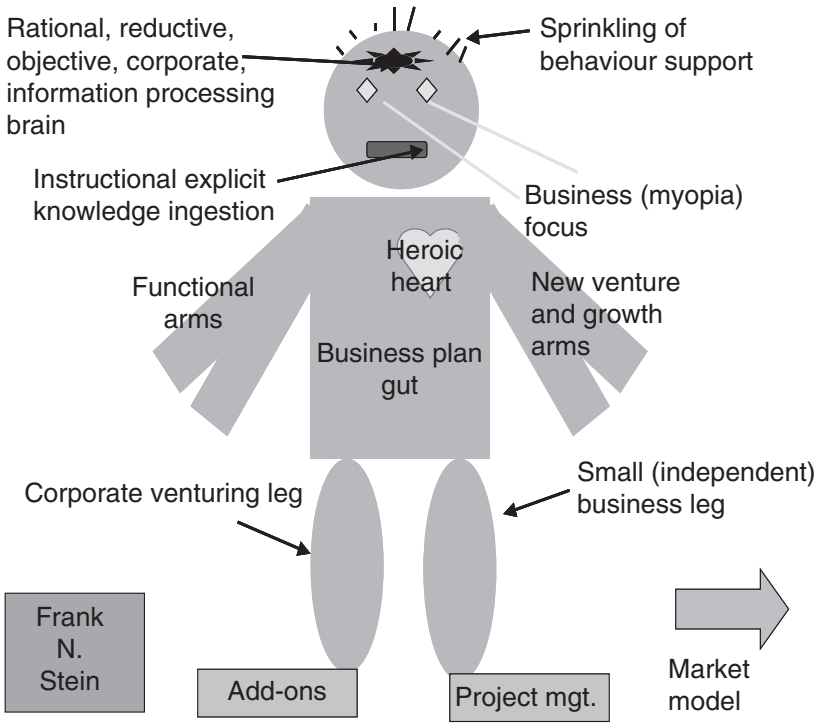

Figure 4.1 The dominant model of the entrepreneur being taught?

Stevenson (2004) in particular seeks to move the concept away from a small enterprise context in his widely accepted definition that: 'Entrepreneurship is the pursuit of opportunity beyond the resources currently controlled.'

Acceptance of this view and the excitement of the notion of 'creative destruction' leads in turn to a policy focus upon larger independent firms, the so-called 'growth' businesses, or businesses with potential (existing and start-up) although, unsurprisingly, there is no proven formula for selecting such firms (DUBS, 1998). Technology-based firms are widely regarded as such growth businesses, although the evidence does not in general support the notion of this group being major job generators. Nevertheless notions of scale and impact are persistently derived from this 'heroic' image.

In addressing the scale issue, academics have written extensively on the so-called distinction between small businesspeople and entrepreneurs – the majority of the former being dismissed as 'lifestyle' businesses and not at all entrepreneurial. Casual empiricism, however, reveals that there are numerous examples of self-employed people, who do not wish to grow their businesses but who are nevertheless engaged in activities that demand high levels of what is commonly recognized as entrepreneurial behaviour. It has been argued elsewhere (Gibb, 2000) that, contrary to the attempt to divorce small business from entrepreneurship, the 'life world' of running one's own business is such that it provides *the basic model* for design of organizations aimed at stimulating and harnessing entrepreneurial behaviour. Somewhat indicative of the confusion that reigns is that those who would most probably argue for the small business/entrepreneur distinction place small

firm start-ups at the heart of the metaphor for the enterprise culture in the widely recognized Global Entrepreneurship Monitor (GEM) project (www.gemconsortium.org).

Also seemingly behind the Schumpeterian view, as it has been interpreted, is the notion of entrepreneurship being associated with major innovation step changes in technology, process, organization or management. Stern, for example, in an address to the US Association of Small Business and Entrepreneurship (USASBE) in January 2006, based upon research funded by the Kauffman Foundation, suggests that entrepreneurs are those who 'engage in extreme experiments' relating to innovation. Notwithstanding the difficulties of pinning down the innovation concept, and measuring it, it is arguably the case that a truly dynamic innovative organization may engage in numerous incremental and flexible change and innovation processes, of varying intensity, over time (Harvard Business Essentials, 2003).

The business plan gut

The business plan is central to most taught entrepreneurship education programmes (efmd, 2004). Yet there is little evidence that the notion of a plan is derived from entrepreneurial practice (invented by entrepreneurs). It can be argued, to the contrary, that the emergence of the business planning model in the late 1980/1990s was a function of those who were increasingly pressured to offer resources and services to small firms (banks, accountants, public authorities and business service providers). The plan emerges as the language of their culture, rather than that of the entrepreneur. There is also very ambiguous evidence as to the impact of plans on growth (see Atherton, 1997, for a review, and Hannon and Atherton, 1998) and a growing body of evidence to suggest that it is the ability to adapt flexibly, rapidly and strategically the product/market/service concept during the early years of the business, in response to customer and stakeholder feedback, that is the key to entrepreneurial success (Sarasvathy, 2001; 2003).

The plan is an important instrument in building relationships with stakeholders and of value therefore in communication, negotiation and reflection: but it cannot be claimed that it is the key to entrepreneurial success. In the hierarchy of entrepreneurial behaviours, business planning ranks low if it appears at all. There is also extremely patchy evidence to support the view that formal planning is causally associated with improving performance in general, whether or not the company is growing (Hannon and Atherton, 1998). The overall problem therefore in giving the business plan a central place is that it creates a misleading metaphor for entrepreneurship. As with all instruments, however, its contribution depends on how it is used:[1] but it cannot be a substitute for, and indeed arguably should not form a barrier to, plunging into the waters of customer/stakeholder needs and demands and learning to adapt quickly to this experience.

A (hair) sprinkling of entrepreneurial behaviours

Most observed courses in entrepreneurship (Gibb, 2002a) mention the need to stimulate entrepreneurial behaviours. Very few, however, seem to set out precisely the desired behaviours to be supported and even fewer indicate clearly how it is proposed to develop them (and measure success in so doing). The author has found little evidence to demonstrate a clear linkage of various pedagogies to targeted behaviours as in the (speculative) matrix in Appendix 4.3. In most programmes the dominant teaching methods are lectures, cases, projects and entrepreneur/stakeholder presentations, which may or may

not be delivered in a manner designed to stimulate entrepreneurial behaviour or develop entrepreneurial skills and attributes. The seemingly dominant case method approach can be an anti-entrepreneurial mode of teaching if its emphasis is upon rationale analytical analysis rather than intuitive decision-making and creative experiment (Gibb, 1994).

The rational, reductive and information-loaded mindset

The author has argued elsewhere (Gibb, 2002a) that the dominant culture of many teaching institutions, particularly business schools, within which entrepreneurship is predominantly taught (although decreasingly so) is anti-entrepreneurial. This is best summed up in Table 4.1. The metaphor of the left side arguably underpins the corporate educational paradigm in most western management schools. It can be challenged as to its appropriateness for developing managers in general, notwithstanding entrepreneurs (Mintzberg, 2004), and it exudes anti- entrepreneurial values.

The values dichotomy creates relationship problems not only in business schools. Psychometric testing of bank managers carried out at Durham as a component of programmes for relationship management with small business, for example, would consistently reveal that the majority are positioned dominantly on the left side of the table while entrepreneurs are more on the right. Bringing the two 'cultures' together is arguably the greatest challenge to improving banker–entrepreneur relationships and in general to effective entrepreneurship teaching. Much the same could be argued for most other dominant stakeholders such as customers, suppliers, bankers and public authorities and agencies, not excluding officially sponsored business advisory services. Table 4.1 is a reminder, therefore, that the enterprise culture is not created solely by working with entrepreneurs.[2]

Table 4.1 Values in the teaching paradigm

Government/corporate/business school (looking for)	Entrepreneurial and small business (as being about)
Order	Untidiness
Formality	Informality
Accountability	Working on trust
Information	Observing (seeing is believing)
Clear demarcation	Overlapping and flexibility
Planning	Intuition
Corporate strategy	Tactically strategic
Control measures	'I do it my way'
Formal standards	Personally observed performance
Transparency	Dealing with ambiguity
Functional expertise	Holistic management
Systems	Feeling and judgement
Positional authority	Owner-managed commitment
Formal performance appraisal	Customer/network feedback

Source: adapted from Gibb (2000).

The business (myopia) focus

Most entrepreneurship courses are focused upon business and business concepts. Even when they are applied to non-business situations, for example, medical practitioners, schools, health services, social and community services, and even local government, it is generally business principles that are taught.

The focus upon a business model can obscure the most important issue in entrepreneurship education, namely, creating the ability to design organizations of all kinds to stimulate the effective use of entrepreneurial behaviour (Gibb, 2000). Entrepreneurial behaviour can be, and is, pursued in the very different kinds of organizations mentioned above (police, community, health, arts, social services, schools) and is sometimes deviant – designed to circumvent the 'rules' of the organization rather than adhere to them. Teaching business principles does not, by and large, enhance the capacity for design of entrepreneurial organizations and may indeed limit it. It can be argued for example that, in the UK, the attempt to create markets and choice in health services and a simulated autonomy in school management has been by means of application of models of corporate managerialism rather than entrepreneurship. Much the same might be argued about the new 'managerialism' in HE.

It has been noted above, that if the policy objective is to create an enterprise culture, then such a culture will have to embrace all types of organizations. Indeed, it can be argued in this respect that the dominant need is to change the values and attitudes of the stakeholder and wider social community.

The delivery and ingestion of explicit knowledge

The formal education system substantially concentrates upon the delivery of explicit knowledge defined as knowledge that has been codified and thus made widely available and accessible. This contrasts with the notion of tacit (experiential) knowledge (Polanyi, 1983) defined as knowledge, which can be used by individuals in decision-making but not formally codified. In reality there is no clear divide, as individuals acquire knowledge through experience and may create heuristics or decision rules based upon this, which may appear to be purely intuitive (Selden et al., 2004).

A focus solely, or largely, upon explicit knowledge as a basis for learning is likely to divorce learners from the meaning that is given and acquired in the community of practice (Wenger, 1998). This is a reminder that knowledge, per se, is not learning and only becomes so when it is internalized by the individual through a process of application or thinking. It has been argued elsewhere by this author (Gibb, 1997) and others that the major learning field for the entrepreneur is that of stakeholder relationships (see below) and that this learning is pursued by processes of solving problems, grasping opportunities, experimenting and making things up, making mistakes, copying and overall by 'doing'.

It is these learning capacities that need to be enhanced in entrepreneurial education. Yet even if this was to be recognized, a major problem remains that of the existing knowledge being codified in an inappropriate way. Academic work is a major source of codification. It has already been argued above that in the business management field knowledge is organized into the accepted blocks and paradigms of economics and other social sciences and, perhaps most damagingly, for entrepreneurship, into the functional paradigms of corporate business education (see below; Ghoshal, 2005; Mintzberg, 2004). Knowledge by and large has not been codified in terms of how it arises from relationship learning and

is often not organized around the development problems and processes of the business (see below). Finally, although there is a growing body of knowledge on networking (Perry, 1999) and its importance to business success, 'know-who' is not writ large in most entrepreneurship programmes.

Finally there remains the problem of practice. Much of entrepreneurial learning takes place by processes of trial and error and subsequent incremental improvement. Yet there seems little room in much of the academic curriculum of HE for learning to do (and about) something by a process of repeated practice. Instead a piece of work is assessed and the 'student' then moves on.

The new venture, growth and functional arms

These are the main foci of inputs in most entrepreneurship programmes and the main vehicle for the use of the business plan (efmd, 2004; Levie, 1999; Mason, 2000). Starting a business is a highly appropriate process for the development and practice of key entrepreneurial behaviours such as opportunity-seeking, evaluation and grasping, networking, initiative-taking, intuitive decision-making, creative problem-solving, and thinking and acting strategically among others. It is also a useful medium for honing entrepreneurial skills such as persuasion, presentation, negotiation and selling. It seems important, therefore, that the new venture programme model is used for this purpose and not just for the delivery of formal management inputs in marketing, finance, operations, and so on. It arguably is best taught in a project/process management cycle (Gibb, 1993).

The major difficulty that may arise when functional inputs are dominant – as they seem to be in many programmes – is that they may deny the capacity for development of the kind of holistic management that is central to the entrepreneur. Entrepreneurial managers are managers of the 'total' business and thus able constantly to 'feel' it. Entrepreneurs seek knowledge on a 'need to know', 'know how' and 'know who' basis and, in the experience of the author working with many groups of entrepreneurs, will enthusiastically embrace new knowledge when it brings forward future recognizable contextual experience to them and helps them to conceptualize and give broader meaning to their existing and recognizable future problems and opportunities.[3]

The corporate venture and small business legs

Most programmes make some attempt to address the issue of entrepreneurship in large firms. A common theme is that of intra-corporate venturing including also spin-outs and spin-offs often using adaptations of new venture models. Under the broader heading of intrapreneurship, there can also be a focus upon leadership, innovation, changing the culture of organizations and, more recently, customer relationship development. Little attention seems to be paid to the wider issue of designing the entrepreneurial organization other than in respect of examination of the 'lean is mean' subcontracting out partnership and strategic alliance management model.

A small business or family business module appears in many cases and seems to be differentiated from the broader conceptualization of entrepreneurship (a point noted above). Small business management does not always appear in US classifications of entrepreneurship teaching programmes – a significant point because of the US influence internationally on what is taught in this area. From a scan of available programme offers it can be inferred that what is taught under the label of small business is often the management

of conventional business functions, this time in a small business context. It is difficult to determine whether the broader aspects of exploring the relationship between the life world of the small business owner-manager and entrepreneurship are covered, or, as noted above, the concept of relationship learning, arguably highly central to small business success (Gibb, 1997).

Project management and the 'add-on' feet

Most business school programmes embrace the conventional project piece of work, usually towards the end of a core plus modular course. This may be undertaken on a group or individual basis and may take the form of a case study, a somewhat disguised consultancy (with academic references) or the exploration of an academic concept in a small (often growing) business context – for example the application of Porter's strategy model (Porter, 1985). A key issue here, difficult to explore purely from programme descriptions, is the degree to which the project is designed as an entrepreneurial experience for the student and likely to stimulate entrepreneurial behaviours and create empathy with the life world of the entrepreneur. The author's guess, from experience of acting as external examiner to a number of programmes and familiarization with the work of a number of schools, is that much project work falls short of this expectation. Just as an entrepreneurship course can be taught in a non- entrepreneurial manner, so may a project experience be non-entrepreneurial.

There may be many additional special modular 'feet' upon which the programme stands including: consultancy, exporting, entrepreneurial finance (or marketing, operations), human resource management and, increasingly, social entrepreneurship.

The 'market' context

Most programmes begin with contextual material – definitions, data on importance, (often comparative), overview of theories, and so on. The broad context is that of the role of the entrepreneur in a market economy. Yet it was noted above that there are many different contexts within which entrepreneurial concept might be explored. It is widely accepted that the need for entrepreneurial behaviour and organization derives from levels of uncertainty and complexity in the task environment. Such levels may exist for individuals and communities in all walks of life, not just in a business or indeed a market context. It may also be a mistake to assume that it is purely market exposure, in the western capitalist sense, that stimulates effective, non-deviant entrepreneurship. On the contrary, attempts to rapidly create a market environment in many transition economies have led to major problems of entrepreneurial and, indeed, criminal deviance. And it can be shown that entrepreneurship has played a major role in the outstanding economic performance of China over the past 25 years despite the absence of many of the standard western market economy parameters (Gibb, 2003).

Conclusion

It is for the above reasons that the author has labelled the above 'revealed preference' model as Frankensteinian. This nomenclature is not meant to denigrate the Shelley creation but to indicate only that the model has been assembled from a collection of parts which may not embrace the essence of the whole. These parts reflect the traditional approaches to entrepreneurship, the dominance of certain disciplines in theory development and

importantly what the business schools already know and the culture within which they operate. As a result the assembled model arguably represents a holistic distortion. There is an excessive emphasis upon the business plan, and upon the 'heroic' aspects of the entrepreneurial tradition which encourages a policy focus upon growth and so-called high-tech start-ups. The context is predominantly that of business, the culture is that of corporate business, and the pedagogical range used is narrow and over-focused upon cases. There is a functional rather than a relationship/development stage organization of the knowledge base. There is little evidence overall that project work is specifically designed to enhance the entrepreneurial capacity and disposition of students. An 'alternate' approach which addresses most of the above issues is suggested below.

4.4 Towards a broader conceptual model of entrepreneurship

It has been argued above that the role of entrepreneurship in society, and perhaps the major reason for its current political popularity, is that it provides an opportunity for individuals and organizations to cope with, provoke, and perhaps enjoy an increasingly complex and uncertain world. Entrepreneurial behaviours, attributes and skills as set out in Appendix 4.2 may be stimulated both by adversities and opportunities confronting individuals as workers, consumers and, indeed, in family and social life.

It has been shown elsewhere (Gibb, 1993) that these behaviours, skills and attributes are not exclusive to certain individuals but may be more dominantly displayed by some rather than others. Different individuals will have a different mix, and perhaps a different propensity, to develop their capacity. It has also been argued that these behaviours can be practised, developed and learned to some degree, and that certain environments, particularly that of running one's own business, will stimulate them (Gibb, 2000). It follows that other environments may discourage such behaviours and/or make them deviant. A distinction has been made, therefore, between effective entrepreneurial behaviour (defined as meeting individual, organizational and societal goals) and deviant or ineffective entrepreneurship (as in the case of criminality or just 'beating the system' (Gibb, 1999)). It is a challenge to managers of all types of organizations to determine the extent and nature of entrepreneurial behaviour they wish to develop in relation to the demands of the task environment in which they operate and its complexities and uncertainties. They will then be in a position to design and manage the organization in a way that maximizes its entrepreneurial potential (Gibb, 2000, and below).

Defining entrepreneurship in terms of the behaviours, skills and attributes needed to respond to problems and opportunities in the wider social environment, along with recognition that this will result in different contingent forms and strengths of entrepreneurial behaviour and organization design, demands a wider conceptual perspective than that of the economics of the market. A more suitable conceptual frame might be that of institutional theory (North, 1990) with its distinction between 'institutions' (formal and informal 'ways of doing things') and organizations within which these practices may be embodied. This approach adds a critically important dimension to the evaluation of the process of market development and, indeed, other ways of organizing exchange. The strength of this conceptual perspective lies in its appropriateness for dealing with organizations of all kinds, not just businesses. It also serves as a reminder of the importance of culture, values and behaviours, their interplay with formal regulatory frameworks and of the way that power asymmetries in society can lead to dominant bureaucratic and corporate ways of doing things.

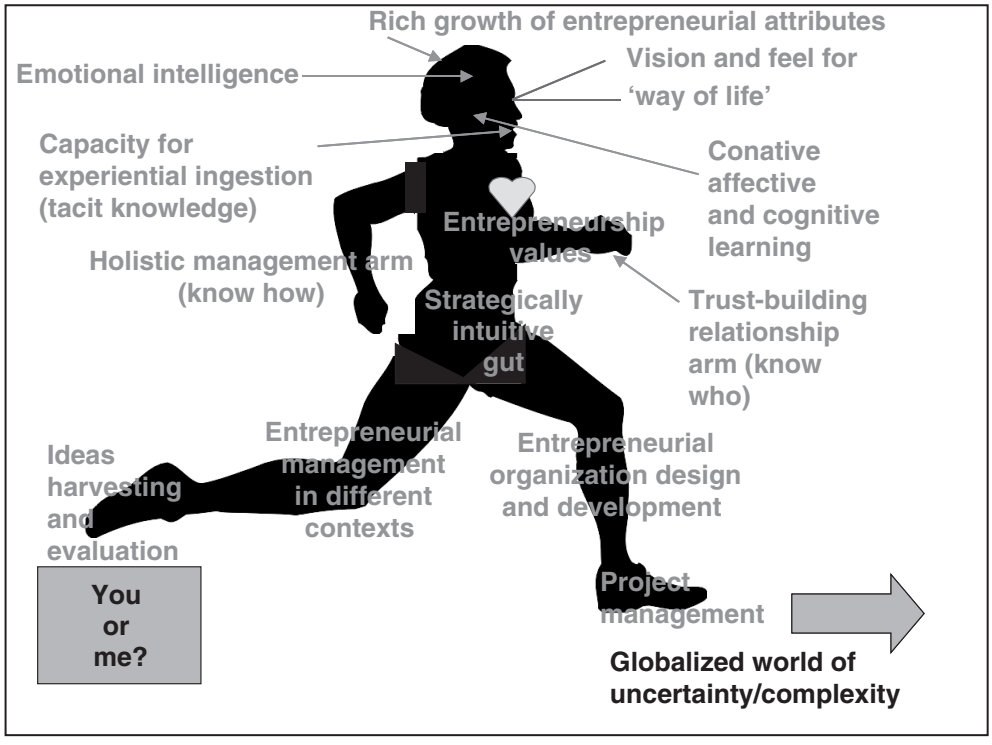

Figure 4.2 Towards an appropriate model for entrepreneurial teaching

The alternative 'model' suggested in Figure 4.2 seeks to remedy some of the deficiencies that have been identified above. Specific aspects of the model are discussed below.

The 'values' heart

Arguably the most important objective for an entrepreneurship education programme is to instil an empathy with, and perhaps an adoption of, entrepreneurial values. It has been suggested that these are associated with the ways of doing things, organizing things, feeling things, communicating things, understanding and thinking things, and learning things (Gibb, 2002a). A list of entrepreneurial values (drawn from the literature) associated with 'ways of doing' and 'being' is given in Appendix 4.4. These values are in line with the 'ways of doing things' set out in Table 4.1.

The strategic gut

There is a growing body of evidence supporting the view that strategic thinking and strategic orientation are key entrepreneurial attributes (Atherton, 1997; Gibb and Scott, 1985; Haahti, 1989) and that, as noted above, formal planning cannot be clearly associated with business success. It is increasingly recognized in mainstream management thinking that with higher levels of uncertainty facing most organizations the concept of strategic planning is undergoing major transformation into a more flexible instrument (Courtney et al., 1999). Notwithstanding this changing scenario, many of the difficulties in relating

planning to business success are a result of weak methodology (surveys that ask simplistic questions of entrepreneurs as to whether they plan or not – without defining the term). Planning can have a range of interpretations (Hannon and Atherton, 1998). It can mean a process of annual budgeting; the planning of a particular new development project or event; a process of strategic scenario-setting; or more formal generic multi-year business planning. Most entrepreneurs, formally or informally will engage in the first two categories. Many will also 'plan' strategically (Gibb and Scott, 1985) without committing it to paper. Relatively few will engage in the fourth category unless they are preparing a plan for merger, resource acquisition, or sale of the company.

Strategic thinking involves a dynamic mix of: assessing the future for the organization and how it might be brought about; constant 'what if' analysis of events and their potential impact on the business and its strategy; seeing the business always through the eyes of key stakeholders; seeking to bring forward the future for the customer; constant scanning of the business environment; and clear knowledge at any one time of the state of the business and its strengths and weaknesses.

The growth of entrepreneurial attributes

As has been noted above there are a wide range of entrepreneurial behaviours, skills and attributes, needed to respond to uncertainties and complexities. Arguably, these can only be developed through the use of an equally wide range of carefully tailored pedagogies, as identified in Appendix 4.3. There is a long history of simulations and game-playing designed to stimulate these, much of it based upon the early work of McClelland and Winter (1969) and Spencer (1983). These, arguably, should be at the core of an entrepreneurial teaching programme. Drama, for example, can be used to: creatively test empathy with stakeholders in an entrepreneurial society; demonstrate the limitations of assumptions in conventional academic work about objectivity; and test the impact of values on the delivery and interpretation of information. At the same time it can be used to build a range of personal entrepreneurial skills. Drawings can be used to develop understanding of how students see different concepts and to test how they might creatively communicate them to others. For example, the experience of the author in using such pedagogy with Chinese Master of Business Administration (MBA) students at the China-Europe Business School (CEIBS), as a means for them to articulate the concept of the 'enterprise culture' in China provided some fascinating insights.

Emotional intelligence

The importance of the management of 'feelings' is attracting considerable academic interest (Dulewicz, 2000; Goleman, 1996). It is arguably at the core of successful management of network relationships. Its focus is upon emotional self-awareness, managing and harnessing emotions productively, being able to read the emotions of others and their impact on communications and actions, and having the ability to productively utilize this knowledge in the process of management.

For the teacher, and indeed researcher, of entrepreneurship it seems critically important to understand how communication is affected by the feelings that lie behind the values identified earlier and how this will impact upon the 'ways of doing and seeing things'. For example, it can be argued that entrepreneurs, because of their values, will always seek to 'externally attribute' causes when asked 'what are your main problems?' by

academic researchers. It is therefore unsurprising that the major problems that entrepreneurs report in surveys around the world are 'getting money', 'government regulation' and 'markets'.

Vision of the 'way of life'

A key challenge for the teacher is to help students understand the 'life world' of the entrepreneurial person in the entrepreneurial organization. One way of creating this vision is to ask students what will change in their lives if they were to become entrepreneurs. The teaching programme may subsequently seek to build capacity for them to cope with and enjoy this change. This life-world vision is shown in Table 4.2.

Some pedagogical ideas as to how to build this vision are shown in Appendix 4.5. The vision is not exclusively that of a business world. To demonstrate this, students can be asked to conduct interviews with a wide range of individuals in the local society (pensioners, unemployed, policemen, doctors, social workers, teachers, nurses, local politicians, students, and so on). The purpose is to explore with them the uncertainties and complexities which face them in modern life as workers, family members, community members and consumers, and to identify any entrepreneurial responses they are using to meet these challenges. This forms the input for the 'entrepreneurship in society' drama enactment process described above.

Capacity for experiential digestion

The acquisition and use of experiential knowledge is an important part of entrepreneurial learning. The writings of Lave and Wenger (1991) on the importance of situated learning underline this. In pedagogical terms, in an entrepreneurial programme, the challenge is to maximize the opportunity for the 'practice in use' of acquired knowledge, simulating the learning world of the entrepreneur by the learning processes of doing, copying and so on, as identified above.

This has major implications for the focus of the knowledge content of programmes and for assessment processes. Instead of being 'marked' on an assignment, students may be

Table 4.2 The entrepreneurial life world

- Greater freedom/independence to choose ways of doing things
- Greater personal ownership of events
- More responsibility for personal assets and more risk in their disbursement
- The ego being more at risk as personal responsibility grows
- Having to cope with more uncertainty on a day-to-day basis
- Greater personal vulnerability to changes in the environment and how to live
- Greater individual responsibility for shaping one's own world
- Greater pressure to take initiative/make things happen in work and home life
- The need to flexibly undertake a wider range of tasks
- Rewards directly linked to effort
- The need to manage a wider dependency with a range of people with 'know who'
- A social situation where work and family life are more integrated
- Greater recognition of the links between personal effort and social status
- More learning by doing and responsibility for learning

asked to repeat work, under guidance, focusing upon areas for improvement, even where the original piece of work was a 'pass' or even better. Assessment might subsequently be based upon ability to learn from earlier deficiencies. Practice of this kind, however, takes up time normally given to more knowledge input. The challenge, therefore, is to pare down the more formal knowledge input to the essential components.

Conative, affective and cognitive learning

Cognitive development is the central focus of university approaches to learning with the emphasis upon reception of knowledge, recognition, judgement and remembering. Yet it can be argued (Ruohotie and Karanen, 2000) that the key to sound entrepreneurial teaching lies in a focus upon affective and conative aspects of learning. Affective development relates to the response to a subject, the likes and dislikes and the feelings, emotions and moods. Conative development embraces the active drive to make sense of something (notions of motivation, commitment, impulse and striving). Each of these is important to the entrepreneurial learning process and seems somewhat neglected in the conventional university pedagogical approach.

It is the author's experience that course development in the university context is overwhelmingly focused upon knowledge content and associated academic concepts. The teaching methods to be used are of secondary consideration and largely left to the individual lecturer. Rarely do they seem to be linked with any notion of developing personal behaviours, skills and attributes as shown in Appendix 4.3. One possible reason for this is that the 'contract' of the university with the student is not formally focused upon personal development but on the acquisition and testing of knowledge, and accreditation thereof. Entrepreneurship education will need to address this imbalance.

The holistic management arm

The challenge for independent entrepreneurs is to manage the business as an integrated whole. As noted above, their learning focus is upon 'know how' and 'need to know' rather than functional expertise. The 'need to know' aspect stems from the development problems and opportunities of the business (see below). The challenge to teachers is therefore to organize knowledge around organization development processes, radically different from the conventional functional paradigms (see Appendix 4.6 for an example of the new venture process). In relation to the survival of a business in the early years, the target might, for example, be to anticipate the problems that lead to business failure and 'bring forward' the knowledge in such a way as to enable entrepreneurs to anticipate development problems before they occur and take remedial action (see Appendix 4.7). Such a problem-centred approach does not mean that conceptual analysis is sacrificed, but only that concept is introduced through exploration of the problem or opportunity.

Acceptance of this point does, however, mean that entrepreneurship researchers seek new ways of codifying knowledge around the development processes of business or organizations and the management challenges therein.

The trust-building relationship arm

As noted above a key challenge for teachers is to enable students to 'learn to learn' from their relationships with the stakeholder environment. Creating capacity for relationship learning is arguably the key to cementing the trust-based relationships upon which

entrepreneurs thrive. It is also central, in a business context, to the issue of creating a level playing field for enterprise development, the limiting of formal regulation and the reduction of transactions costs. The key to this approach is to identify what the entrepreneur needs to know from each stakeholder at each stage of the organization's development. For example in the case of a small business and key customer the main questions would be:

- What does the entrepreneur need to know about the customer organization and its needs at each stage of the relationship over time in order to build a full and trusting relationship?
- Who will this knowledge be acquired from and delivered to?
- How best might this knowledge be acquired?

From the customer perspective the same questions need to be asked:

- What does the customer need to know about the entrepreneur's organization and who will they learn it from?
- How will it best be delivered, and to whom?

This knowledge-based relationship will be dynamic and change over time. Research in the UK, in the small business context, has indicated that relationship learning needs change over different stages of the business development (Durham University and De Montfort University, 1999). As noted above, this dynamic is personal and changes as the actors in organizations move around. Yet, as network theory would suggest (Fuller and Lewis, 2002; Gibb, 1997) it is the 'know who' (something, noted above, not frequently highlighted in the business schools) that is the cement that holds organizational trust-based relationships together.

The 'entrepreneurial management in different contexts' leg

It has already been argued that the business context for entrepreneurial management is only one context of many. And it has been shown that the need, and scope, for 'effective' entrepreneurial behaviour is contingent on the task environment facing the organization and individual.

As an example it can be shown that, in the case of a headteacher of a school, there is considerable scope for the practice of entrepreneurial behaviour. There will be numerous opportunities for engaging the school's various stakeholders (pupils, parents, teachers, governors, local authorities, feeder schools and colleges, business and the local community) in entrepreneurial initiatives for mutual benefit. Examples include developing highly active parent organizations, building international links, engagement of the local business community in many courses, fund-raising, extracurricula activity, teacher secondments and so on. Opportunities to do this will, however, be contingent upon the way that the school's task environment is 'officially' structured, for example, by the freedom of the head of the school to reward the entrepreneurial initiative of its teachers. It is clear in the UK context that enhancing the autonomy of schools has facilitated entrepreneurial behaviour in some respects but that growing central directives/guidelines to school management may work in the opposite direction.

Against this backcloth the challenge for the entrepreneurship educator is therefore to help the student to learn how to identify the opportunities in the student's task environment for the pursuit of effective entrepreneurial behaviour. Such an approach can be taken in any context. It is not the same, however, as encouraging the organization to behave in a businesslike manner although many analogies may be (carefully) borrowed.

The entrepreneurial organization design and development leg

The above discussion of task environment and context underlines the importance of creating the capacity to design entrepreneurial organizations to meet different environments and needs. An entrepreneurial organization can be defined as (after Gibb, 1999) an organization that maximizes the potential for individuals within it to pursue effective entrepreneurial behaviour and initiatives leading to greater personal fulfilment and enhanced organizational performance.

Organizational design can constrain entrepreneurial behaviour and/or force it to be deviant. It has been shown elsewhere (Gibb and Lypunov, 1995) that the classic state-controlled business model in former communist countries was such an organization. That did not mean that there was an absence of entrepreneurial behaviour but that much of this was designed either to circumvent bureaucratic restrictions in order to maintain performance or was deviant, with individuals, for example, running their own business activity within the organization.

The conditions that individual owner managers face, as shown in Appendix 4.4, are those most likely to stimulate entrepreneurial behaviour and can be used as guidelines for the design of organizations of all kinds (Gibb, 2000). These guidelines are shown in Table 4.3.

Table 4.3 is a reminder that the independent owner-managed business is at the heart of entrepreneurship. It is also a reminder that the entrepreneurial organization and design model can be applied to businesses and organizations at various stages of development – particularly the start-up stage, but also to the task of 'preserving entrepreneurship as

Table 4.3 Guidelines for designing the entrepreneurial organization

- Creating and reinforcing a strong sense of ownership
- Reinforcing feelings of freedom and autonomy
- Maximizing opportunities for holistic management
- Tolerating ambiguity and intuitive decision-making
- Developing responsibility to see things through
- Seeking to build commitment over time
- Encouraging building of relevant personal stakeholder networks
- Tying rewards to customer and stakeholder credibility
- Allowing mistakes with support for learning from them
- Supporting learning from stakeholder relationships
- Facilitating enterprising learning methods in general
- Avoiding strict demarcation and hierarchical control systems
- Allowing management overlap as a basis for learning and trust
- Encouraging strategic thinking
- Encouraging personal contact as the basis for building trust

businesses grow' (Stevenson and Jarillo-Mossi, 1986). To demonstrate this constitutes a distinctive challenge to the entrepreneurship educator.

The 'ideas harvesting and project management' feet

Opportunity identification and implementation remains at the base of entrepreneurial activity and is one of the main issues to be salvaged from the conventional business paradigm, with the footnote that it can be applied to any context. The process by which needs are identified and combined into product/service concepts is central to entrepreneurial behaviour and can often be addressed within a project management format. The management of projects is an excellent vehicle for the stimulation and practice of entrepreneurial behaviour. The key to success in this respect is, however, that the process is not heavily bureaucratized or formalized but is one of discovery, experimentation, tracking back when mistakes are made and entrepreneurial learning (described recently as a process of 'effectuation' (Sarasvathy, 2001).

For the teacher this has major implications for the way that the processes of ideas creation and development are designed and the project management cycle is pursued. Careful consideration will need to be given to the different contexts in which ideas and opportunities emerge and are defined. In the arts, for example, there are many tensions that arise from the emphasis upon satisfying a creative urge and the acceptability of the outcome of this with patrons and 'customers' in order that the artist makes a living.

A globalization context

A key imperative in the design of this alternate model of entrepreneurship education is to identify the sources of uncertainty and complexity that create the need for a more entrepreneurial societal response. It has been shown elsewhere (Gibb, 1999) that a useful approach is to explore the impact of globalization on society as a whole, upon the design of organizations and the life world of individuals as workers, consumers and family members. The value of this starting point is that, in general, globalization seems to be the trigger for the policy focus upon entrepreneurship globally. A framework is presented in Appendix 4.8, which can be used to explore sources of uncertainty/complexity in a wide range of stakeholder organizations and, therefore, the contingent need for organizational design and individual entrepreneurial competency development.

This approach is not necessarily purely market driven, although market conditions can be a major force. Uncertainties and complexities arise in the 'life worlds' of all kinds of organizations but not necessarily as a result of market pressures.

Conclusions

The aim in this section has been to demonstrate that it is possible to conceive of a model of entrepreneurship that is more widely based than that conventionally taught. The model has major implications for both the content and process of entrepreneurship education. Its central focus is upon the development of entrepreneurial behaviours, attributes and skills, and upon the design of organizations that might utilize and stimulate these. The model recognizes that the pursuit of entrepreneurial behaviours may be of value in a wide range of contexts, not purely business. It is relevant both to the organization and to the individual as worker, consumer and family/community member. Indeed, it can be argued that by focusing entrepreneurship teaching purely on a business context the importance

of creating a wider stakeholder enterprise culture, and therefore a generally supportive institutional environment, may be unrecognized.

A central tenet of the model is that entrepreneurship is key to helping organizations and individuals cope with, enjoy and, indeed, create uncertainty and complexity. Its value is therefore contingent on the nature of the task environment and is not necessarily always a desired state. Overall, however, it can be shown how the current policy imperative for the creation of an 'enterprise culture' is a reflection of the pressures of globalization. Identifying these pressures, both for individuals and organizations, is a useful starting point for the teaching of entrepreneurship.

Acceptance of the 'alternate' model demands many changes to conventional approaches with particular implications for higher education. These are discussed below.

4.5 The alternate model and some key policy questions

The key policy questions raised through this chapter are:

- Would an 'alternate' model of entrepreneurship help the higher education sector cope better with pressures from its various stakeholders?
- Would it sit better alongside the traditional values of a university?
- What kind of pedagogical changes might be needed to underpin an alternate model?
- What kind of organizational changes might be needed to create sustainable outcomes from such an initiative particularly in respect of the achievement of other major policy objectives concerning the role of HE in society?

The section below explores each of these issues in turn and then reviews (*in italics*) how an alternate model of entrepreneurship might help to address them.

Coping with stakeholder pressures

A review of the literature (see, for example, *Higher Education in Europe*, 2004; and the papers from the annual conferences of Universite dans la Societe: UNISO, 2004) indicates that the HE sector across Europe faces a number of pressures from the stakeholder environment. Dominant among these are concerns for the capacity of the economy to absorb the growing number of graduates into 'graduate-type' jobs. It has been argued that a degree is no longer a passport for life and, indeed, scarcely represents an entry ticket. This in turn is reflected in graduate choices of areas of study and the growth of vocationally orientated degrees. Yet universities have also been exposed to the criticism that they traditionally disparage vocationalism – separating skills from education (Hager and Hyland, 2003). There is associated pressure for the sector to pay greater attention to links with the job market, the utility of graduates in this market (with data produced on job take-up and salaries commanded becoming more important in university student recruitment campaigns) and the preparation of graduates for a process of lifelong learning. The EU Bologna declaration (1999) set out this challenge clearly.

The underlying pressure for change comes from the impact of globalization upon job markets with the emphasis upon capacity of workers to cope with many lateral and diagonal moves across sectors and occupations during career life, with uncertainty of tenure and different contract forms and in general with much greater complexity (Rajan et al.,

1997). The pressure upon universities to be seen to be taking action in this respect comes not only from governments and business, but increasingly from local communities. Regional agencies constantly challenge the sector to demonstrate its contribution to local economic development and seek to place them at the centre of strategies to deliver regional excellence as potential development attractors (see Local Economy, 2003). In the UK, central government policy has given impetus to this through several of the programmes noted at the beginning of this chapter.

If the above pressures and policies are to stimulate a sustainable response then they demand changes in a number of areas. Perhaps most important is that the HE institution itself becoming more of a 'learning organization' than a 'learned organization'. The former, after Senge (1990), can be characterized as being open to learning at all levels and from all sources. It must therefore be 'porous' in its capacity to learn from relationships with all stakeholders and open to all forms of learning both tacit and explicit. It can be argued that, at present, universities are rather asymmetric learning organizations with maximum response weight being given to the key stakeholders that dictate conventional academic status, namely, research funding and assessing bodies, teaching assessment organizations, providers of public funds and sources of, and channels for, student demand. Considerably less weight is afforded to other stakeholders such as local government, regional development agencies, entrepreneurs and the business community, non-governmental organizations (NGOs) and business and community associations.

The alternate entrepreneurship model can help address several of the above problems and issues. Its emphasis on developing capacities to deal with uncertainty and complexity and its contextualization in terms of dealing with pressures of globalization will help teachers and students to come to terms with the demands of the flexible labour market and career orientation. Its focus upon all stakeholders in society, and the identification of the sources of complexity and uncertainty they face both as individuals and organizations will likewise contribute to understanding the importance of creating a sympathetic and entrepreneurial institutional environment, particularly at the local/regional level. Its emphasis upon the importance of designing entrepreneurial organizations of all kinds also feeds into understanding of the need for universities to adapt to the cultures of stakeholder organizations in an entrepreneurial fashion without this being necessarily associated with a pure commercial ethic. Overall it places emphasis upon the development of personal entrepreneurial capacities and the related imaginative use of knowledge rather than business-driven capacities.

Entrepreneurship and traditional values

There are a number of issues relating to the business model of entrepreneurship education that sit uneasily with traditional academic convention (for a review of these see Graham, 2002; Smith and Langslow, 1999). Perhaps most important, it can be seen to lead to evaluation of the role of academe in commercial terms and to place a premium upon relevance and utility in research rather than upon the traditional process of discovery for its own sake. The 'subject' itself is not seen to fit easily within traditional academic subject areas in social science or, indeed, with the functional organization of knowledge in business education. The fact that most entrepreneurship education has emerged from business schools, lends weight to the notion that it carries with it

commercial values. The schools themselves often sit uneasily alongside more traditional social science departments (Mintzberg, 2004). Moreover, there are other fears concerning intellectual property and the undue influence that commercialization may have on the direction of research, the use to which results are put and the impact upon publication.

The proposed 'alternate' model may help to relieve these tensions. In the first place it emphasizes the development of personal capacities rather than business knowledge per se. It also stresses the imaginative use of knowledge and the integration of knowledge across disciplines very much in line with the views of nineteenth-century philosophers who shaped considerably the notion of a university (Newman, 1852). At the same time it challenges more gently the traditions of the scholarship of pure discovery and teaching with the notion of relevance and integration (Carnegie Foundation for the Advancement of Teaching, 1990). It also places the subject outside of the business school. Indeed, it has been argued elsewhere by this author that business schools are largely incapable of delivering the entrepreneurial model proposed above (Gibb, 2002a).

Sustainable pedagogical change needed to underpin the model

Higher education institutions will usually respond to financial incentives designed to build links with the wider stakeholder community. But a major issue is whether they do this in a way that leads to sustainable pedagogical and organizational culture change. In the UK case it can be argued that one major previous initiative, focused substantially on stimulating pedagogical innovation, the Enterprise in Higher Education Programme (whereby each HE institution was given £1 million to develop enterprise programmes and pedagogies) did not consistently lead to a major sustainable change (Brooks, 1991). Part of the problem is the value traditionally given to teaching 'about' entrepreneurship as opposed to 'for' entrepreneurship – the latter being seen as vocationalism. There appears to be a notion that focusing on the practice of acquired knowledge or the acquisition of knowledge through practice denies the opportunity for academic concept, although it is not clear as to why this should be so. On the contrary, it can be argued that the best theory is one that is tested and works in practice. This in turn underlines the importance of the learning acquired via the process of research, development, testing and dissemination, and is a reminder as to what might be missed by focusing only on research and publication.

The entrepreneurial concept described above will demand:

- *more integration of knowledge (within faculties and departmental areas, between various social science disciplines, between fields in arts and science and between tacit and explicit knowledge)*
- *more interdisciplinary teaching*
- *much greater opportunity for experiential learning*
- *greater space for the testing of explicit knowledge in practice (with more time for reflection and learning by re-doing)*
- *greater equality of emphasis upon how things are taught with what is taught*
- *innovation in assessment and accreditation procedures*
- *changes in some of the basic philosophies of learning – particularly in the field of management (Ghoshal, 2005; Mintzberg, 2004).*

The proposed alternate model also demands that each cognitive input is carefully matched with pedagogy focused on the development of appropriate entrepreneurial behaviours skills and attributes (as in Appendix 4.3). This process is also designed to enhance the conative and affective aspects of learning.

Sustainable organizational change needed to underpin the model and its links with wider objectives

A key issue is whether the kinds of sustainable organizational change required to meet the goals of the alternate model of entrepreneurship education will sit comfortably alongside and, indeed, enhance the capacity of the HE sector to meet other demands. Major among these are strengthening the engagement of HE with the business and regional development community and enhancing the capacity for commercial exploitation of intellectual property and technology transfer. Key areas of change needs have been identified by a number of writers (see Clark, 1998; Higher Education in Europe, 2004) and include:

- changes in rewards and status systems to encourage those who engage, and have high credibility, with the business and wider stakeholder community
- greater equality of status and career paths to those who focus on research and development as opposed to solely research and publication
- flexible staffing and appointment arrangements (including professorships of practice, adjunct professors, fellowship secondments for members of the stakeholder community, visiting entrepreneur teaching fellowships and so on)
- more joint research and development (R & D) arrangements with small firms as well as larger corporations
- re-orientation of the contract with the student to embrace a more clearly defined element of personal and career development in particular commitment to preparation of students for lifelong learning
- creating stronger mechanisms for ongoing social interaction between academics and students and entrepreneurs
- ensuring that where science and technology parks exist in 'partnership' with the university, they are filled with companies that have ongoing deep relationships with the university rather than those who readily fill space with attractive names. Recent survey results indicate that the UK science park movement has had rather disappointing results in this respect (UK Science Park Association, 2003)
- truly active engagement with stakeholders in joint ventures (rather than engagement by membership of committees).

The 'alternate' model of entrepreneurship underpins this sustainable transition process in a number of ways. It has been argued that it will demand a greater focus upon the scholasticism of integration and relevance, and therefore upon the process of research and development. Through its emphasis on learning from networks and know who, it will reinforce the notion of active integration of external stakeholder representatives into the university community and according them status. This will underpin the propensity of the HE organization to build stronger social networks with business and other networks, long regarded as the key to successful partnership in technology transfer and innovation. It will also emphasize the need for the HE organization to become a total learning organization

via more active joint venture engagement with all stakeholders in the community. Overall it should raise the profile of entrepreneurs in both the business and wider organizational context within academe.

4.6 Overall summary and conclusion

Summary

This chapter has addressed the issue of appropriate policy development for the promotion of entrepreneurship education in the HE sector in the UK. Two major challenges have been identified. The first is that of agreeing on an entrepreneurship concept that will most satisfactorily underpin the government's desire to enhance the role of the HE sector in economic and social development. The second is that of clarifying how an appropriate entrepreneurship concept might smooth the process of achieving sustainable change in the HE sector and underpin the other efforts being made to enhance the capacity of universities to engage more actively with the wider stakeholder environment particularly in the commercialization of intellectual property.

Conclusion

It has been concluded that the conventional business-led model of entrepreneurship is inappropriate for achieving the above goals and is likely to be seen to threaten traditional university values. An alternate model has therefore been suggested, which it is argued will be more acceptable and, indeed, more likely to assist in the sector's response to the pressures it is facing. In particular it defines entrepreneurship in terms of sets of behaviours, attributes and skills, the need for which is contingent upon levels of uncertainty and complexity in the task environment facing individuals and organizations. It is argued that these can be developed and may be needed by all kinds of organizations and individuals, in all walks of life, and not just those in a business environment. It has been shown that a key challenge is to design organizations of all kinds to stimulate appropriate effective entrepreneurial behaviour, where needed, and guidelines for this process have been established. It has been shown how this model could underpin the objectives of making the HE sector more responsive to the environment without threatening traditional values, but that changes will be needed in HE approaches to the organization of knowledge and pedagogy and to relationships with staff and the environment. Nevertheless, there will be a need for change: different organization models will be needed if the sector is to respond to the entrepreneurial challenge.

Notes

* This is a shortened and amended version of a policy paper prepared for the UK National Council for Graduate Entrepreneurship (NCGE).

1. It can be argued that the business plan, while useful for reflection, is most important as a flexible instrument of communication in relationship development to be used in accessing tangible and intangible resource. As such, a plan for a venture capitalist may be rather different from that for a banker, a partner, a government official or a major customer.
2. Sir Michael Bichard, former Permanent Secretary (Head) of the UK Department of Education and Science underlined this point in a recent address to the November 2004 Enterprise Insight Conference when he said 'it is impossible to foster the enterprise culture with the civil service as it is'.
3. A guiding principle in teaching entrepreneurs in the Durham University Small Business Centre – taking the metaphor from T.S. Eliot's 'Four Quartets' – was that 'they (*the entrepreneurs*) have the experience, our task is to help give greater meaning to it'.

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Appendix 4.1: The need for clarification of the concept

Keynote speaker quotes relating to views of entrepreneurship from the National Enterprise Insight Conference, Queen Elizabeth Conference Centre, 2004

THE HIGH GROWTH BUSINESS MODEL
'Risking it all' (*a proposed TV series on entrepreneurship*)

'Ruthlessness of survival against the odds' *Luke Johnson*
'The US model can inform development policies anywhere in the world . . . Sustainable democratic capitalism' *Karl Schram*
It (Enterprise) can be seen as:
'business and economic understanding'
'financial literacy' *Gordon Brown*
'we need 'to create business and business teachers'
'a teaching profession less prejudiced against business' *Digby Jones*

THE BROADER ENTREPRENEURSHIP MODEL
'enterprise is not fundamentally about taking risks but about identifying and taking opportunities'
'the word business is a turn off' *Kevin Steele*
'we wish to refocus upon enterprise and not just entrepreneurship' *Martin Griffiths*
'enterprise thrives on networks' *Kevin Steele*
'the challenge is to get organisations to run in an enterprising way' *George Cox*
'there is an over reliance in business upon academic skills as opposed to "feeling" skills' *Martin Glen*
'we cannot possibly supervise enterprise – we have to give people ownership and control' *Martin Glen*
'we will never achieve the enterprise culture with the civil service as it is today' *Sir Michael Bichard*

Appendix 4.2: List of entrepreneurial behaviours, attributes and skills (drawn from the literature)

Entrepreneurial behaviours

- Opportunity seeking and grasping
- Taking initiatives to make things happen
- Solving problems creatively
- Managing autonomously
- Taking responsibility for, and ownership of, things
- Seeing things through
- Networking effectively to manage interdependence
- Putting things together creatively
- Using judgement to take calculated risks

Entrepreneurial attributes

- Achievement orientation and ambition
- Self-confidence and self-belief
- Perseverance
- High internal locus of control (autonomy)
- Action orientation
- Preference for learning by doing
- Hardworking
- Determination
- Creativity

Entrepreneurial skills

- Creative problem-solving
- Persuading
- Negotiating
- Selling
- Proposing
- Holistically managing business/projects/situations
- Strategic thinking
- Intuitive decision making under uncertainty
- Networking

Appendix 4.3: Linking entrepreneurial behaviours and skills to pedagogy

	Seeking opportunities	Taking initiatives/ acting independently	Solving problems creatively	Persuading/ influencing others	Making things happen	Dealing with uncertainty	Flexibly responding	Negotiating a deal successfully	Taking decisions	Presenting confidently	Managing interdepend-ence successfully
Lectures											
Seminars			*					*		*	*
Workshops on problems/ opportunities	**		***	*				*	**		
Critiques			*	*			*				
Cases									*	*	
Searches	*	*			*	*					*
Critical incidents			*			*	*		*		
Discussion groups			*	*				*			*
Projects	*	*	*		*	*		*	*	*	*
Presentations				**						**	
Debates				**						**	
Interviews			*	*		*	*	*			
Goldfish bowl				*			*	*			*
Simulations			*	*			*	*	*	*	*
Evaluations	**										
Mentoring each other			*	*		*	*	*			*
Interactive video							*		*		
Internet											
Games	*	*	*	*	*	*	*	*	*	*	*
Organizing events		**		**	**	**		**	**		*
Competitions											
Audit (self) instruments											

	Seeking opportunities	Taking initiatives/ acting independently	Solving problems creatively	Persuading/ influencing others	Making things happen	Dealing with uncertainty	Flexibly responding	Negotiating a deal successfully	Taking decisions	Presenting confidently	Managing interdepend-ence successfully
Audit (business) instruments											
Drawings			*	*							
Drama				*		*				*	
Investigations			*		*				*		
Role models											*
Panel observation				*				*	*		*
Topic discussion		*		*			*			*	*
Debate		*		*							
Adventure training	*	*	*			*	*		*		*
Teaching others			*	*		*	*	*		*	*
Counselling			*	*			*	*			

Appendix 4.4: Entrepreneurial values

- Strong sense of independence
- Distrust of bureaucracy and its values
- Self-made/self-belief
- Strong sense of ownership
- Belief that rewards come with own effort
- Hard work brings its rewards
- Belief in being able to make things happen
- Strong action orientation
- Belief in informal arrangements
- Strong belief in the value of know who and trust
- Strong belief in freedom to take action
- Belief in the individual and community not the state

Appendix 4.5: Using pedagogy to simulate the entrepreneurial life world

Example: The pedagogical challenge in the start-up process

1. Developing *Commitment* by:
   - focusing the programme on the participants own project
   - setting up peer review/counselling procedures to monitor progress
   - individual counselling on project progress
   - formal presentations of project to other participants
   - setting up independent panels for review
   - building sound links with resources.
2. Developing a *strong sense of Responsibility* by:
   - exercises to develop parts of the proposal (finding customers, suppliers, negotiating with providers of resources . . .)
   - encouraging development of action plans
   - setting times for completion of certain activities.
3. Developing a strong sense of *Ownership* by:
   - a strong focus on the participant's project
   - exercises in defending the project in class.
4. Developing capacity to cope with *Risk, Money and Social Status* by:
   - developing a plan
   - developing 'what if' scenarios re key assumptions in the plan
   - explore ways to reduce the financial outlay (by subcontracting etc.)
   - exercises to get participants to see stakeholder perceptions
   - discussions with existing businesses as to position in local society.
5. Developing capacity to cope with *Long and Flexible Hours* by:
   - time management exercises
   - developing organizational systems
   - presentations on managing time by other entrepreneurs
   - setting systems for customer delivery schedules
   - setting aside contingency time.
6. Developing a sense of *Freedom and Independence* by:
   - exercises on what it will be like to 'be on your own'
   - exploration of what responsibilities freedom will bring
   - interviews with existing entrepreneurs on what it means to them
   - review of participant personal goals and the business.
7. Developing capacity to make *Decisions under Uncertainty* with *Limited Data* by:
   - exercises on making decisions with no or little hard data
   - reviewing situations where there is 'paralysis by analysis'
   - asking participants to use 'tacit' knowledge to make decisions.
8. Developing ability to manage *Interdependency* on key *Stakeholders*:
   - identification of key stakeholders
   - exercises on what stakeholders are looking for and why
   - exercises on the way stakeholders learn and ways of educating them.
9. Developing capacity to take *Initiatives* and be *Proactive* by:
   - exercises on who they know and how well they know them
   - exercises on the strategic development of 'know who'

10. Developing ability to cope with *Income Fluctuations and Customer Dependency* for *Rewards* by:
    - setting a clear view of what levels of personal income are targeted
    - review of what levels of turnover and margin these are based on
    - examination of how income might vary and how they will cope
    - examination of ways of smoothing out income
    - consideration of other ways of making income in an emergency
    - consideration of role of savings.
11. Developing ability to manage changes in *Social and Family* relations:
    - exercises in considering all family issues (divorce, succession, tax, etc.)
    - 'what if' scenarios on family affairs
    - exploring how other entrepreneurs plan for family issues.
12. Developing capacity to manage/control *Holistic Task Structure* by:
    - exercises in clarifying exactly what participants will have to do
    - developing training focused on these needs – simulations.
13. Developing capability to *Learn to Learn* as entrepreneurs by:
    - focusing on: learning by doing, mistake making, copying, problem-solving, experiment, peer review, feedback from stakeholders . . .
14. Developing capacity to cope with *Loneliness* by:
    - encouraging membership of clubs and associations
    - time management exercises
    - building links with peers and using counsellors.

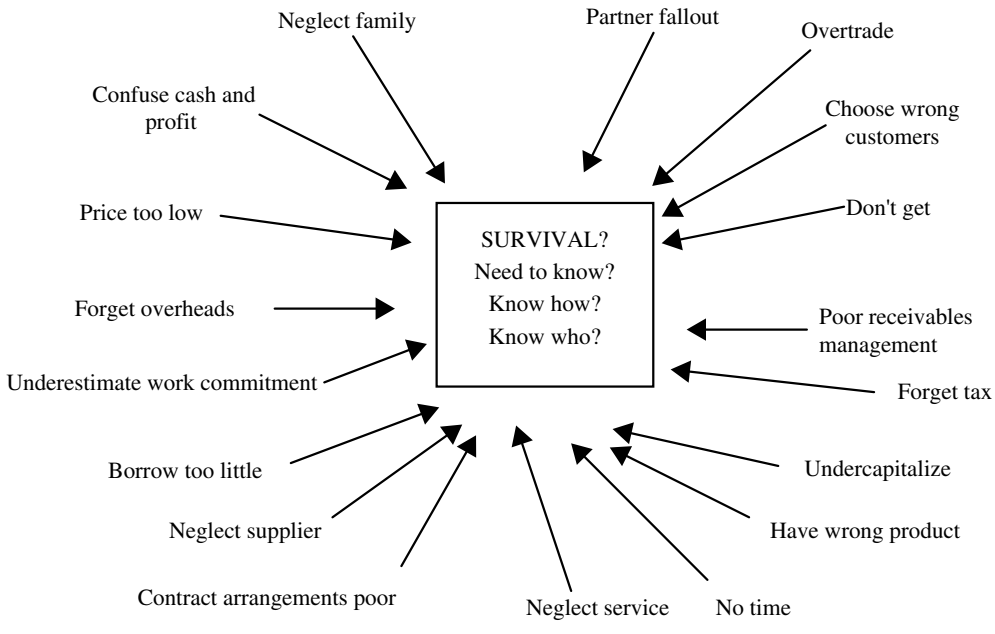
Appendix 4.6: Linking learning to new venture process development

	Personal development: stage, tasks and learning needs	
Stage	Key tasks	Key learning and development needs
1. From idea and motivation acquisition to raw idea	* To find an idea * To generate an idea * To explore personal capability and motivation for self-employment	* The process of idea generation and evaluation * Knowledge of sources of ideas * Understanding of the ways in which existing personal skills/knowledge might be used in self-employment * Understanding of what self-employment means * Personal insight into self-employment * Positive role image/exploration/feedback * Self-evaluation
2. From raw idea to valid idea	* Clarify idea * Clarify what needs it meets * Make it * See it works * See it works in operating conditions * Ensure can do it or make it to satisfactory quality * Explore customer acceptability – enough customers at the price? * Explore legality * Ensure can get into business (no insurmountable barriers) * Identify and learn from competition	* What constitutes valid idea * Understanding the process of making/doing it * Technical skill to make/do it * Customer needs analysis * Customer identification * Who else does it/makes it * Idea protection * Pricing and rough costing * Ways of getting into a market * Quality standards * Competition analysis
3. From valid idea to scale of operation and resource identification	* Identify market as number, location, type of customers * Clarify how will reach the market (promotional) * Identify minimum desirable scale to 'make a living' * Identify physical resource requirements at that scale * Estimate additional physical resource requirements * Estimate financial requirements * Identify any additional financial requirements needed	* Market research * Marketing mix (promotion etc.) (ways of reaching the customer) * Pricing * Production forecasting and process planning to set standards for utilization, efficiency etc. * Distribution systems * Materials estimating and wastage * Estimating labour, material, capital requirements * Profit/loss and cash flow forecasting
4. From 'scale' to business plan and negotiation	* Develop business plan and proposal * Negotiate with customers, labour, suppliers of materials,	* Business plan development * Negotiation and presentation skills * Knowledge of suppliers of land, etc. * Contracts and forms of agreement

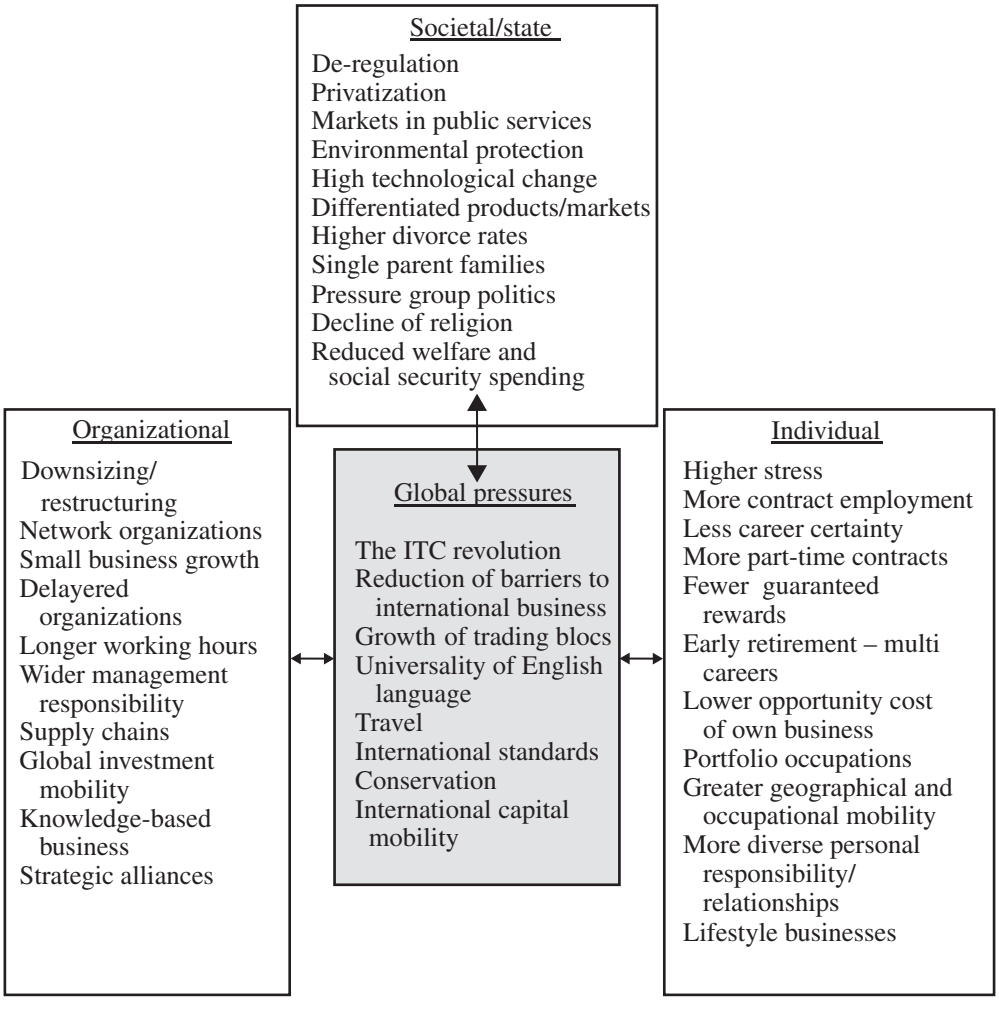
Appendix 4.6 (continued)

	Personal development: stage, tasks and learning needs	
Stage	Key tasks	Key learning and development needs
	premises, capital suppliers, land etc. to ensure orders and physical supply capability * Negotiate with banks, financiers for resources	* Knowledge of different ways of paying * Understanding of bankers and other sources of finance * Understand forms of assistance available
5. From negotiation to birth	* Complete all legal requirements for business incorporation * Meet all statutory requirements * Set up basic business systems	* Business incorporation * Statutory obligations (tax, legal) * Business production, marketing, financial systems and control * What advisers can do * Understand how to manage people
6. From birth to survival	* Consolidate business systems for processing * Ensure adequate financial control (debtors, creditors, bank, etc.) * Develop market, attract and retain customers * Meet all legal obligations * Monitor and anticipate change * Maintain good relations with banks, customers, suppliers and all environment contacts * Provide effective leadership development for staff	* Management control systems * Cash planning * Debtor/creditor control * Marketing * Selling skills * Environmental scanning and market research * Leadership skills * Delegation, time planning

Appendix 4.7: From problems to concepts – survival



Appendix 4.8: Pressures moulding the 'entrepreneurial society'



5 Teaching entrepreneurship at university: from the wrong building to the right philosophy

Kevin Hindle

> If you want to encourage entrepreneurship, it should be through some kind of apprenticeship. That would be a wonderful experience. (Birch, in Aronsson, 2004, p. 289)

> The way in which a university should function in the preparation for an intellectual career, such as modern business or one of the older professions, is by promoting the imaginative consideration of the various general principles underlying that career. Its students thus pass into their apprenticeship with their imaginations already practised in connecting details with general principles. (Whitehead, 1929 [1967], p. 96)

> The solution which I am urging, is to eradicate the fatal disconnection of subjects which kills the vitality of our modern curriculum. (Whitehead, 1929 [1967], p. 6)

Introduction: is entrepreneurship education the right stuff in the wrong building?

A large part of my life's work has been an attempt to educate entrepreneurs and teach about the processes of entrepreneurship and innovation. When I began to do this, in 1983, there was very little published information on the specific topic of entrepreneurship education – at university or anywhere else. Even in the late 1980s and early 1990s, there was still only a relatively small literature of entrepreneurship education (see, for instance, Plaschka and Welsch, 1990). In recent years, that previously missing literature has exploded and is growing exponentially. A few examples will illustrate the proliferation that is occurring. There is now a purpose-dedicated journal of entrepreneurship education: *International Journal of Entrepreneurship Education* (*IJEE*). Various business think tanks have well-developed resources devoted to entrepreneurship education (see, for instance, the Small Business Institute site at www.smallbusinessinstitute.org). Respected scholars Karl Vesper and Bill Gartner's inventory of entrepreneurship education programs (Vesper and Gartner, 2001) gets ever bigger. Conferences on how to teach entrepreneurship have reached institutional status. Syracuse University's Martin J. Whitman School of Management hosts an 'Experiential Classroom', a national program that aims to increase the skills of those who teach entrepreneurship (Syracuse University, 2004). There is now even a strong commitment to making the often arcane results of entrepreneurship research readily teachable (Hindle, 2004; Hindle et al., 2004). In the learned and versatile Jerry Katz, the discipline of entrepreneurship now has a historian of United States entrepreneurship education (Katz, 2003). Debates about entrepreneurship education at the highest level of national policy are occurring in many countries – with Germany particularly active in seeking the 'right' entrepreneurship curriculum (Klandt, 2004; Koch, 2003). Awards for excellence in entrepreneurship education have gone beyond plaques and now include dollars – the Academy of Management Entrepreneurship Division alone has three awards for pedagogy and one for the annual best PhD dissertation. In September 2004 the Academy of Management's journal

devoted to learning and education published a special issue devoted to entrepreneurship education (Green et al., 2004).

So, with all this flurry of activity focused on the work of my life and heart, I should be thrilled to the marrow. Instead, I am apprehensive, even a little sad. Why? It is not because I feel that any of the rapidly proliferating contributions are not vital or useful. It is because I believe that they could be so much *more* useful if we in the entrepreneurship education community took more time to reflect on some philosophical and contextual fundamentals of the education process itself. What we are doing in racing to detail is very dangerously like preaching to the converted in the absence of reflecting upon why it all matters.

That is what I want to do in this chapter: a little reflection on some core educational issues aimed at establishing philosophical credibility for our endeavors among communities of skeptics.

We who teach entrepreneurship at university often feel that we should get right down to details. We are prone to dismiss as trivial and unnecessary things as basic as the formal need to refute the incorrect, but still highly prevalent, belief that entrepreneurship cannot be taught. We think we know that this is such a stupid proposition that we do not bother to argue against it systematically. It is beneath our dignity. We should not be so complacent. Here is a test for you. At your university, ask 10 professors in what may be called traditional disciplines (mix up natural sciences, humanities and social sciences) for their 'honest opinion' about whether entrepreneurship can or should be taught at university. Try to get them off the record and beyond the bounds of any need to answer in a politically correct way. Many universities have a lip-service commitment to entrepreneurship and/or innovation in their mission statement. Get beyond superficial mouthing of platitudes and 'the party line' and ask your straw poll of professors what they *really* think. My hypothesis is that your distillation of the predominant emergent view will be that first, entrepreneurship cannot be taught because 'entrepreneurs are born not made' and, second, even if it could be taught, university is not the right place to do it.

The key point I am making is that though we, entrepreneurship educators, have convinced ourselves that entrepreneurship education at university is both feasible and desirable, we have shirked the responsibility for arguing the axiomatic and logical justification of those propositions to the wider world.[1] If the rest of the university faculty, our closest colleagues, in their heart of hearts do not believe in the viability of entrepreneurship education at university, the skepticism of the wider community is likely to be vast indeed. Against this background, the current explosion of papers on entrepreneurship education is at risk of merely preaching to the converted. For entrepreneurship scholars to make our recent profusion of offerings more credible to a wider audience we have to tackle, overtly, a few philosophical fundamentals and even go so far as to state what is axiomatic in our beliefs.

The particular mistake made in most of the current entrepreneurship education debate – experts talking about expertise – is that commentators often focus disproportionately and anachronistically upon one unit of analysis, the curriculum, as if it were a disembodied entity. But an academic curriculum (or a single course within it) is a dependent variable. Most importantly, it depends on the combined interaction of the teacher, the students, and the environment in which the transfer of information between them takes place. Those are the fundamental variables I would like to explore in this chapter. Since I want to focus my discussion on entrepreneurship education at university, I will start at the right generic location, a university campus but an allegedly wrong specific location, its business school.

Imagine you are on the campus of a university in North America, Europe or any other geography that contains universities that broadly comport with what might be called the 'Western educational tradition'. This university, as so many – probably too many – do, has a building which houses a business school whose principal focus is delivery of the university's MBA program. Chances are very good that if the university offers any courses or programs in entrepreneurship education, this is where you will find them. This fact is both intriguing and potentially depressing because we have it on good authority that the business school is entirely the wrong place in which to teach entrepreneurship. I will not spend too long on this point of view; I will simply locate it between two influential statements of the case: one in 1987 and one in 2004.

It is always dangerous to use the adjective 'seminal' with respect to a journal article in an academic discipline. I am going to use it to describe an article published in the *Journal of Business Venturing* in 1987. Its superficially date-bound title seems out of place for a durable article. Yet 'Entrepreneurship education in the nineties' by W. Ed McMullan and Wayne A. Long is likely to have relevance so long as entrepreneurship education is discussed. It first appeared with an asterisk in the title and the following editor's note: 'Though this article is not empirically based, it addresses a topic that is sufficiently important to warrant a one-time exception to the editorial policy' (McMullan and Long, 1987, p. 261). The essential challenge of their argument is summarized in two sentences: 'For a number of reasons, current methods for delivering entrepreneurship education have to be judged as inadequate. This new field will need to extend beyond the boundaries of schools of management or engineering, perhaps even beyond universities' (McMullan and Long, 1987, p. 262).

The primary problem as articulated by McMullan and Long was and remains a generic problem of teaching *model* (a pedagogic regime often resident in business schools). The specific *place* where the wrong model is found (business school or anywhere else) is a second-order issue. That having been said, it is fair to generalize that the MBA model traditionally employed to teach middle and senior managers how to conduct the affairs of mature, large organizations is inappropriate to the teaching of entrepreneurship. McMullan and Long argued that entrepreneurship demands, above all things, *experiential* teaching methods and milieus. They then argue that this is fundamentally at odds with the orientation of the typical university-based business school in terms of the way material is both taught and evaluated.

In 2004, the authoritative voice of David Birch argued the same thesis. Birch is an almost iconic figure in the field of entrepreneurship. He is the progenitor of much of the research and policy interest in entrepreneurship. As reported in the preface to Magnus Aronsson's recent interview with him (Aronsson, 2004, p. 289), Birch's pioneering research findings were simple and easy to understand for policy-makers: new and small businesses create the lion's share of new jobs. His findings became the foundation for government initiatives to support growing high-growth small firms – the firms to which Birch gave the immortal nickname 'gazelles'. One might, at a stretch, argue that the current volume of interest in entrepreneurship as a discipline begins with Birch. This doyen of our discipline certainly believes that the business school is the wrong building to house entrepreneurship education.

> Quite a few business schools teach you exactly the opposite of entrepreneurship. They teach you to do the quarterly numbers for Wall Street, teach you to conserve, teach all the wrong motivations

> for being an entrepreneur, teach you to take something that is there and make certain that it does well on Wall Street. Basically, business schools teach you to work for somebody. (Aronsson, 2004, p. 290)

So, if McMullan and Long and Birch and a host of others are to be believed, entrepreneurship educators at university are faced with a very real and most unlovely paradox. It seems that the business school is not where entrepreneurship should be taught at university and, yet, that is the building statistically most likely to house it (Vesper and Gartner, 2001). Things get worse as we get more analytical. The business school–entrepreneurship education paradox is actually only a subset of seven larger, interrelated problems. The first is: can entrepreneurship be taught at all? There are many strident voices answering 'no'. The second is: if entrepreneurship can be taught at all, is the university an appropriate place to offer this teaching? The 'no' case is strongly advocated by many. Catching up with our paradox, we have a third problem: if the university is an appropriate place to teach entrepreneurship but the business school is the wrong place within the university to house these studies, where should they go? These questions in this order should logically take precedence over a fourth important question: 'who should teach entrepreneurship?' and a fifth: 'who should learn?' and a sixth 'how should it be taught?'[2] Finally, we are in a position to ask the ontologically integrational seventh question: 'what should be taught?'

These seven nasty questions are the rude graffiti sprayed on the imposing façade of our shiny business school. In this chapter I will try to bring out some solvents and apply some elbow grease in an attempt to rub off the seven graffiti, one by one.

Can entrepreneurship be taught at all? Teaching *it* and teaching *about* it

As a predicate to all that follows in this chapter, I adopt the widely used definition of entrepreneurship as a research field provided by Shane and Venkataraman (2000, p. 218): 'We define the field of entrepreneurship as the scholarly examination of how, by whom and with what effects opportunities to create future goods and services are discovered, evaluated and exploited.'

As Davidsson (2004, *passim*) points out, entrepreneurship as a research field is different from entrepreneurship as a phenomenon, but for efficiency of exposition I will be satisfied with a broad definition of entrepreneurship education, which says that it is: the transfer of knowledge about how, by whom and with what effects opportunities to create future goods and services are discovered, evaluated and exploited. Put this way, it is immediately apparent that entrepreneurship education is divisible into two main areas: 'teaching *it*' and 'teaching *about* it'.[3]

'Teaching it' embraces the vocational area of entrepreneurship: the practical components of a very applied area of knowledge. Just as medicine, or engineering, or law, or professional management has a vocational (as well as a theoretical and societal) component, so does entrepreneurship. I often wonder why there are so many otherwise intelligent people who are prone to ask the old chestnut question: 'Aren't entrepreneurs born not made?' Or worse, they avoid interrogation of the proposition altogether and simply assert that entrepreneurs are born and cannot be made or at least that entrepreneurship cannot be taught. The same people are very unlikely to assert that doctors, or lawyers or engineers are 'born not made' or that the vocational skills of these professionals cannot be taught.

I suspect that the principal reason for entrepreneurship as a professional phenomenon (as distinct from medicine, law and so on) having to endure such an absurd proposition is that many people must carry a clear but unrecognized distinction in their heads about the *basic mechanics* of doctoring (or law or engineering) versus the concept of *being a doctor* (or lawyer or engineer). Most people intrinsically make this distinction for the non-entrepreneurship professions but fail to carry a similar distinction with respect to the entrepreneur. They accept readily enough, for instance, that a person of reasonable intelligence and dexterity can be taught the fundamental principles of medicine and how to apply them to an act of surgery; say taking out an appendix. No doctor is ever 'born', *qua* doctor. All are made: through education. However, some doctors *are* better than others, through a combination of different *intrinsic factors* (for example, greater intelligence, greater natural dexterity), different *levels of stimulus* (for example, a more or less conducive environment) and different *extrinsic factors* (for example, deeper and longer study of principles, more practice at the craft of surgery). It is no different for an entrepreneur.[4] All aspirants have to learn their craft somehow, and many do. Ergo, entrepreneurship can be taught. Not necessarily all of entrepreneurship theory and practice can be taught to everyone, any more than the principles and details of human anatomy can be absorbed by an inadequate intelligence or delicate surgical skills can be acquired by an amputee. But there is absolutely no a priori justification for saying, categorically, that entrepreneurship cannot be taught.

So, why do so many people believe this – or assert it without even giving it enough thought to warrant the title of 'belief'?

The principal reason is simply confusion of an end result (an entrepreneur exists) with the processes (including but not limited to learning and behavioral change) that produced the end result. The entrepreneur underwent a process of education that contributed to the nature of her current existential state. The confusion arises because most people know a lot more – and a lot more *about* – doctors than they do entrepreneurs or *about* entrepreneurs. The *Global Entrepreneurship Monitor* (GEM) research in all countries (Hindle and Rushworth, 2004; Reynolds et al., 2004) indicates that the majority of the population claim never to have met an entrepreneur. Most people in a developed economy have met a doctor. When people meet or hear about a distinguished surgeon, their knowledge of the world enables them to know that the surgeon must have had a long training including many successes and failures. When they meet or hear about a successful entrepreneur people tend not to reflect on the skills that the person has had to acquire but only on the results that it has produced. These results (often including substantial personal wealth) are abnormal in terms of the standard risk–reward profiles of economic actors with whom people are more familiar. The entrepreneur thus appears to be very different and very special – just as a doctor dispensing modern medicine in an underdeveloped environment might seem to uneducated villagers to have been born with special skills. There is the added complication that there is no such thing as a *lucky* brain surgeon: warning – don't do it at home! There is such a thing as a lucky business initiator: somebody who succeeded in business despite himself. But such a person should be called 'a lucky person' not 'an entrepreneur'.

So, provided that one does not confuse the aptitudinal and motivational predicates of the student with the transferability of the subject matter, it is clear that the vocational aspects of entrepreneurship can be taught. Some of these aspects are the same or very

similar to the vocational aspects of management: skills in accountancy, finance, marketing, strategy, organizational behavior, and so on. Some are specific to entrepreneurship (in the sense of practicing innovation and creating new organizations to pursue an opportunity) as distinct from management (optimizing resources and relationships within an existing organization). Such specific skills of entrepreneurial capacity include opportunity evaluation and entrepreneurial business planning.

If we can accept that the skills of doctoring can be taught – to some people, not all – even if the aptitude and motivation to be a great doctor cannot, we should have no trouble accepting that the skills of entrepreneurship can be taught even if the aptitude and motivation to be a great entrepreneur cannot. In particular, we must never confuse the difficulty or even impossibility of motivation with the possibility of knowledge transfer. People do not often make this mistake when observing the field of medicine or most other fields; they do when contemplating the field of entrepreneurship. They should not.

So much for 'teaching it'. What about 'teaching about it'?

In entrepreneurship education, as in every other professional domain, we need to distinguish teaching concerning the phenomenon itself (the vocational domain) from teaching *about* the phenomenon (its meta aspects; its theory and the way that this phenomenon impacts on other phenomena). The theory of medicine advances knowledge and improves practice and so does the theory of entrepreneurship (see Fiet, 2000). The practice of medicine has effects: it impacts on society and the economy in many and varied ways. So does the practice of entrepreneurship. Just as the substantive vocational component of entrepreneurship can be taught, so can its theory and effects.

The *ways and places* in which we teach entrepreneurship

Many people who seem to be saying that entrepreneurship cannot be taught are really saying: 'You can't teach it in this manner or in this place.' So it is with David Birch. When asked by Magnus Aronsson, 'Can entrepreneurship be taught?', his immediate answer was: 'If you want to teach people to be entrepreneurs, you can't' (Aronsson, 2004, p. 289).

It is safely predictable that this 'sound bite' will be quoted out of context thousands of times in the coming years by those who, for whatever reasons, want to perpetuate the myth of entrepreneurship's non-teachability. It is going to damage both the cause and the credibility of university entrepreneurship educators unless we put some philosophical apparatus in place to deal with it. Birch's statement seems fairly definitive. Yet a mere one sentence later Birch goes on to say: 'If you want to encourage entrepreneurship, it should be through some kind of apprenticeship. That would be a wonderful experience' (Aronsson, 2004, p. 289).

This is immediately followed by Birch's next assertion (quoted in the previous section of this chapter) that business school is the wrong place to teach entrepreneurship. So, taken in context, what we have here is *not* an assertion of the absolute impossibility of teaching entrepreneurship but a preference for the *mode and location* of instruction. When it comes to entrepreneurship education, Birch likes the possibility of learning in an active business environment from a proven performer, and he is skeptical about the efficacy of prevailing norms at most business schools. So, rather than resting satisfied with a facile approach – 'David Birch thinks that entrepreneurship can't be taught and we know you can, so he's wrong' – entrepreneurship educators should probe deeper. In the concluding

section of this chapter I will suggest that a very useful agenda for entrepreneurship education research might be based upon creative investigation of the utility of the apprenticeship concept. Meanwhile, I rest content with tossing the hoary old non-teachability chestnut into the fire by stressing my appeal to basic logic: there is no a priori reason that entrepreneurship cannot be taught. We can teach it; we can teach *about* it and we can teach it in lots of different ways and places.

This brings the argument to the point where issues of educational method and educational context raise several a posteriori reasons that entrepreneurship may be *difficult* to teach. To some of these we now proceed. The first is a location issue.

Entrepreneurship and the university: the principle of vocational transcendence and the 'plus-zone' challenge

The answer to this question requires, first, an overt statement of one's belief in what distinguishes university education from other sorts of education and, second, a recognition of the important distinctions and relationships between the 'teaching it' (vocational) and 'teaching about it' (theory and impact) aspects of entrepreneurship.

To deal with the first issue, it is time for me to introduce an intellectual hero: Alfred North Whitehead. My views on education in general and university education in particular are substantially derived from the great philosopher and substantially contained in just one of his many books. Whitehead first published *The Aims of Education and Other Essays* in 1929. Whitehead is the reason that the question 'why?' will not feature in this chapter. Because I subscribe to Whitehead's educational philosophy, I am able to treat the question 'Why would anybody want to study any subject matter – including entrepreneurship – at university?' as answered. Whitehead argued: 'The function of a University is to enable you to shed details in favour of principles' (Whitehead, 1929 [1967], p. 48). People reading these words ought to be clear that Whitehead, though a giant among philosophers, was no aloof boffin living in an ivory tower. He also wrote: 'I am certain that in education wherever you exclude specialism you destroy life' (Whitehead, 1929 [1967], p. 10). He was an enthusiast for business schools (Whitehead, 1929 [1967], pp. 91–102, *passim*) and even wrote for the *Harvard Business Review* (Whitehead, 1933). But he insisted that business school curricula should never be allowed to ossify and ought to favor experimentation. I call Whitehead's philosophy, built on this unique distinction of university education from all other types, 'the principle of vocational transcendence'. I believe that much of the current debate about entrepreneurship education at university is weakened through inadequate attention to this axiomatic principle and the philosophical issues it raises. Whitehead wrote:

> The justification for a university is that it preserves the connection between knowledge and the zest for life, by uniting the young and the old in the imaginative consideration of learning. The university imparts information, but it imparts it imaginatively. At least, this is the function which it should perform for society. A university which fails in this respect has no reason for existence. This atmosphere of excitement, arising from imaginative consideration, transforms knowledge. A fact is no longer a bare fact: it is invested with all its possibilities. It is no longer a burden on the memory: it is as energising as the poet of our dreams, and as the architect of our purposes. (Whitehead, 1929 [1967], p. 93)

I say then, that the university *is* an appropriate place to study entrepreneurship but only for people who want to consider the phenomenon imaginatively rather than

mechanistically. For me, this is a foundational axiom. If you believe that a university is just another venue for transfer of vocational instruction – no matter how technical or elevated that instruction may be – then we are not on common ground. Whitehead's most famous work is, of course, his co-authorship with Bertrand Russell of *Principia Mathematica* (Whitehead and Russell, 1910, 1912, 1913), their attempt to argue the totality of mathematics as a subset of logic. My specialist training and intellectual capacity are insufficient for adequate comprehension of that work. But I am able to appreciate great wisdom expressed in great prose. Because of their lucidity, economy, comprehensiveness and elegance, the 10 chapters of Whitehead's *The Aims of Education* have always been, are now and are likely to remain for me the pinnacles of educational philosophy. Within the collection, of particular relevance to the subject matter of the present chapter is Whitehead's essay, 'Universities and their function' (Whitehead, 1929 [1967], pp. 91–102). It holds a double relevance to my purpose because Whitehead made his appeal for the fundamentally generic function of the university with specific reference to the rise of business schools at a time when they were rare rather than commonplace.

> The novelty of business schools must not be exaggerated. At no time have universities been restricted to pure abstract learning . . . There is however this novelty: the curriculum suitable for a business school, and the various modes of activity of such a school, are still in the experimental stage. Hence the peculiar importance of recurrence to general principles in connection with the moulding of these schools. (Whitehead, 1929 [1967], p. 92)

> The way in which a university should function in the preparation for an intellectual career, such as modern business or one of the older professions, is by promoting the imaginative consideration of the various general principles underlying that career. Its students thus pass into their period of technical apprenticeship with their imaginations already practiced in connecting details with general principles. The routine then receives its meaning, and also illuminates the principles which give it that meaning. Hence instead of a drudgery issuing in a blind rule of thumb, the properly trained man has some hope of obtaining an imagination disciplined by detailed facts and by necessary habits. (Whitehead, 1929 [1967], p. 96)

How should we meet Whitehead's call to 'promote the imaginative consideration of the various general principles underlying' entrepreneurship? In a previous paper (Hindle, 2001) I labeled this as meeting the 'plus-zone challenge': the challenge to transcend vocational mundanity and specifics in an entrepreneurship curriculum and attempt to do something unique and valuable for the 'whole person', the entirety of every student. Some of what I had to say in that paper is redeveloped and expanded here.

For an entrepreneurship education program to be truly worthy of a university setting, it needs some intellectual challenges that take it beyond mere training and give it claim to being education. These challenges revolve around philosophy, subject-critique and self-critique. On the one side, what I am about to argue will sound too 'theoretical' to those who would seek to limit entrepreneurship's teaching environment to a vocationally orientated training regime. On another side, what I am about to argue will sound too 'practical' to those who would seek to limit the university's canon to the classical minimum espoused by, say, Allan Bloom, in his eloquent argument that when a university tries to do too much, it achieves too little (Bloom, 1987). I will take the risk of pleasing neither audience because I believe that entrepreneurship, as a major social phenomenon and a deeply important realm of human behavior, can provide the basis for learning that

transcends specialist functionality and does something for the total development of each human being who studies it. It is this strange and rare experience of learning something universal from the deep study of something specific that is the great thing that distinguishes a university – look at the *universality* so broadly proclaimed in that name – from all other halls of instruction. Education is literally a 'leading out of', a 'leading beyond'. Whatever the specific curriculum focus, whatever the age, whatever the model of university governance in or out of vogue, university *education* always requires a plus sign at its heart. It requires first that the specific subject matter on its curriculum is important to humanity. Second, it requires transcendence. A great program extends students' horizons of humanity.

Entrepreneurship needs no justification to study it on the grounds of its importance to humanity. It is a wellspring of economic growth, social renewal and personal development. Such an important subject is worthy of deep research, significant reflection and sustained dialogue. When a subject – any subject – has the depth of importance which entrepreneurship possesses, I believe it is capable of being the foundation for great education. Here, I mean education in the sense that Allan Bloom (1987, *passim*) meant it but not limited to the narrow range of subjects he claimed were capable of providing its core. The essential university experience in my view involves an environment where a person's ability to exercise complete freedom of enquiry never results in wasted time. If anyone learned physics from Einstein, that person's explorations and speculations would never be futile. That person would always be in danger of discovering new worlds. If another person learned philosophy from Bertrand Russell, her humanity would expand in proportion to her reading. University education is about getting to the beyond through the agency of a great teacher. It provides what I call 'plus zone'. The concept of the 'plus zone' is embodied by Alfred North Whitehead's characterization of university education as the whole that remains when all the parts you were taught have been forgotten.

Accordingly, the 'plus zone' is the area where curriculum attention should be given to transcending vocational specifics in the quest for general principles. It is their personal acquisition of general principles that will ultimately give any university student his or her unique voice in the conversation of humanity. In a later section of this chapter, I will provide a diagrammatic representation of an approach to curriculum design, which might result from application of a consciously applied 'plus-zone' approach. At this point of the argument, though, I wish to limit myself simply to emphasizing the importance of the plus-zone approach and its fundamental compatibility with entrepreneurship as subject matter, because skepticism about the place of entrepreneurship comes from two directions. It is not only practitioners who are skeptical about whether entrepreneurship education belongs in a university. Many respected and respectable scholars within the university would be, and are, frankly appalled at the notion that something as amorphous and messy as entrepreneurship should even be considered as worthy subject matter for university education. Allan Bloom provides an excellent example.

Bloom was a man who would no doubt have cursed the sacrilege of tainting the groves of Academe with something as base as an entrepreneurship curriculum. He would have done it with Ciceronian eloquence and probably in Ciceronian Latin. Yet would-be entrepreneurship scholars ought to pay him some heed. In *The Closing of the American Mind*, Bloom wrote:

> To sum up, there is one simple rule for the university's activity: it need not concern itself with providing its students with experiences that are available in a democratic society. They will have them in any event. It must provide them with experiences they cannot have there. (Bloom, 1987, p. 256)

I answer this charge by *half* agreeing with Bloom because, contrary to Bloom's view, I believe in *two* simple rules: not one. Yes, first and foremost (see Whitehead, 1929 [1967], *passim*) the university's task is to provide that imaginative contemplation of specific knowledge that can be had nowhere else. But, second – and no less importantly – the modern university *does* have to concern itself with 'providing experiences' closely related to the dynamics of the dreaded 'real world'. It cannot stand completely aloof from democratic society like some kind of Greek Chorus, wailing in the wings. This is so for reasons too numerous to discuss fully within the confines of this chapter. It must suffice to say that in an age of technology, some experiences of democratic society are simply not available *without* active university involvement. Contrary to Bloom's argument, for many issues of *content* the modern university must function as a conduit – moving the student to and from other learning and experiences in time, space and mind – not anchoring the student to a body of received wisdom in an ivory tower. But at the level of *context* Bloom remains totally right.

So, my first rule for people who want to develop entrepreneurship curricula suitable for delivery at university is: subscribe to Whitehead's philosophy about the role of university education. My second rule is that you must ask the great question posed by Allan Bloom in *The Closing of the American Mind*. What is it that your university can add to an entrepreneurship curriculum that will make the learning experience unique? What do you have to put in your entrepreneurship program to provide an experience that your students can have *nowhere else*? The challenge of the plus zone is to find a stimulating answer to this question. If your university has an answer, or is attempting to find one, you have or will create an entrepreneurship curriculum worthy of a university: and a university worthy of trying to teach entrepreneurship. As usual, Whitehead says it best: 'The careful shielding of a university from the activities of the world around is the best way to chill interest and to defeat progress. Celibacy does not suit a university. It must mate itself with action' (Whitehead, 1936, p. 267).

In this chapter, three questions now stand between us and the ability to argue for a suitable curriculum development model for teaching entrepreneurship at university. They are: where, who and how?

Where within the university does entrepreneurship belong?

There is no single, universally correct disciplinary location for entrepreneurship education. Within the university, entrepreneurship belongs wherever you want to put it so long as the key condition of imaginative transcendence of the immediately vocational is met. You teach it wherever the right mindset prevails. In actual university practice, there is a healthy proliferation of locations emerging. There are liberal arts–entrepreneurship double degrees on the rise (akin to the commerce–law or arts–law degrees that have proved so successful); some entrepreneurship degrees are housed, not in business schools, but in engineering schools, schools of design, social science faculties, and special centers devoted to nothing but entrepreneurship. Some courses are undergraduate, some are graduate. Of course, not all (if any) business schools themselves comport with standardized negative stereotypes.

The only rule, based on Whitehead's educational philosophy, must be for your university to put its entrepreneurship offerings wherever there is a passionate desire to teach them well.

> the first requisite for educational reform is the school as a unit, with its approved curriculum based on its own needs, and evolved by its own staff. If we fail to secure that, we simply fall from one formulation into another, from one dung-hill of inert ideas into another. (Whitehead, 1929 [1967], p. 13)

Once you accept that 'the proper function of a university is the imaginative acquisition of knowledge' (Whitehead, 1929 [1967], p. 96), it is immediately apparent that there is an infinity of conceptual and physical locations suitable for delivery of entrepreneurship education within a university. The only place you must not put it is anywhere where imagination is likely to be stifled. If your business school is such a place, then your business school is not fit to teach anything at university, let alone entrepreneurship. Fix the imagination problem and your business school will serve as a great location for entrepreneurship education: as would anywhere else on campus. The location problem falls to the ground. The business school can remain standing so long as you fill it with the *university* principle of vocational transcendence.

Who should teach entrepreneurship at university?

The following section borrows extensively from my writing in chapter 13 of a co-authored book (Legge and Hindle, 2004, pp. 375–7).

Many universities now offer PhD programs in entrepreneurship. Those who complete such programs are eligible for appointment to the teaching staff of their own or another university. They will join a cadre of allegedly professional entrepreneurship educators – most particularly in the USA, where formal entrepreneurship PhD programs are most heavily institutionalized. Many of the younger cadre have not had, and may never get, much direct involvement in business. This raises hackles in several barnyards. It should not: but it does. The distinction between *pouvoir* and *savoir* is an ancient one, but there are many respected fields in which teachers are not expected to have had extensive practical experience. For instance, most teachers of criminology have no criminal record. Both society at large and students of criminology regard this as a good thing. Most coaches of elite sportspeople cannot perform at the level of those they instruct. So it is with tutors of opera singers, actors and performing artists of all kinds. No currently alive recognized authority on Julius Caesar has ever visited ancient Rome.

Yet, in many quarters, there is a substantial belief that only those forged in the fire of practical experience have a 'right' to teach entrepreneurship. I have attended a great many entrepreneurship seminars, meetings and events involving mixed participants: entrepreneurship practitioners, entrepreneurship students, educators and researchers. I have never attended any such mixed gathering at which the following scenario failed to occur. At the conclusion of an address by an entrepreneurship academic, comes a time for questions and discussion. There will always be a question from the floor (usually from an established entrepreneur or someone who believes themselves to be an entrepreneur) that goes something like: 'and how much shareholder value have you created in the last 18 months?' or, 'are you a millionaire? If you're not, how do you expect to train any?' These kinds of questions are representative of the extremity of what may be called the pro-practitioner (or cigar-smoke-in-your-face)

view concerning the eligibility to teach entrepreneurship. In sharp contrast, Professor Ed McMullan of the University of Calgary expresses a strongly pro-academic view. He has over 30 years' experience as an entrepreneurship educator and researcher. In June 2002 he spoke at a seminar held in the University of Saskatchewan, at a conference designed to confront that institution with a range of issues germane to its proposed establishment of a new entrepreneurship program (McMullan, 2003). McMullan confronted the university with his view of the state of the art of entrepreneurship education.

He argued that entrepreneurship is a field characterized by 'missing educators'. He claimed that figures in his possession demonstrate that only 11 percent of all registered United States university faculty members involved in teaching entrepreneurship courses actually have a PhD in the subject. Most instruction is conducted by ad hoc 'adjuncts' – practitioners contracted to give 'one-off' elective subjects in undergraduate or MBA programs. Moreover, most full-time, PhD-qualified faculty allegedly specializing in entrepreneurship he calls 're-treads'. These are people whose 'mother' discipline is not entrepreneurship but accounting, or marketing or organizational behavior, or psychology or anything but entrepreneurship. With respect to entrepreneurship, McMullan claims, these people are, effectively, self-educated scholars switching fields. McMullan argues that nowhere else in the university would formally unqualified instructors be so widely accepted as the norm. For instance, most chemistry academics are expected to have qualifications in chemistry as distinct from say, physics or biology. He believes the problem is particularly acute at professorial level. Many chairs of entrepreneurship fall 'captive' – his word – to people qualified in a discipline other than entrepreneurship; and many are awarded to practitioners fêted for their business acumen or their prominence in a network that may result in access to potential sources of financial support for the institution and its programs.

Between these extremes – only experienced practitioners or only highly trained, educational specialists – one can fantasize about the 'ideal' person to teach entrepreneurship. In my view, she would be a multi-lingual serial entrepreneur of international prominence whose several business failures led only to renewed determination and ultimate success as the leader of several highly ethical high-growth ventures of international prominence. Somewhere along the line, she would have had time to complete an award-winning PhD thesis specifically in an entrepreneurship program at an acclaimed, probably American, university. Several years' teaching experience – not as an adjunct but as a full faculty member – complemented by a strong publications record exclusively in A-grade, highly focused, peer-reviewed entrepreneurship journals would be desirable. The skills package would be rounded out by a track-record of successful consulting assignments and possession of a powerful media persona, and the gift of natural persuasion – particularly as it affected the attraction of sponsorship and research grants. She would be so wealthy, so public-spirited and so passionate about entrepreneurship education that a salary package would not be required and all funds from her richly endowed chair could be directed to dispassionate entrepreneurship research. Needless to say she would be happily married with two beautiful children to whom she was the perfect mother.

Of course, we cannot have myths. So, what is feasible?

Entrepreneurship is a relatively new discipline (formally gaining its own distinct divisional status within the United States Academy of Management in 1987). However, it has a voluminous literature now sufficiently large that it is unlikely that one person will ever be able to read the entire refereed output in the field. Undoubtedly, professional qualifications

at PhD level should be the goal of everyone who desires, as a profession, to teach in this field. Demand for qualified teachers outstrips supply. It is also quite an eclectic field. So, the fact that academics come to it from a variety of perspectives may have some positive benefits – so long as the commitment to master the new field (rather than re-hash the shibboleths of the old field in a new place) is genuine.

The aim in any entrepreneurship faculty should be for a well-balanced, well-mixed program *team* of committed, good teachers – not a search for universal perfection in every single teacher. This may mean a higher proportion of team-teaching and multiple presenters within the one subject. Students could greatly benefit from a sprinkling of well-chosen adjunct and sessional teachers whose presentations were based on commitment to balanced education not mortgaged to an egocentric perspective of unanalyzed personal experience. (The latter is a real risk when getting a proven entrepreneur to teach without knowledge of teaching.) In a very different way, students would undoubtedly benefit from exposure to a very scholarly teacher who 'really knows the literature'. Through provision of multiple perspectives – the differing strengths of differing people – it ought to be possible to avoid the worst excesses of inadequately prepared faculty. Plurality of perspective is likely to be the best safeguard against both the 'money proven' adjunct practitioner on an ego-trip and the 'unworldly' academic lacking in business acumen and empathy.

But above and beyond all this I turn, as always, for guidance to Whitehead.

> In my own work at universities I have been much struck by the paralysis of thought induced in pupils by the aimless accumulation of precise knowledge, inert and unutilised. It should be the chief aim of a university professor to exhibit himself in his own true character – that is, as an ignorant man thinking, actively utilising his small share of knowledge. (Whitehead, 1929 [1967], p. 37)

Teachers will vary in perspective and background. But if they have knowledge worth imparting and are unafraid to be themselves and show that self, warts and all, to students in a creative engagement to forge greater mutual knowledge, they will serve the students well. I will return to this theme in the concluding section of the chapter.

Who should learn?

The answer to the question of who should go to university to study entrepreneurship can be blessedly brief. On the demand side, the answer is: students with enquiring minds who genuinely want more from their study than a compact set of vocational guidelines and a credential entitling them to letters after their names. Only students who subscribe to the principle of vocational transcendence should study entrepreneurship at university. If that principle has no appeal, then university is the wrong place. Students, no less than teachers, have to value the university's distinctive competence. Employing Whitehead's philosophy, the student's key question must always be: why am I at university? The answer must always be: because, through mastering the detail of this subject matter and thinking about it, I will be mastering myself and some of the mysteries of the world: I will become a constructive and valuable voice in the conversation of humanity.

On the supply side, the university can never be a mass marketer. It ought to think about the distinctive competencies and needs of the particular students it wishes to attract. If a university entrepreneurship program wants to attract overseas students or Indigenous students or any special constituency, the program offering will need to incorporate great

cultural sensitivity and respect for diversity. Entrepreneurship is a plural, societal endeavor. Employing Whitehead's philosophy, the university's guiding question must always be: whom are we teaching? And the answer must always be: the whole person, a unique person, not just some abstracted economic part-person.

How should it be taught?

There is now such a plethora of specific advice on how to teach entrepreneurship that it would be both impossible and superfluous for me to try to enter into details of specific delivery techniques in this chapter. This is where the current proliferation of entrepreneurship education literature is at its best. As indicated in the introduction to this chapter, there is simply no shortage of specifically focused good advice on how to teach even the most arcane aspects of entrepreneurship.[5] The detail abounds.

However, when it comes to generic principles for teaching entrepreneurship at university, I believe that there are six mandates. At university entrepreneurship ought to be taught: experientially; creatively; joyously; respectfully; adaptively and – dare one say it – entrepreneurially. Each of these mandates is worthy of a chapter in its own right. For the time being, as an entrepreneurship educator in the Whitehead tradition, I ask readers to use their imagination as to how these mandates might be implemented.

The curriculum: how to design what might be taught

In this section of the chapter I return to the concept of the 'plus-zone challenge', first raised under the heading 'Entrepreneurship and the university'. In a nutshell, the plus-zone challenge is the need to infuse a practical curriculum with Whitehead's philosophy concerning the proper role of university education.

What follows does not pretend to be anything but an outline sketch of *a general way to develop* many different entrepreneurship curricula, all of which might meet the plus-zone challenge. It is not a detailed prescription of *what a specific curriculum should contain*. What follows is a broad outline of a generic way to create *various* curricula – but all of them based on Whitehead's fundamental belief that the function of a university is to enable you to shed details in favor of principles.

Caveat: what I am about to sketch – my rough philosophical template for the creation of entrepreneurship curricula – has little relevance to any university that satisfies itself with a single-subject, adjunct-taught approach to delivery of entrepreneurship education. Unless there is commitment to an integrated program – as distinct from isolated courses – and at least some full-time entrepreneurship faculty, a university cannot claim to be a serious provider of an entrepreneurship curriculum.

Commentators, previously discussed, have argued that the mechanistic, business-school model of program provision is certainly not the way to go (Birch, quoted in Aronsson, 2004; McMullan and Long, 1987). Let us try to model exactly what it is that they do not like.[6] A stylized, putative diagram of a rigid and compartmentalized 'standard MBA' approach is provided in Figure 5.1.

Here, the approach is hierarchical: like pyramid-building in more ways than one. Independent 'building blocks' (self-contained, functionally oriented boxes of knowledge) are piled on top of one another. 'Base units' in the early stages of an MBA program often include marketing, organizational behavior (OB), accounting, finance, and other important skill areas. (Of course, the labeled boxes in my diagram are indicative, not

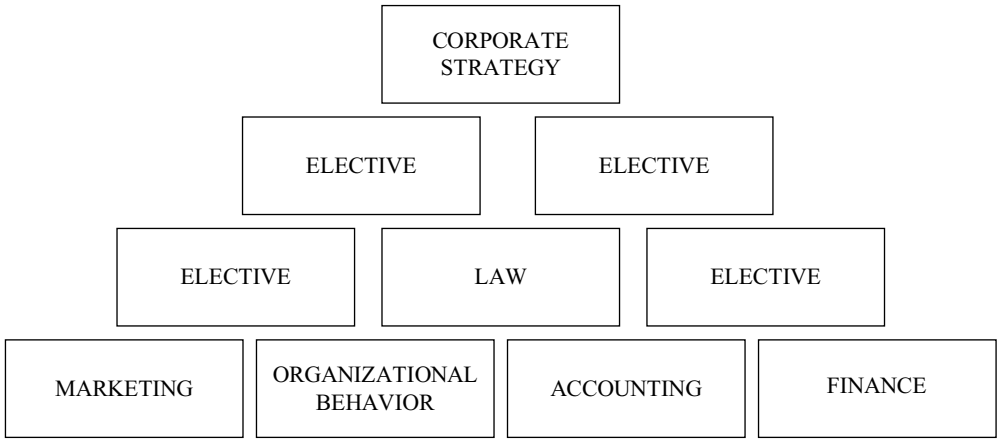


Figure 5.1 The pyramid approach to business education

prescriptive.) Later, a range of additional mandatory and elective subjects is built up, in the style of a pyramid. A subject called 'corporate strategy', or similar name usually crowns the course structure. This is often quite literally referred to as the 'capstone' course. Its objectives tend to include provision of a purview of all the other subjects. The taker of this course is alleged to obtain the 'CEO's point of view' and 'linking perspectives' useful for seeing the relationships between all the other subjects hitherto taught in relative isolation. It is hoped that this capstone course will enable the taker to integrate all the other courses. Unfortunately, the hope is often forlorn. Corporate strategy is now a huge discipline in its own right, laden with constructs, models, *sui generis* literature and technical knowledge, which make this subject just as much a self-contained, functionally focused knowledge box as every other.

For traditional business education there may be some virtues in the pyramid approach. However, for entrepreneurship education, we can agree with McMullan and Long (1987) and Birch (in Aronsson, 2004) that the approach is sterile. The most obvious vice of the pyramid structure is that business knowledge is presented in fragments and remains in fragments. Boundaries are not crossed. Functionalism and separatism triumph over integration. This is just the opposite of what entrepreneurs – and followers of Whitehead's philosophy of university education – need to do. Figure 5.2 presents an alternative curriculum design approach.

This model resembles a wheel built of four concentric circles. Working from the outside into the hub, a university entrepreneurship program should begin by recognizing the importance of constant relationship with the real arena of business: the outside world. Networks, allies, mentors and alumni are all essential to ensure that there is no possibility of ever letting the program develop any vestige of an 'ivory-tower' mentality. These may be called the fundamental 'conduit' components of a well-designed entrepreneurship education program. They provide constant contact between those who are learning it and those who are doing it: entrepreneurs, venture capitalists and all manner of relevant participants in daily action. Detailed attention to the conduit components of a program is essential, not peripheral, to its success. Conduit elements may be used in many ways, from

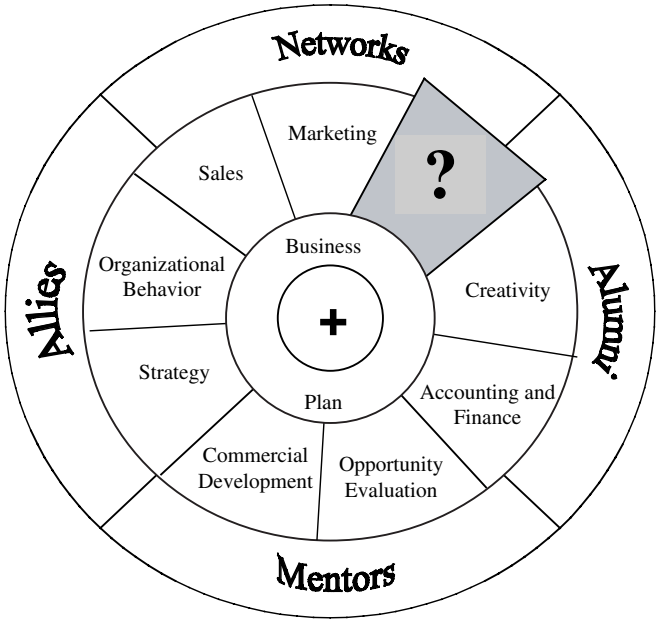


Figure 5.2 The wheel template for building an entrepreneurship curriculum

the obvious direct use of practitioners giving instruction in a classroom or mentoring students in various ways, to the subtle use of networks to gain credibility for the program and its graduates in many contexts.

The next circle of involvement in the curriculum template contains the courses themselves. Again, the selected subject titles, illustrated in Figure 5.2, are indicative not prescriptive or exhaustive. Many of the subjects that a university will choose to build into its entrepreneurship curriculum will contain similar material to their MBA counterparts in such functional areas as marketing, OB, finance, accounting and strategy. And I share David Birch's (Birch, in Aronsson, 2004) belief that an entrepreneurship curriculum simply must include a specific, unashamed emphasis on the sales function. The focus in an entrepreneurship program will be different from the focus in counterpart subjects in a program based on managing established businesses but many of the left-brain skills needing teaching will be the same. For instance, double entry book-keeping principles are exactly the same for both new and established ventures but the depth and quality of attention paid to building pro forma statements as part of a business plan may receive much greater attention in an entrepreneurship accounting curriculum and the ability to perform consolidated financial statements much less. Other courses, in areas such as opportunity evaluation, creativity management and commercialization of intellectual property, may lack any counterpart in the traditional MBA regime. The boundaries between all subjects should be flexible and crossable.[7] The template features a subject, shaded and labeled with a question mark. This is to emphasize the point that different specific subjects may always be included or excluded by particular schools. I stress again that I am trying to picture *means*, a way of thinking about curriculum creation, not *ends*, any particular entrepreneurship curriculum.

The circular arrangement of the illustrative subjects in Figure 5.2 symbolizes the close interrelationship and interplay between courses more than the differences between them. This contrasts starkly with the self-contained knowledge boxes piled one on top of the other in the standard business school pyramid of Figure 5.1. This interrelatedness of courses is fully realized when they converge upon and feed into a core course, the business plan. It forms the third circle of the curriculum design template. In the commercial world, the preparation of an entrepreneurial business plan is central to a new venture's capacity to articulate its intended future and to raise funds from investors so that that future might be pursued. In a university-delivered entrepreneurship program, focus on the business plan as a genuinely unifying teaching opportunity is a feature that can clearly distinguish an appropriate approach to entrepreneurship education from the hierarchical, pyramidal structure. The business-planning subject can be a major pedagogical device as well as the repository of practical wisdom. It offers the opportunity to blend subjects and melt the boundaries between them; to show the essential interrelatedness of key skills, decisions and ways of thinking. This class can be used for potent demonstration of the power of multi-disciplinarity and integration as ways to build teamwork, demonstrate leadership and solve problems (see Honig, 2004).

So far, the emerging template caters for all of the practical pedagogical concerns expressed by McMullan and Long (1987). However, it might be argued that the approach has nothing particularly germane to a *university* about it – as indeed McMullan and Long suggested that entrepreneurship education may not (McMullan and Long, 1987, p. 262 and *passim*). My curriculum-creation model as it stands to this point could as well be employed and implemented by non-university, vocationally oriented training providers. Is there a place for the distinctive competence of the university (whatever that may be) to add unique value to an entrepreneurship program?

I believe that there is. It is represented by a plus sign, in Figure 5.2, as the central hub of the model. At the heart of my template is the 'plus zone' I discussed previously in this chapter when considering whether university was an appropriate venue for entrepreneurship. Simply put, the plus zone contains and radiates out to all other levels of the model the stuff needed to make any subject matter worthy of treatment at university. For any particular university it will be the way that that university seeks to embody the Alfred North Whitehead philosophy of university education.

> In a sense, knowledge shrinks as wisdom grows: for details are swallowed up in principles. The details of knowledge which are important will be picked up ad hoc in each avocation of life, but the habit of the active utilisation of well-understood principles is the final possession of wisdom. (Whitehead, 1929 [1967], p. 37)

My computer graphic skills are simply not adequate to illustrate the entirety of my perception of the plus zone. Yes, the Whitehead philosophy of university education is at the core of the system. But it also radiates out and permeates every subject in the curriculum. Not only do we need some very special 'plus-zone' subjects at the core, we need a little bit of 'plus-zone' content and attitude in *every* subject. Can we do it? Can we or ought we inject an element of reflexive thinking in something as seemingly mundane as the teaching of double entry book-keeping to people who 'just want to get on with it'? Well, if we are a university we can: and we must. Whitehead wrote:

> The antithesis between a technical and a liberal education is fallacious. There can be no adequate technical education which is not liberal, and no liberal education which is not technical; that is, no education which does not impart both technique and intellectual vision. In simpler language, education should turn out the pupil with something he knows well and something he can do well. This intimate union of practice and theory aids both. The intellect does not work best in a vacuum. (Whitehead, 1929 [1967], p. 48)

And, again,

> The university imparts information, but it imparts it imaginatively. At least, this is the function which it should perform for society. A university which fails in this respect has no reason for existence. This atmosphere of excitement, arising from imaginative consideration, transforms knowledge. A fact is no longer a bare fact: it is invested with all its possibilities. It is no longer a burden on the memory: it is energising as the poet of our dreams, and as the architect of our purposes. (Whitehead, 1929 [1967], p. 93)

That is the plus-zone challenge when teaching highly technical material in an entrepreneurship (or any other) course at university.

Of course, some subjects (teaching about entrepreneurship rather than how to do it) can be introduced into the curriculum with a totally plus-zone mission. I tender a few examples for illustrative purposes.

At Swinburne University, in the entrepreneurship program I helped to develop, one of the subjects helping to build this 'plus zone' is called the Entrepreneurial Research Project. Here, students are required to find a topic in the field that transcends any particular application to any specific business and has some relevance to theoretical understanding of the discipline. They must read deeply in the literature of the field and conduct empirically based research of sufficient merit to be acceptable to a journal or conference using a double-blind refereeing process. I stress again that this course is not a panacea or something all university entrepreneurship curricula should necessarily emulate. As with many other courses mentioned in this chapter, it is indicative, not prescriptive. What matters here is the attempt to find subjects *about entrepreneurship* that are worthy of the 'plus zone' and relevant to students' personal and intellectual development as well as to their professional development and a host of other contexts: national, economic and cultural. What matters is the conscious attempt to create an exciting 'plus zone' which will enable different universities and different teachers to exert their special flavors and influences on a program of entrepreneurial studies and make it something truly special for the student. So, by way of illustration only, another possible 'plus-zone' subject might be social entrepreneurship, a course examining ways in which constructs and knowledge developed in the entrepreneurship discipline might be applied to non-profit ventures and social situations peculiarly relevant to the region which the university services. Another subject worthy of the plus zone might be entrepreneurship history: one or several courses examining various times, locations and events in the story of human development. For instance, I believe that today's entrepreneurship students would benefit prodigiously from studying the great works of Frederic Lane (see, for instance, Lane, 1973) on the commercial evolution of the Venetian republic.

Could or should we even have a subject called 'the philosophy of entrepreneurship'? I leave it to your imagination because an imaginative teacher will find ways to inject a plus zone into even the most seemingly mundane vocational areas of instruction. Really interesting cases,

examples, peripheral readings, guest lecturers, whatever can be introduced into almost any 'technical' subject to enliven it and get the students thinking imaginatively about the subject matter. The key to developing 'plus-zone' subjects or components in any entrepreneurship curriculum is to go beyond the boundaries usually associated with managing a new venture to the limitless space which has always been the true province of the best university education. It is the place where imagination and creativity flourish because the nurturing of genuine understanding has been deep.

Despite all the advances that have been made in the volume of university entrepreneurship courses and programs over the past 10 years, most still lack this quality of vocational transcendence which is the hallmark of university education. The only issue I would take with McMullan and Long's vision of so many years ago (McMullan and Long, 1987) is that in looking so intently at what a sterile, stereotyped '*business school*' mentality might *detract* from an entrepreneurial education program, they may have failed to fully appreciate what a vibrant, imaginative *university* mentality might *add* to it. When I look at the state of entrepreneurship education in universities, worldwide, today, I see a fast-growing level of activity and a slow-growing level of philosophy. This chapter has been an attempt to redress the balance in a small way.

Conclusion: focus on the teacher and 'reciprocal apprenticeship'

Hopefully I have been able to convince a few readers that the problem facing entrepreneurship education in the university context is not a matter of 'where?' (business school or elsewhere) or 'why?' (Whitehead is convincing on the university's unique educational role, and entrepreneurship as a phenomenon is well worthy of the attention of enquiring minds). The 'what?' issue (specific curriculum subject choices) and the 'when?' issue (undergraduate or postgraduate) are important, of course, but totally subsidiary to the crucial combination of 'who?' and 'how?'. In my view, the focal problem for successful development of entrepreneurship education at university depends far less on any specific subject matter than upon a fundamentally important and generic appreciation of the university's peculiar role in education.

At a practical level, the biggest failing I observe in many university entrepreneurship programs is a rush to an overly vocational and mechanistic curriculum design combined with too much emphasis on the techniques appropriate to developed organizations (the 'business school' or 'wrong building' problem) in the absence of adequate reflection about what each and every *university* curriculum must contain. Simply, any university curriculum worthy of the name must contain more wisdom than knowledge, more knowledge than information and more information than data. So, if a business school, or any other sub-section of the university currently embodies an unsuitable curriculum design model for teaching entrepreneurship, the problem is immutable only if the guardians of the wrong curriculum approach remain inflexible or are antipathetic to the university ideal. There is no reason that the wheel cannot replace the pyramid (see Figure 5.2 and 5.1) as a curriculum-creating approach within or without any given business school or any other university department that decides to provide entrepreneurship education. Given the right philosophy, there cannot be a wrong building – in the sense of 'faculty location' – in which to teach any subject matter at university. The right location for university curriculum thinking is the plus zone. It is the place where commitment to imaginative transcendence of material detail lives. As Socrates demonstrated, critical imagination resides in people,

not buildings or curricula or organization charts or even books. So, the conclusion of my speculations returns to the key *people*: teachers and their students and how they might perform together. 'The justification for a university is that it preserves the connection between knowledge and the zest for life, by uniting the young and the old in the imaginative consideration of learning' (Whitehead, 1929 [1967], p. 93).

It is said that Bill Clinton won his first election for the White House because, before every speech he delivered to every audience, he repeated, to himself, the mantra: 'It's the economy, stupid.' I would think it no bad thing if every entrepreneurship educator at university, before walking into each and every classroom, repeated the mantra: 'It's the teacher, stupid.' The fundamental ingredient in great entrepreneurship education is, as in every discipline, a passionate teacher addressing students with open minds and together working on the mutual imaginative development of knowledge: a kind of reciprocal apprenticeship.

I cannot find a better conclusion to my musings on entrepreneurship education at university than to repeat a previous quotation of the general principles espoused by Whitehead. He writes:

> In my own work at universities I have been much struck by the paralysis of thought induced in pupils by the aimless accumulation of precise knowledge, inert and unutilised. It should be the chief aim of a university professor to exhibit himself in his own true character – that is, as an ignorant man thinking, actively utilising his small share of knowledge. (Whitehead, 1929 [1967], p. 37)

How should the entrepreneurship teacher go about the task of 'actively utilising' his or her 'small share of knowledge'? My final analogical advice to a putative teacher of entrepreneurship at university would be to think less about the specifics of today's details. For instance, think a bit less about the fact that today's specific class features a case study on this, or a lecture on that, or a team presentation on the other thing. An exciting 'reciprocal apprenticeship' approach to the classroom would see the teacher acting as if he or she were an improviser, at a rehearsal session, in a jazz band that plays for love rather than money. This captures the necessary spirit of experiential learning based on adequate technical training. Everyone in the band needs to know more than the mere rudiments of music and have better than average mastery of their instrument. Prior to this rehearsal session, they will all have done a lot of practice, solo and in small combinations. Some players are better than others, but every instrument is different and everyone gets a chance to solo and everyone learns and improves by listening to everyone else. Very importantly, no one – especially the bandleader, the teacher – is afraid to play a bum note, or criticize it when it is played or to start the song again. This is very hard to achieve in a real-world business environment: a paying gig. Outside the university, it is hard to overcome the intimidatory risks of error when money, resources and reputations are at stake. Even the great Duke Ellington band used written orchestrations. In your class, your group rehearsal, your dialogue with apprentices, be the bandleader sometimes and drop back into the rhythm section often.[8]

So, teach entrepreneurship as you would improvise music. Use the lesson plan in the same way as an improviser might use the melody of a popular standard song; as a point of departure; a set of notes to guide the session, not to constrict it. Recognize and value the fact that this *is* a rehearsal for everyone: not a do-or-die audition for the whole band or anyone in it. Do it in full recognition of your own and your students' limitations, but get beyond those

limitations by, together, pushing the boundaries imaginatively and creatively. I could call this the 'jazz rehearsal approach', or the 'plus-zone' approach or the 'A.N. Whitehead' approach or the 'reciprocal apprenticeship approach'. You might call it 'teaching entrepreneurship entrepreneurially'. Whatever you call it, whatever specific material forms the basis of your repertoire, and wherever you house the class, this is the right philosophy.

To articulate some very broad directions that this philosophy might indicate for research into entrepreneurship education, I conclude with a focus on the notion of apprenticeship, a concept used by both the highly 'practical' David Birch and the highly 'theoretical' Alfred North Whitehead in the two quotations with which I began this chapter.

> If you want to encourage entrepreneurship, it should be through some kind of apprenticeship. That would be a wonderful experience. (Birch, in Aronsson, 2004, p. 289)

> The way in which a university should function in the preparation for an intellectual career, such as modern business or one of the older professions, is by promoting the imaginative consideration of the various general principles underlying that career. Its students thus pass into their apprenticeship with their imaginations already practiced in connecting details with general principles. (Whitehead, 1929 [1967], p. 96)

Following the advice of both Birch and Whitehead, I think an entrepreneurship education research agenda could be built around important questions pertaining to an enhanced, creative interpretation of the concept of 'apprenticeship' as a learning mode that conveys useful vocational knowledge at the same time as it transcends vocation by contributing to the total human development of each student who studies it. Important questions used to guide the search for particular research topics might include:

- Is *apprenticeship* a purely vocational concept or does it have transcendent aspects?
- Could *some kind of apprenticeship* be offered in a context other than an operating business – perhaps even at a university?
- Could different *kinds* of apprenticeship provide valuable diversity in an individual's entrepreneurial education?
- What are the strengths and weaknesses of apprenticeships vis-à-vis other methods of teaching any subject matter in general and entrepreneurship in particular?
- Could apprenticeship be approximated or simulated?
- Is the culture of the business school an immutable constant, or could business schools be induced to adapt and diversify their educational approaches to suit different subject matter and different student needs using different approaches than those that currently prevail?

Questions such as these are indicative, not prescriptive. The right philosophy for entrepreneurship at university is to combine good vocational skills transfer with the principle of vocational transcendence. Once the right philosophy is adopted, good questions and good research are bound to follow.

Notes

1. Hills and Morris (1998, p. 43) cite 'pioneering work addressing whether entrepreneurship can be taught' but when I read the articles they point me to I do not get a sense of systematic addressing of this issue by the cited authors. I agree with Hills and Morris's later statement: 'Much of this writing addresses specific teach-

ing and learning objectives as well as course content and other educational delivery issues' (Hills and Morris, 1998, p. 43).
2. As indicated in the introduction, this last question is the sole focal area of the vast majority of entrepreneurship education articles currently being published. The predicate questions are often ignored.
3. For another approach see Scott et al. (1998), who utilize three categories: education *through* enterprise, education *about* enterprise and education *for* enterprise.
4. Here, I use the term entrepreneur in the Schumpeterian sense and quote William Baumol (2004, p. 33) for succinctly summarizing this perspective as follows: 'Here, I will emphasize Joseph Schumpeter's conception of the entrepreneur as a partner of the inventor – as a businessperson who recognizes the value of an invention, determines how to adapt it to the preferences of prospective users, and brings the invention to market and promotes its utilization.'
5. For instance, the recent special issue of *Academy of Management Learning and Education* (Greene et al., 2004) has articles by Benson Honig on 'contingency-based business planning' and Dean Shepherd on educating students about emotion and learning from failure.
6. Earlier, less developed versions of the diagrams and arguments contained in this section of the chapter can be found in Hindle (2001).
7. Again, I wish I had better computer graphic skills. I would show the subjects 'blurring into' one another rather than being distinguished by straight line boundaries.
8. It occurred to me as I composed my final jazz group analogy that it might be a bit too florid for scholarly discourse. Then I remembered that, in his great book, Whitehead included two chapters: 'The rhythm of education' and 'The rhythmic claims of freedom and discipline'.

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6 The framework of static and dynamic components: an examination of entrepreneurial orientation and university ability to teach entrepreneurship

Zelimir W. Todorovic

Introduction

It is widely recognized that today's environment is highly dynamic – exhibiting a high rate of change in response to global competition and the application of new technologies (Association of Universities and Colleges of Canada, 2001; Etemad and Wright, 1999; Hernandez-Gantes et al., 1996). Continuing towards a post-industrial knowledge based society (Duderstadt, 2000), entrepreneurship, which accounts for 70 per cent of all new jobs, is a crucial topic for the twenty-first century (Association of University Technology Managers, 2000). By virtue of the significance entrepreneurial activity presents in a region, or even a country, entrepreneurship is now the focus of debate in many academic settings. These changes have also focused the attention of university administrators and educators towards the potential of entrepreneurship. As the importance of entrepreneurship grows, however, universities' ability to adapt sufficiently quickly may present a significant challenge. The recent explosion of entrepreneurial activity and the prominent role of knowledge in the 'new economy' has prompted a shift in expectations about the role universities should play in developing entrepreneurs through entrepreneurial education (National Governors Association, 2000c). Whereas some attempts have been made to educate entrepreneurs (Badawy, 1998; Mallick and Chaudhury, 2000; Solomon and Fernald, 1991), traditional education methods were found to be largely ineffective (for example, Feldman, 2001; Gibb, 1987; Harris et al., 2000; Raffo et al., 2000). Consequently, many have come to question the value of formal entrepreneurship education. Arguments have been made that show the need for universities to become more entrepreneurially orientated (Mowery and Shane, 2002), thereby facilitating a change in their approach to governance and administration.

This chapter posits that entrepreneurship education consists of two components: static (that is, theory) and dynamic (that is, applied knowledge) (Klofsten, 2000). This chapter also explores the relationship between university and teaching. Employing only theory to teach entrepreneurship is found to be ineffective and insufficient (Gibb, 1987; Harris et al., 2000). Although the use of theory is an important cornerstone of education (Fiet, 2001a), development of this theory is proving to be fairly vague within the field of entrepreneurship (Eisenhardt and Companys, 2002). Building on the view that university culture influences the effectiveness of the university education (Gibb, 1987; Hyland et al., 2002; Klofsten, 2000; Raffo et al., 2000), this chapter discusses the need for universities to become entrepreneurially orientated, thereby increasing the effectiveness of their entrepreneurship education activities. In order to be entrepreneurially orientated, university organizational culture must become more innovative, proactive and risk-tolerant (Miller, 1983).

University culture itself can be viewed as a composite of static and dynamic components, each of which has a direct effect on the respective component of the entrepreneurship education activity. It has been recognized that university attempts to teach entrepreneurship are often made within a mostly static (theoretical) component. These attempts are frequently found to be deficient delivery means of the dynamic (applied/interactive) component (Harris et al., 2000; Klofsten, 2000; Raffo et al., 2000). For the purposes of this discussion, the dynamic component is defined as a learning activity in which the student makes a contribution to the final outcome (for example, cases, applied studies). The static component, on the other hand, consists of an established body of knowledge which the student is expected to understand and even memorize (that is, theory). Using the concept of entrepreneurial orientation (EO), within the theoretical framework of resource-based theory, this paper argues that EO can be a significant asset to the university by introducing a culture of innovation, proactiveness and risk-taking tolerance. This culture will also culminate in a more flexible university environment, greater industry presence (that is, less 'red tape') and hence a more current and effective entrepreneurship training programme.

The chapter proceeds by discussing entrepreneurship and entrepreneurial orientation within the context of the resource-based view framework. Next, issues relating to the effective teaching of entrepreneurship are discussed. The relationship between university culture and the education-related potential is explored. Entrepreneurial orientation is presented as a tool that can be used to modify the culture, making it more innovative, proactive and risk tolerant. The presence of EO, in turn, augments the missing dynamic component to the entrepreneurship education activity within the institution.

Entrepreneurship

Although the potential of entrepreneurship has been recognized some time ago (Schumpeter, 1934), the problem of defining 'entrepreneurship' and establishing the boundaries of the field has yet to be resolved (Bruyat and Julien, 2001; Shane and Venkataraman, 2001; Zahra and Dess, 2001). Consequently, the question raised by Gartner (1990, p. 16) is still relevant: 'Is entrepreneurship just a buzzword, or does it have particular characteristics that can be identified and studied?' To answer this question one must define the field of 'entrepreneurship'.

Some researchers have defined this field solely in terms of who the entrepreneur is and what he or she does. Shane and Venkataraman (2000, p. 218), while discussing the weakness of this approach, give a good example of such an interpretation, defining an entrepreneur as 'a person who establishes a new organization'. This definition, however, does not pass the scrutiny of other scholars (Shane and Venkataraman, 2000). The problem with this definition is that it does not include entrepreneurship within existing organizations. A number of scholars have argued that entrepreneurship may include, but does not require, the creation of a new organization (Amit and Schoemaker, 1993; Casson, 1982; Erikson, 2001; Shane and Venkataraman, 2000). Shane and Venkataraman (2000, p. 218) define the field of entrepreneurship as a 'scholarly examination of how, by whom, and with what effects opportunities to create future goods and services are discovered, evaluated and exploited'. They go on to explain that 'entrepreneurship is a mechanism by which society converts technical information into products and services' (Shane and Venkataraman, 2000, p. 219). Stevenson and Jarillo (1990, p. 23) consider entrepreneurship as an approach to management, defining it as a 'process by which individuals – either

on their own or inside organizations – pursue opportunities without regard to the resources they currently control'. Cauthorn (1989) defines the entrepreneur using attributes such as risk-taking, proactiveness and innovativeness, which are also the three main dimensions of entrepreneurial orientation (Lumpkin and Dess, 2001; Morris and Jones, 1999). In this study, using the definitions of Cauthorn (1989), Stevenson and Jarillo (1990) and Shane and Venkataraman (2000) as a base, entrepreneurship is defined as a process by which individuals – either on their own or within existing organizations – pursue new opportunities in an innovative, risk-taking and proactive manner. Consequently, entrepreneurial orientation is defined as organizational-level entrepreneurship (Lee Choonwoo et al., 2001). In other words, the agent of change in EO is the organization, rather than the individual.

Entrepreneurial orientation – the theoretical context

The notion that large organizations can benefit from doing things in an entrepreneurial manner is established by a stream of literature on the 'entrepreneurial orientation' of firms. The study of entrepreneurial orientation has its roots in the field of strategy research (for example, Child, 1972; Miles and Snow, 1978; Mintzberg, 1973). Both Mintzberg (1973) and Miles and Snow (1978) wrote about entrepreneurial firms, referring to them as entrepreneurial organizations in the case of former, and prospector firms in the latter. These definitions were further expanded by Miller (1983) who defined an entrepreneurial firm as one that 'engages in product marketing innovation, undertakes somewhat risky ventures, and is first to come up with proactive innovations' (p. 771). Building upon this base, Morris and Paul (1987) have defined entrepreneurial orientation as the inclination of top management to take calculated risks, be innovative and to demonstrate proactiveness. This definition was further supplemented by Lumpkin and Dess (1996, p. 139) who added 'propensity to act autonomously' and a 'tendency to be aggressive towards competitors'. Although there is recognition in the literature that entrepreneurship occurs at different levels – the single entrepreneur, whole organization, or even society (Lee Choonwoo et al., 2001) – EO focuses at the organizational level of analysis.

Considering that entrepreneurial orientation is a multi-dimensional construct, it is important to discuss the development and the understanding of different EO dimensions. Most of the studies on EO derive from the early work of Miller and Friesen (1978), which identified 11 strategy-making process dimensions, including adaptiveness, analysis, integration, risk-taking, and product-market innovation. In fact, in a later study, Miller (1983) provided the first operationalization of the EO construct, which includes the dimensions of innovation, risk-taking, and proactiveness. This definition is well accepted in the field, and is the base for several recent studies (for example, Covin and Slevin, 1989; Lumpkin and Dess, 2001; Wiklund, 1999). Lumpkin and Dess (1996) added the dimensions of autonomy and competitive aggressiveness. These last two dimensions are less widely used than innovation, risk-taking and proactiveness. Since universities, unlike firms, by nature are fairly autonomous, autonomy and competitive aggressiveness are not included as relevant dimensions of EO in this discussion.

A number of studies have linked entrepreneurial orientation with the resource-based view of the firm (RBV) (for example, Lee Choonwoo et al., 2001; Lumpkin and Dess, 1996). The RBV makes a key assumption that the heterogeneity of organization's resource base distinguishes organizations from one another (Grant, 1991; Wernerfelt, 1984). The

main objective of the RBV is to enhance understanding of how competitive advantage is achieved and how that advantage might be sustained in the future (Barney, 1991; Eisenhardt and Martin, 2000; Nelson, 1991; Penrose, 1959; Schumpeter, 1934; Teece et al., 1997; Wernerfelt, 1984). Entrepreneurial orientation is interpreted as a search for additional rents given the specific resource base of an organization (Lee Choonwoo et al., 2001). The dimensions of EO (innovation, risk-taking, proactiveness) can provide an organization with entrepreneurial or Schumpeterian rent (that is, return on investment) by allowing it to profit from more risk-intensive activities. The RBV, as a theoretical basis, has been found useful in the examination of a great variety of situations including ethnic entrepreneurship (Bruton and Rubanik, 2002), venture capital (Shepherd, 1999), public institutions (Morash and Lynch, 2002; Morris and Jones, 1999; Sandford, 2000) as well as universities (Harris et al., 2000). Public sector managers have also found entrepreneurship to be a 'salient concept for their organizations, where the key obstacles to its implementation are very similar to those reported by corporate managers' (Morris and Jones, 1999, p. 71). Therefore, one can conclude that EO (as discussed under the RBV) is also beneficial for universities by making them more proactive, innovative and accepting of the risk needed to respond in a dynamic environment (Todorovic et al., 2005).

Our understanding of the nature of entrepreneurship within universities, and how EO might translate into an advantage for a university and society is still in its infancy. Studies of university involvement in entrepreneurship-related activities have largely focused on commercialization per se and the methods of knowledge transfer. Consequently, this study is an attempt to build a theoretical base, developing a greater understanding of the relationship between EO (and its dimensions) and the entrepreneurship education at Canadian universities.

Teaching entrepreneurship

Can entrepreneurship be taught? An assumption fundamental to the argument that entrepreneurship cannot be taught comes from the standpoint that certain people are born with entrepreneurial traits (that is, the 'trait approach') (Carland et al., 1988; Herron and Sapienza, 1992; Olson, 1987). In his paper, Gibb (1987) goes on to state that the entrepreneurial role is often culturally and experientially acquired. This provides support for the view that entrepreneurship can be also influenced through education and training. Furthermore, Gartner (1988) makes a convincing argument that it is inappropriate to examine entrepreneurship from the point of view of personality traits. In fact, he argues that entrepreneurship is more about behaviours (which are taught) than it is about personality traits (which are inherited). Likewise, Kowalski and Campbell (2000) also suggest that entrepreneurship is similar to leadership skills (such as communication, team building and so on), which can be, and indeed should be, taught. This is in agreement with a number of other studies which express the view point that entrepreneurship can be taught (for example, Fiet, 2001b; Klofsten, 2000; Raffo et al., 2000; Vesper and Gartner, 1997).

Although most evidence suggests that entrepreneurship can be taught, successful entrepreneurship education has proven rather elusive – at least so far. In fact, many researchers raised concerns about the effectiveness of past entrepreneurship education efforts (Feldman, 2001; Harris et al., 2000; Vesper and Gartner, 1997). Others found formal entrepreneurial training to be disadvantageous (Raffo et al., 2000), even calling it an antithesis to entrepreneurship (Gibb, 1987; Harris et al., 2000). The feedback received

from those being trained is that they benefit from applied as well as the theoretical perspectives (Feldman, 2001; Gibb, 1987). A report from the United Kingdom Institute for Employment Studies shows that the theoretical training did not prepare the students to become creative, risk-taking entrepreneurs with business skills (Council for Excellence in Management Learning, 2000).

Teaching entrepreneurship in a conventional way (that is, theory only) implies that there should be a solid body of theory to act as a base of such teaching efforts (Fiet, 2001b). Theory, although often static, is beneficial because it provides useful theoretical framework. This framework frequently acts as a base on which further knowledge can be built (Fiet, 2001a). Theoretical approach is a useful teaching tool for many subjects. Because theory of entrepreneurship has proven very elusive (Eisenhardt and Companys, 2002), traditional education methods are found to be largely ineffective in teaching entrepreneurship (for example, Feldman, 2001; Gibb, 1987; Harris et al., 2000; Raffo et al., 2000). This suggests that entrepreneurship education must go beyond theory, to pragmatically prepare its students for the 'real-world' environment.

In like manner, a study undertaken in Sweden has concluded that the entrepreneurial training programme should be practically oriented (that is, applied), while maintaining the added advantage of the elements which are theoretical (Klofsten, 2000, p. 342). Others have observed that entrepreneurs learn best by experimenting with ideas, and by 'doing things' (Gibb, 1987; Raffo et al., 2000, p. 356). Graduates of the Swedish New Business Development Training Programme indicated that they benefited substantially from the atmosphere which was 'supportive with lots of pressure to perform' (Klofsten, 2000, p. 338). This suggests that the environment at this educational institution in many ways imitates the actual entrepreneurial environment.

Because entrepreneurship is still a young field, there is even a greater need for entrepreneurship education to include a dynamic component in addition to the theoretical basis. Dynamic component can be seen as an educational context, which is affected by student's activity, and is likely to grow and develop at a rate which is comparable to 'real-world' entrepreneurship. One example of a dynamic component is a case study, where there may not be a single correct answer, but rather the actions of the students determine what the correct answer is. A similar approach was envisioned by Klofsten (2000), who described a university in terms of separate theoretical and practical competencies. Further, he found that 'early business development is dynamic and requires continual adjustments of the (training) programme' (that is, higher rate of change) (Klofsten, 2000, p. 341). Dynamic component is often presented in the classroom by imitating the 'real-world' environment (Klofsten, 2000). Extending beyond the curriculum, the dynamic component demonstrates the need for universities to 'be plastic in organizational forms, institutional policies and cultural norms' (Feldman, 2001, p. 133). On the other hand, the static component is the solid body of theory which acts as a base of knowledge for the student (Fiet, 2001b). The static component, although well documented, is not subject to student's actions and most often does not represent most recent developments in the field. Consequently, the learning experience for a student entrepreneur contains both static and dynamic components. Thus the following proposition ensues,

Proposition 1 – Entrepreneurship education activity consists of both dynamic and static components.

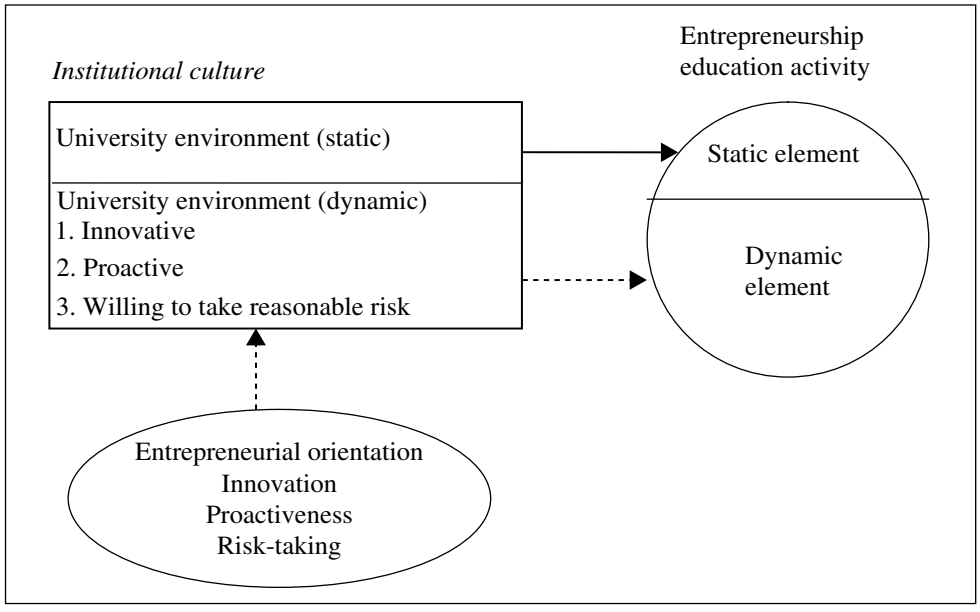

Figure 6.1 Conceptual framework of entrepreneurial education at an entrepreneurially oriented university

In the past, the dynamic component was insufficient or missing from entrepreneurship education activity as well as the university environment (that is, institutional culture). For this reason, it is difficult for the universities to address the issue by merely changing the course curriculum. Gartner and Shane (1995) accurately demonstrate entrepreneurship as a dynamic field, which changes over time. This was echoed with the observation that 'real-world' entrepreneurs are presented with the pressure to 'find appropriate solutions quickly, and often under severe constraints' (Gibb, 1987, p. 18). As researchers continue to study entrepreneurship, it is reasonable to expect the continued growth of the theoretical body of knowledge. As this body of theory expands, so will the static component of the entrepreneurship education activity (Figure 6.1). Currently, because entrepreneurship theory is still evolving in the early stages, the dynamic component needs to have a greater presence than the static component in entrepreneurship education. Figure 6.1 presents this graphically by the uneven division of the entrepreneurship education circle.

Figure 6.1 pictorially shows the proposed framework as it relates to entrepreneurship education. Entrepreneurial orientation augments the dynamic component to the university culture (that is, the dotted line in the figure), which also has an effect on the entrepreneurial education activity, thereby contributing the dynamic component to entrepreneurship education. The static component, however, remains a part of the entrepreneurial teaching task, and is still viewed as important.

Role of the university culture and the environment

> The present education system needs to underwrite the concept of enterprise culture. (Gibb, 1987, p. 16)

Entrepreneurial education involves more than the composition of course curriculum. Klofsten (2000, p. 338) found that for a university to effectively teach entrepreneurship, it must ensure the 'creation and maintenance of an enterprising culture on the whole at the university'. Hyland et al. (2002) further argues that the culture of the organization can play a significant role in the success of training programmes. In fact, a study conducted with entrepreneurs in the United Kingdom found that a 'formative educational moment was to do with lifestyle experimentation and with a wider cultural orientation' (Raffo et al., 2000, p. 359). This would imply that the culture of the university has a significant influence on learning experiences of the student entrepreneur. All this points to the importance of the learning that occurs within the institution – outside the classrooms and official course curriculum. It has been suggested that student entrepreneurs benefit more from university environment and the 'cultural orientation' than from the course content (Raffo et al., 2000). Although the dynamic component may be also important in other disciplines, given the unique nature of entrepreneurship, it is especially the case in entrepreneurship education. Recognizing this, many universities are trying to be more flexible with their organizational norms and culture (Feldman, 2001). Consequently, it is hereby anticipated that

Proposition 2 – University culture affects the entrepreneurship education activity within the university.

Today, a number of universities are making serious attempts to become more flexible, innovative and proactive (Association of Universities and Colleges of Canada, 2001; Feldman, 2001; National Governors Association, 2000a). A university that is innovative and proactive is better equipped to react to the changes in the world around it, suggesting that these characteristics are elements of dynamic university culture (based on previous discussions). To state that the university culture has a dynamic component also implies the existence of a static component (Klofsten, 2000). Klofsten (2000, p. 338) who also identified the existence of both components (which he termed competencies), found that universities need to have both types of competencies in order to achieve effective education of entrepreneurs. The existence of the static component also agrees with Feldman's (2001) observation that barriers to innovation at the university are insular culture, bureaucracy and specialization. Accordingly, the rate of change at universities where these barriers are strong is very low. This is further echoed by Duderstadt (2000, p. 1) who stated that the 'progress in a university occurs one grave at a time'. In another report, after accessing university archives, Duderstadt (2001) found, to his surprise, that the university had not changed much since 1898.These are good examples of the static components of the university culture. Therefore, it is posited that

Proposition 3 – University culture consists of static and dynamic components.

Entrepreneurship theory in essence teaches students 'what' they ought to do (Fiet, 2001b). The field of entrepreneurship is still young and dynamic (Gartner and Shane, 1995), and theory is still being developed (Eisenhardt and Companys, 2002). It is not surprising that many former students of entrepreneurship have communicated the need to be taught 'how to' do things, instead of 'knowing what' to do (Harris et al., 2000). While theory is often static (that is, not changing at the rate of the 'outside' world), the students

seem to be lacking the 'dynamic' components of that change (that is, the current, applied, constantly developing insights). These dynamic components are necessary to enable students to manage the rapidly changing world around them (Gibb, 1987; Klofsten, 2000). Students, however, do also appreciate entrepreneurship theory and find it a useful foundation to position the practical (dynamic) education component that they have received (Klofsten, 2000). It is worth mentioning that students' most common concern with 'theoretical only' preparation is that it does not prepare them for the rapid pace of change in the real world (Gibb, 1987; Hyland et al., 2002; Klofsten, 2000). This, by extension, means that the practical (dynamic) component of their training is necessitated by the dynamic nature of the outside environment.

One may imply that many universities, while teaching entrepreneurship, are not teaching the current field of knowledge, but are often limited to the static component. This, in turn, may also be seen as a risk aversive strategy, since the current field of knowledge is still developing, and may therefore include incomplete and untested dispositions. On the other hand, the static component, which is seen as more stable, is deficient because it does not contain the latest insights from the field. This is especially significant in entrepreneurship because of the rapid rate of current developments. University, as an institution with a slow rate of change, is very well equipped to include the static, but not the dynamic, component into curriculum and practice (Duderstadt, 2000; 2001).

As universities attempt to teach entrepreneurship, however, the dynamic nature of entrepreneurship often poses a challenge. In order to keep in touch with newest insights and developments, the university must adapt and progress at the rate of change comparable to the outside entrepreneurial environment. This often means having the culture and the structure that will support frequent changes. In fact, Karlsson and Karlsson (2002) found that entrepreneurship can be used to facilitate structural changes within institutions. Further, Klofsten (2000, p. 338) found that in order for a university to train entrepreneurs, the university must ensure there is the 'creation and maintenance of an enterprising culture on the whole at the university'. This difference between the static culture (and structure) found at the university and the dynamic one needed for effective teaching of entrepreneurship may be the reason why entrepreneurship as a discipline is still being accepted as an educational subject at universities (Bygrave, 1994; Klofsten, 2000; Vesper, 1988). It can be argued, therefore, that the more entrepreneurially orientated the university is, the greater its ability to effectively teach entrepreneurship. Likewise, universities with lower levels of entrepreneurial orientation are likely to find it more challenging to effectively teach entrepreneurship. As a result, it is postulated that

Proposition 4 – The static component of the institutional culture has a direct effect on the static component of the entrepreneurship education activity.

and

Proposition 5 – The dynamic component of the institutional culture has a direct effect on the dynamic component of the entrepreneurship education activity.

Innovation, proactiveness and risk-taking tolerance are shown in Figure 6.1 as dynamic components of the institutional culture. Feldman (2001, p. 112) found that there is an

'ongoing revolution in higher education towards organizational innovativeness'. Innovativeness is also seen as critical for the revitalization of the local economy (Raffo et al., 2000), an activity in which universities are seen as integral components (Chrisman, 1997; Feldman, 2001; Jaffe, 1989; National Governors Association, 2000b; Steffensen et al., 1999). Innovativeness (whether with a product, process or structure) has to be acted upon by the individual(s) and organization(s) in question. This implies that there has to be some proactiveness and some taking of risk, at least compared to that of doing nothing (Morris and Jones, 1999; Todorovic et al., 2005). This view is given further credence by a report which concludes that higher education does not equip entrepreneurs to become creative, risk-taking people with business skills (Council for Excellence in Management Learning, 2000). Others go further, suggesting that entrepreneurship education programmes should be changed to be more responsive to the needs of entrepreneurs, while universities should form 'strategic alliances' with other institutions, organizations or groups (Feldman, 2001; Harris et al., 2000). Universities that actively manage the change to a more innovative, proactive and risk-tolerant culture will achieve a better position, which will enable them to deal with the developments of today's fast-changing global environment.

As a result it is posited that:

Proposition 6 – An increase in the university's entrepreneurial orientation (by increasing organizational innovativeness, proactiveness and risk-taking tolerance) will lead to an increase in the dynamic component of institutional culture.

And

Proposition 7 – An increase in innovation, proactiveness and risk-taking tolerance within the institutional culture will lead to an increase in the dynamic component of the entrepreneurship education activity of the university.

Discussion

It is recognized that entrepreneurship education activity at different universities is likely to have different levels of success (Klofsten, 2000). A number of entrepreneurs have expressed strong reservations about the value of formal entrepreneurship education as a preparatory means for an entrepreneurial lifestyle (Klofsten, 2000; Raffo et al., 2000). This study presents a new theoretical concept designed to address some of the issues in entrepreneurial education at higher institutions.

The basic assumption of the arguments presented in this chapter is that teaching only theory of entrepreneurship does not constitute comprehensive entrepreneurship education. To use an analogy, a person who is well grounded in the theory of flight, is not necessarily a pilot. Rather, a person must fly the aircraft with an instructor for a set minimum number of hours (that is, the dynamic element), before he or she is granted the privilege of a pilot's licence. Likewise, an entrepreneur must obtain competencies in the dynamic content before being able to function in a real-time, highly complex entrepreneurial environment.

Entrepreneurship is a growing discipline that is in a state of flux. With time new knowledge is created and new theories are formed. Any attempt to teach entrepreneurship,

therefore, must include the dynamic as well as the static components (Klofsten, 2000). Past entrepreneurship students often report finding the dynamic component missing from their education experience (Raffo et al., 2000). In addition, both static and dynamic components of entrepreneurship education refer to more than just course curriculum. University culture, practices and structural settings (institutional culture) all affect the ability of the university to provide such an education (Feldman, 2001).

Therefore, this chapter posits that university institutional culture consists of static and dynamic components, both of which have a direct influence on the entrepreneurship education activity. Universities, because of their stable institutional character, are more likely to teach the static body of knowledge. Unfortunately, since entrepreneurship is still evolving as a field (Eisenhardt and Companys, 2002), this body of knowledge is seen as insufficient for training future entrepreneurs. In order for universities to provide comprehensive entrepreneurship education, the dynamic component must also be included. This is disparate to the present cultures, practices and structures at most universities. Consequently, many university attempts to train future entrepreneurs have been met with limited success (Hill and Hannafin, 2001).

At issue is the ability for a given university to change and react at a rate comparable to the developments in the field. In order for a university to react effectively to these developments, and to function in the rapidly changing environment, the university must innovate within. For a university to be EO means that such a university must innovate, be proactive and have tolerance for some risk-taking. This, in turn, allows the university to move forward at the rate needed to stay current in the field. Consequently, university entrepreneurship education becomes relevant to today's entrepreneurial environment, and thus to today's entrepreneurs. Being innovative, proactive and risk-tolerant will allow university entrepreneurship education activity to be current, applicable, and well delivered in line with the requirements of today's entrepreneurs.

Entrepreneurial orientation, developed within the RBV theoretical framework offers a solution. Past research demonstrates that organizations and institutions which adopt EO, are more innovative, proactive and better equipped for decision-making under risk (Dess et al., 1997; Smart and Conant, 1994; Zahra, 1993). This is also the case with public sector organizations (Box, 1999; Morris and Jones, 1999). By becoming entrepreneurially orientated, universities are better able to keep pace with the dynamic environment, resulting in more effective education programmes within their institution.

The significance of this conceptual framework is multi-fold. First, it increases our understanding of entrepreneurship education. As the outside world realizes the significance of entrepreneurial activity, being able to train future entrepreneurs is quickly becoming a significant asset to the university, community and, even, the country. Secondly, this framework illustrates the significance of the institutional culture, and its role in the development and delivery of education services. In today's environment, as more is expected from public institutions, recognizing the significance that this resource presents for the institution is important. Indeed, a responsive, flexible university culture has many benefits to offer to the university and the community. Finally, increasing our understanding of the teaching methodology needed for new and still developing fields of knowledge, will further contribute to a better and more effective exploitation of tomorrow's opportunities by the university community. As the rate of change increases, the ability of the university to keep pace becomes paramount.

Conclusion

Entrepreneurship has become a vital part of today's economic growth. Universities as institutions that exhibit potentially significant impact for a region (or even a country), are looking at different ways of teaching entrepreneurship. Although numerous attempts were made, universities had only limited success in providing effective entrepreneurship education. This chapter proposes that entrepreneurship education is composed of static as well as dynamic components, both of which are influenced by the culture of the university. While the university as an institution is well positioned to teach the static component of entrepreneurship, the same cannot be said about the university's ability to teach the dynamic component. It is proposed that by becoming entrepreneurially orientated, universities will become more innovative, proactive and risk-tolerant. This will make the universities more flexible and better able to adopt to the changes in the environment around it. Consequently, the university will be able to make a valuable contribution towards the dynamic component of entrepreneurial training of tomorrow's entrepreneurs. As entrepreneurial training becomes more proactive, more current, imitating the 'real' entrepreneurial environment, it provides a better preparatory base for future entrepreneurs, enabling them to function effectively in the real-world entrepreneurial environment.

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PART II

RENEWING METHODS

7 Strategies for teaching entrepreneurship: what else beyond lectures, case studies and business plans?

Camille Carrier

Introduction

The number of universities offering entrepreneurship courses and programmes is growing steadily. We have come a long way since Myles Mace gave the first entrepreneurship course at Harvard in 1947 (Katz, 2003). A recent study (Charney and Libecap, 2000) established that, in the past 50 years, the number of university institutions throughout the world offering entrepreneurship training programmes at different levels has increased from one to more than 1500. In the United States, Katz (2003) reports that in 1994 more than 120 000 students were enrolled for entrepreneurship courses, whereas by the beginning of the new century it was reasonable to believe that the number had increased by 50 per cent. In Canada, the number of undergraduate entrepreneurship courses increased by 44 per cent between 1979 and 1999, although growth has fallen off considerably in the past five years (Menzies, 2005). A similar trend in the development of entrepreneurship courses appears to exist in France (Fayolle, 2003) and even throughout Europe as a whole (Wilson, 2004).

Acccording to Ronstadt (1990), in the early 1990s the programme focus of entrepreneurial education was still the business plan, and he felt a new trend would eventually lead to a new focus on individual experience and skills. During the same period, Béchard and Toulouse (1991) noted a persistent predominance of case studies and lectures in entrepreneurship education. Their research showed that, unfortunately, traditional teaching approaches focused on content rather than learning were still the dominant model in college- and university-level entrepreneurship courses. Yet, as Vesalain and Strömmer (1998) pointed out, teaching entrepreneurship at university level should be a question of method rather than content.

As Kyrö (2005) noted, approaches to entrepreneurship education are likely to vary between continents and between countries, depending on the conceptions of education in different cultures. Content, educational approaches and educational objectives can also vary considerably, depending on the target audience for the training (Block and Stumpf, 1992; Gibb, 1994). However, despite the variations and facts described above, it would appear that things have not really changed in this respect. For example, a recent study (Solomon et al., 2002) showed that the most common teaching methods used in entrepreneurship education were still the business plan, lectures by well-known professors, a handful of case studies and supervised reading programmes.

The persistence of the business plan is fascinating, and there is good reason to question the enthusiasm it still generates among entrepreneurship teachers. Many researchers have shown that it is difficult to establish a connection or a cause-and-effect relationship between an entrepreneur's actual success and the existence of a good business plan (Carrier et al., 2004; Plaschka and Welsch, 1989; Reid and Smith, 2000; Zinger and

LeBrasseur, 2003). Audet (2004) even showed that the fact of requiring students to produce a business plan could ultimately have a detrimental effect on their perception of the desirability of an entrepreneurial career because they found the experience difficult and complex. This does not necessarily mean that the business plan should be eliminated as a teaching tool. In many situations, it may offer some interesting educational benefits, provided it is used in a way that permits learning of a constructivist nature. 'In preparing their business plan, students can learn to anticipate, develop the contacts they need to realize their project, identify their own weaknesses, understand the interdependency of their decisions and learn about information sources' (Marion and Sénicourt, 2003, p. 62). However, publications underscoring the widespread presence of the business plan in entrepreneurship programmes rarely show how the plan is used by the teachers. Carrier (2005) criticizes the fact that the business plan is often used too soon in the curriculum, and suggests several ways of maximizing its use.

According to Solomon et al. (1994), we are still facing an urgent need to trade more traditional forms of teaching for more unique and unconventional ones. It would therefore be appropriate to ask which educational tools or approaches could be used to teach entrepreneurship at university level, in addition to traditional lectures and the business plan. What are the new trends in this respect? This chapter provides some answers to these questions, reviewing some of the new or less traditional approaches used in entrepreneurship education and proposed in the literature over the past 15 years. Most of the review was carried out by means of documentary research using the ABI-Inform and Emerald databases for the period 1990–2005. For the purposes of this study, only those papers documenting the use of a teaching practice clearly involving methods other than case studies and the business plan were selected.

Before we look in more detail at the teaching approaches in question, however, it is important to understand that they are not necessarily better than the more traditional approaches, nor are they all equally useful. The value of an entrepreneurship teaching approach needs to be measured by its ability to help learners acquire entrepreneurial attitudes and skills. We will come back to this important issue in the last section of the chapter.

7.1 Simulations and games

Some authors propose the use of simulation exercises in which students are required to devise strategies and make decisions to ensure the success of a small firm. As Honig (2004) pointed out, traditional pedagogy is often at loggerheads with the needs of entrepreneurship education. Its normal purpose is to help students acquire a certain number of notions that they can subsequently apply to solve a problem to which an answer has already been provided by the trainer. However, this is not how entrepreneurs work. Generally speaking, they work in a complex, dynamic environment and must therefore be able to deal with a broad range of unstructured problems. Thus, the need for forecasting skills is greatly surpassed by the need to be able to adapt. In Honig's view, individuals and groups learn to develop their ability to adapt through action or trial and error. He believes simulations allow students to gain experience of new and unexpected situations, learn to deal with failure and develop the resilience they need to go on regardless.

It is, of course, important to choose the right simulation exercises in order to maintain student interest and motivation. As Honig (2004, p. 265) points out,

> For an individual to maintain motivation during the simulation, the activity must be both believable and continuously adaptable. It is the latter aspect of simulation design that may impact the long-term ability of students to obtain maximum learning. As the external environment changes, the simulation should also change to reflect the individual's cognitive expectations. Otherwise, the activities may seem senseless and boring.

The choice of a simulation exercise must also take into account the learning objectives. Hindle (2002)[1] proposed a certain number of criteria to guide the development or choice of a simulation exercise. Most fall into one of four categories: the ability of the scenario to appear relevant and credible, unambiguous communication relating to different aspects, function adjusted to the technical support material, and a cost–benefit analysis based on the above criteria and the goal of the exercise. Hindle also adds, more generally, that the simulation exercise must appear to be adjusted to the business context prevailing at the time it is submitted to the group of students, in order to achieve maximum participation.

There are two different types of simulations, and they are presented in the following two subsections.

7.1.1 Computer-based simulations

After examining the content of the textbooks used most commonly in entrepreneurship education to identify their basic knowledge and skill acquisition goals, Wolfe and Bruton (1994) carried out an extensive literature review to identify which of a variety of computer-based business games were most likely to be useful in entrepreneurship courses. They found that only three simulations were of interest to university-level entrepreneurship training.

The first of these is the *Entrepreneurial Simulation Program* (Penderghast, 1988). In the simulation, participants start and operate a retail shoe store for a period of 12 months. All the teams receive the same starting capital. At the end of the period, the store is sold and its value is used to determine the participants' performance. The second simulation, *Entrepreneur: A Simulation* (Smith and Golden, 1987), requires the teams to buy and operate a retail clothing store. They are asked to make certain quarterly decisions and implement changes to improve the firm's performance. The third and last simulation is *Starting a Small Business: A Simulation Game* (Gupta and Hamman, 1974). Here, participants are given a starting capital of $100 000 to create a small firm producing a type of popcorn with high sales potential.

In support of these games, Wolfe and Bruton (1994) described them as requiring a certain amount of creativity on the part of students, who can test their risk-taking capacities in the small business environment that most entrepreneurs experience. On the negative side, however, the games are designed to develop a limited range of entrepreneurial skills, and tend to merely scratch the surface of the aspects they cover. As a result, the authors felt teachers wishing to use these simulations should also provide some compensatory activities to fill in the gaps.

According to Thavikulwat (1995), *The Business Enterprise Simulator* (Davis and Parker, 1994) and *Venture Forth* (Willmer, 1986), two additional entrepreneurship simulations, were also of interest to entrepreneurship educators even though they had not been considered by Wolfe and Bruton. Thavikulwat particularly recommended a third package, called *Deal*, a computerized business gaming simulation designed to test the concept of

gaming on the markets (resources, products, money, and interpersonal relationships) in a multi-industry setting. According to Thavikulwat, *Deal*, unlike other simulations, provided stimulating challenges, objectively assessed the results achieved by participants, and was easy to use while remaining extremely flexible.

Active participation by students in other types of simulations may also help them to become aware of some of the more emotional aspects related, for example, to entrepreneurial failure (Petranek and Corey, 1992). Multimedia simulations, including the Harvard simulation entitled *Launching a High-risk Business* (Sahlman and Roberts, 1999), can be used to raise student awareness of the more emotional aspects of entrepreneurship, such as the ability to deal with failure and transform it into a learning opportunity (Honig, 2004). The need for new entrepreneurs to learn to manage their emotions in situations of failure was also addressed more broadly by Shepherd (2004), who proposed several possible educational approaches for this purpose, including simulations. Asserting that most of the simulations available on the market are not designed for this, Shepherd nevertheless makes an interesting proposal:

> One exception is the 'Small Business Growth Management Flight Simulator', which simulates the management of a family business that is facing a number of economics problems. This simulation helps students gain a deeper understanding of different aspects of the business, the environment, and how one's decisions can limit firm growth and put its survival in peril. (2004, p. 280)

7.1.2 Behavioural simulations

Behavioural simulations[2] in entrepreneurship are essentially experiential activities in which a business situation is created and designed so that students can experience certain behaviours and develop certain entrepreneurial aptitudes and skills. According to Stumpf et al. (1991, p. 33):

> While computer simulations focus on calculating the results of the efforts of those using the simulation, behavioural simulations focus on the inputs themselves, including behaviours and other decision-making processes, which participants use to manage the simulated company. While computer simulations teach about a fixed set of effort consequences captured by a preprogrammed model, behavioural simulations teach about the sense-making and opportunity-seeking processes that are the participant's inputs into the activity.

Stumpf et al. (1991) tested behavioural simulations on a broad scale, studying the results obtained from 28 such simulations used by 317 participants over a period of two years. Most of the participants clearly thought the exercise improved certain skills. But, according to the researchers, 'More importantly, the skills that were viewed as most critical to performance reflect key skills to become an effective entrepreneur' (ibid., p. 38). They mentioned the following skills in particular: the ability to ask thought-provoking questions about the future of the firm, the ability to generate several possible scenarios, redefinition of the issues to make them easier to understand, creation of a vision for the future of the firm, and the ability to seek out and promote innovative ideas.

Low et al. (1994), for their part, tried to develop an entrepreneurship game that would be useful for both research and training, although they did observe that it was difficult to use the same case study for two purposes. They created *The Entrepreneurship Game*, which was introduced to students in the following terms:

> This game simulates a competitive market in which many entrepreneurs have identified the same business opportunity. The opportunity is to supply a sophisticated software program for total inventory management. The customers are information systems executives, and they are prepared to buy immediately. However, the market is not large enough to support all of the entrepreneurs. Entrepreneurs must compete for customers and the other resources (capital, employees and equipment) required to build a successful venture. (p. 387)

The teams therefore compete with one another and must develop the right strategies to earn the largest share of the business. According to the authors, the game's purpose is to enable students to develop their ability to negotiate, to convince, to form networks and to attract interesting partners.

They tested the game on 72 students and then asked the students to evaluate its educational contribution by completing a questionnaire. They felt two aspects in particular should be measured: first, how interested the students were in the exercise, and second, the extent to which the game had enabled them to develop the target skills. Concerning the first of these two questions, 95 per cent of the students said they were very enthusiastic and thought the exercise had been very stimulating. Concerning the second question, 55 per cent of the students thought the game had produced minor changes and 20 per cent thought it had produced major changes. Although the students felt the game needed to be improved, the overall results obtained by Low et al. (1994) were extremely encouraging from the standpoint of the high level of enthusiasm it generated.

This category of simulation game also includes some proposed exercises or activities that require students to become familiar with the emotional, instinctive and driving aspects of entrepreneurship – for example, the development of leadership, the search for innovative solutions, perseverance, and so on. As pointed out by Robinson (1996), the more traditional teaching methods make it difficult for students to become aware of these important elements and to discover their own potential in this respect. Robinson proposed an experimental activity known as the *Minefield*, which combines cognitive, affective and conative elements that can be examined either individually or collectively to enhance the students' understanding of business principles within the entrepreneurial process.

As specified by Robinson[3] (1996), although the *Minefield* exercise places the students in a prisoner-of-war context rather than a business context, the learning it provides is nevertheless of direct relevance to the entrepreneurial process. In the exercise, the students, in teams, are placed in a risky but adventurous situation within a context rife with uncertainty. Robinson describes the game's key entrepreneurial variables based on the following dimensions:

- a superordinate goal or mission to be accomplished in the form of a physical objective to be reached;
- limited resources that may change based on factors within and external to the group;
- an uncertain outcome including the possibility of failure;
- an ambiguous situation where the procedures are not set but must be developed by the group;
- multiple options in terms of strategies and tactics in accomplishing the task;
- emotional involvement and commitment to reach the objective;
- an action imperative where group members take action without understanding the situation, then make it work through adaptation of strategies and tactics to meet the changing demands of the scenario. (Ibid., p. 353)

It is somewhat surprising to see so much interest in simulations on the part of entrepreneurship educators, because this type of exercise, used more traditionally in management and strategy, appears to have fallen into relative disuse in recent years. For example, in a study of strategic management and business policy teachers, Keeffe et al. (1993) showed that the use of simulations decreased between 1985 and 1990. During the same period, they also found that the percentage of teachers from these fields who had never used simulations as teaching tools increased from 16 per cent to 22 per cent. It is reasonable to think that the significant growth in the number of entrepreneurship courses in the past 10 years may at least partly explain the escalating interest in simulations, as new approaches are required (Solomon and Fernald, 1991).

7.2 Original educational proposals

This section presents some of the more unusual, innovative and original educational approaches or tools discussed in the literature that are difficult to categorize satisfactorily in separate, clearly defined groups.

7.2.1 Teaching entrepreneurship through the classics

According to Benson (1992), reading classical literature, including novels, philosophy and essays, can help students to assimilate fundamental lessons about entrepreneurship and make them aware of the potential and demands of an entrepreneurial career. He identified numerous relevant works, including Machiavelli's *The Prince*, Thoreau's *Walden*, Plato's *Republic* and Shakespeare's *King Lear*. In his view, the heroes of these books can become a major source of inspiration for entrepreneurship students. For example, a teacher could use Herman Melville's *Moby Dick* (1851), a novel in which the character of Captain Ahab represents the heroic, 'against-all-odds' type of struggle that most entrepreneurs find they must wage to make a success of their business.

In Benson's view, reading the classics can also help students to understand some of the notions that are more difficult to transmit through traditional pedagogy. For example, he says this:

> The longer I am involved in the business of entrepreneurship education, the more convinced I become that there is something intuitive about the process of entrepreneurship and that one of the things that sets successful entrepreneurs apart from the others is their unique ability to recognize and respond to what their instinct and intuition tells them about business opportunities. . . . It is, however, extremely difficult, if not impossible, to teach intuition and instinct in a traditional sense. One of the things that I have found to be extremely helpful, is to have my entrepreneurship students read Ralph Waldo Emerson's essay on Self-Reliance. (1992, pp. 136–7). He believes this latter book contains a number of inspiring ideas to help students not only understand the importance of intuition and instinct, but also learn to recognize them within themselves and act accordingly.

Still with a view to helping students to recognize the importance of intuition and instinct, Benson proposes *Othello*, a Shakespearean tragedy. In his opinion, entrepreneurship students will find that Othello's fatal fall can be compared to the failures of entrepreneurs who relied on experts while ignoring their own intuitive feelings.

7.2.2 Teaching entrepreneurship through videos

Neck et al. (1998) highlighted the growing importance of videos in the teaching of management, and gave a real-life example of their possible use in training new entrepreneurs

at university level. They proposed the film *Dead Poets Society*, in which Robin Williams plays Professor John Keating, an unconventional, charismatic teacher who inspires his students and encourages them to live life to the full: 'Carpe Diem, lads! Seize the day.' He manages to generate enthusiasm among his students, and the lives of many are transformed forever as a result. Neck et al. (1998) were convinced that entrepreneurship can be taught by instilling an entrepreneurial mindset within the individual student, allowing him or her to recognize and seize opportunities for new venture creation, and believed the film could be used to produce an energetic, creative environment for entrepreneurial education.

They believed new entrepreneurs could learn eight main lessons from the film, as follows:

> 1. Conformity stifles creativity; 2. Don't follow the leader; 3. Find your passion and bring it to life; 4. Make your life extraordinary; 5. Creativity can be unleashed – we all have it; 6. There is a time for daring and a time for caution. The wise entrepreneur knows the difference; 7. Looking at life from different perspectives will allow you to see what others cannot; 8. Carpe Diem – Seize the day. (Neck et al., 1998, p. 2)

From an educational standpoint, the use of the film was tested in various ways, and the authors were able to present more specific suggestions. Based on their findings, they were convinced that the use of films could become a powerful educational tool to illustrate a theory or concepts, or to serve as a starting point for analysing a given situation.

Another way of using films was proposed by Buckley et al. (1992), who thought that showing business-related films to students would allow them to observe real-life management through the actions of managers and experts in a variety of sectors and contexts. For example, as far as entrepreneurship education is concerned, it would be possible to use films telling the real-life stories of entrepreneurs as a basis for subsequent thinking and discussion.

7.2.3 Teaching entrepreneurship using life stories

This particularly original approach was proposed by Rae and Carswell (2000), based on an observation that entrepreneurial behaviours are learned through experience and subsequent discovery. As researchers, they first used the life-story approach with entrepreneurs to try to identify the situations and processes through which these people had learned to create successful, high-growth firms. Their goal was both to advance knowledge of the subject and identify the implications for entrepreneurship education. Their work led them to propose the Entrepreneurial Learning Model, which can be used to develop original pedagogical tools.

The life story can be an interesting learning tool for entrepreneurship students too. Rae and Carswell suggested that students be asked to write their own biographies and map the learning they needed to support their future entrepreneurial careers. As the authors pointed out:

> they can use the entrepreneurial learning model as a starting point to develop their own maps of capability. This process can be helpful in developing people's self-confidence and self-belief and in reflecting on how far they already use entrepreneurial behaviours, as well as becoming aware of and developing their personal theories. (2000, p. 225)

7.2.4 Using role-playing for educating students about emotion and learning from failure
As McGrath (1999) rightly pointed out, failure is an aspect that has not received sufficient attention in the entrepreneurship literature; emphasis mainly seems to be placed on success factors. Yet, failure, although almost always painful, can very often become a gateway to new opportunities, and this is the very essence of entrepreneurship. Hisrich and Peters (2001) suggested several ways of helping entrepreneurs to deal with failure. Based on this, Shepherd (2004) proposed not only a tool but also an entire educational approach that can be used to teach entrepreneurship students how to manage the negative emotions generally associated with failure.

The approach incorporates a number of educational strategies that have been widely used in the past, such as reading, case studies and simulations, but it also proposes a technique that is used much less frequently by entrepreneurship teachers, namely role playing. According to Greenberg and Eskew (1993), the role-playing approach can obtain interesting results in situations where students need to test certain behaviours and attitudes, in a range of psychological contexts. Interestingly, Shepherd (2004) proposes seven role-plays that are described in detail and supported by suggested uses.

7.2.5 Using new venture expert script as a means for enhancing entrepreneurial expertise
In addition to the acquisition of skills, competencies and aptitudes, approaches based on experience can support or strengthen the integration and updating of more theoretical and/or technical knowledge. For example, Mitchell and Chesteen (1995) propose the notion of an expert script as a means for enhancing entrepreneurial expertise, along with an instructional pedagogy to improve the entrepreneurial expertise of students based on the recommendations made by information theorists regarding script acquisition. In their view, the learning context offered to students must include four main types of activities, namely, knowing, thinking, doing and participating; the application of the script-based instructional strategy fits well into the participating phase.

7.3 Richer integration of practitioners into the training process

Participation by practitioners (managers, entrepreneurs, consultants, and so on) in classes aimed at future managers or entrepreneurs is by no means new. One of the most common applications is the use of living cases (Learned, 1991). Here, students are usually required to examine a real case study, and the managers or entrepreneurs discussed in the case are then invited to take part in the discussions and debates that follow. Although the use of practitioners in training is fairly traditional, we feel it is important to consider the stimulating remarks made by Katz (1995) on this subject. Katz said there is still not enough interest in the wide range of roles that can be played by practitioners in the training process. He felt practitioners who agree to visit classrooms and talk to future entrepreneurs tend to see themselves simply as relaters of anecdotes and personal experience. Teachers should therefore be made aware of the fact that these people can be asked to do a great deal more than this.

Although his list is by no means exhaustive, Katz (1995) proposes a whole set of potential roles[4] for practitioners in entrepreneurship education. For example, successful entrepreneurs can be excellent motivational speakers, making students aware of the intrinsic rewards of self-employment. In Katz's view, entrepreneurs who have become very rich or very well known are even more likely to leave their mark on entrepreneurship students.

Similarly, well-established entrepreneurs can become role models. Katz points out that his university has copied Harvard's approach, drawing up a list of entrepreneurs who are willing to work at a very personal level with individual students over periods of several weeks, either to enable the student to observe the daily life of an entrepreneur, or to help the student develop one or more specific skills. Initiatives such as this clearly show that practitioner involvement can go well beyond a simple classroom presence. Katz also suggests bringing students into contact with models with whom they are more likely to identify, such as entrepreneurs who successfully launched businesses immediately after graduating from college or university.

In some cases trainers may find it difficult to gain access to practitioners who are willing to invest time with students other than through a formal engagement to give a course. Buckley et al. (1992) made a very interesting and original proposal in this regard, namely, that the student network could be used as a source for recruiting practitioners. Many students are from families with businesses, or have personal contacts with managers or traders, and may well be willing or even proud to introduce these people to their classmates.

7.4 A crucial emerging trend: training students to identify and/or create business opportunities

Although this position is not, as yet, unanimous, growing numbers of entrepreneurship researchers agree that entrepreneurship is basically concerned with the identification and development of business opportunities. According to Shane and Venkataraman (2000), the fundamental questions asked by entrepreneurship research should be concerned with why, in what circumstances and how some people and not others are able to discover and exploit emerging opportunities within existing organizations (known as intrapreneurship or corporate venturing) or by creating new, innovative firms. Opportunity identification can therefore be described as a fundamental entrepreneurial skill.

Even before this definition of entrepreneurship attracted such a large number of supporters, many researchers were already asserting the importance of teaching this major skill to novice entrepreneurs. Some authors have identified it as the very first step in the entrepreneurship process. For example, according to Vesper (1990), the entrepreneurial process begins when the knowledge of the prospective entrepreneur is matched with the emergence and crystallization of a business idea. For Gartner (1990) and Gibb (1988), the detection of a business opportunity is necessarily the point from which all entrepreneurs begin. Filion (1991), for his part, has offered ample proof that an entrepreneur's vision almost always underlies the creation and subsequent growth of a business. More recently, Ardichvili et al. (2003) showed that opportunity identification leading to the creation of new businesses appears to be one of the most important skills of successful entrepreneurs.

Another significant reason for situating opportunity detection as a core element at the very beginning of the educational process emerges from the important question of the competencies required by an entrepreneur. The competency-based approach is fast becoming the most common type of structure for training programmes and courses (Bosman and Gerard, 2000). In this respect, Chandler and Jansen (1992) found that, to perform well, an entrepreneur must acquire three types of competencies, namely entrepreneurial, managerial and technical-functional competencies. The most fundamental of these are the entrepreneurial competencies, which the authors describe as the ability to

detect opportunities and select the most promising. As Carrier (2005) pointed out, managerial competencies, which Chandler and Jansen subdivide into organizational, human and political competencies, and technical-functional competencies, comprising the body of knowledge needed by an entrepreneur on the product, sector and market in question, only become useful when the entrepreneurial competency has been activated.

7.4.1 A fundamental question: can opportunity identification be taught?

As we have just seen, there appears to be a consensus on the importance of teaching entrepreneurship students to identify and/or create business opportunities. However, it is also relevant to ask whether or not this skill can in fact be taught.

Fiet (2002) devotes an entire book to the systematic search for business opportunities, arguing that the development of this particular skill (discovering productive ideas) should be the core element of every entrepreneurship course, instead of the evaluation and implementation of opportunities. Fiet believes teachers can in fact help students to develop this particular entrepreneurial skill or competency. To support teachers who wish to do this, he proposes a theoretical perspective that he believes renders opportunity identification not only feasible but also, and especially, teachable, in that the teacher can introduce exercises and activities directly related to the theories in question. Although the book contains some very interesting ideas, it is nevertheless somewhat disappointing for teachers who are interested mainly in the pedagogical aspects, since it offers very few exercises and concentrates on only a handful of topics.

In a more systematic study, DeTienne and Chandler (2004) showed that opportunity identification is a competency that can be developed just like any other competency, and that the entrepreneurship classroom is an appropriate venue for developing the skills required to improve opportunity identification abilities. They found that the literature proposes four opportunity identification methods, namely, active search, passive search, fortuitous discovery and creation of opportunities. Their pedagogical approach is based mainly on a vision of passive search, through which creativity is seen as a major, learnable skill. Based on the approach of Epstein (1996), who presents four fundamental skills for the development of creativity (namely, 'securing', 'expanding', 'exposing' and 'challenging'), DeTienne and Chandler propose a whole series of exercises designed to develop these skills in their entrepreneurship courses.

They subjected students to tests and questionnaires both before (to test their predisposition for innovation) and after training to check the impact of the pedagogical methods used on the students' skill levels. Although not all their assumptions were confirmed, the crucial finding in their study is that 'SEEC training had an influence on the student's abilities to generate more ideas for business opportunities that also have the characteristic of being more innovative . . . Those with a lesser predisposition for innovation derived the same benefit from the training as those with a greater disposition' (DeTienne and Chandler, 2004, pp. 254–5). They also noted that the findings do not indicate that all students were at the same level, but rather that the predisposition to be innovative did not significantly alter the ability to learn to be more creative in generating business opportunities.

However, these convictions are not widely shared. For example, Saks and Gaglio (2002) carried out exploratory research[5] using a sample of experienced entrepreneurship teachers to try to answer the question, 'Can opportunity identification be taught?' More specifically, they wanted to know if the teachers thought it was possible to teach students how

to identify business opportunities, or if they thought this was a fundamental skill inherent in the entrepreneur's personality. Their findings revealed that:

> When considering this question (Can opportunity identification be taught?), virtually all respondents reported that an accurate answer required separating the question into two parts. Most professors believed that some students have an innate ability or predisposition towards identifying opportunities for new venture creation or come to the course with a well-honed ability that perhaps they picked up during childhood while being around family entrepreneurs. All but two professors consider this part of the opportunity identification process to be 'unteachable' in general. However, respondents agreed that it is possible for students who lack the ability to nevertheless learn good opportunity evaluation skills. (Saks and Gaglio, 2002, p. 323)

This also shows that respondents perceived the process as being divided into a series of separate steps.

As Saks and Gaglio point out, it is hardly surprising to note that opportunity evaluation had become a central and ever-present theme in the entrepreneurship courses taught by their sample teachers. At the same time, opportunity detection was addressed in some form or another in every case, and all the sample teachers considered it to be a crucial step in the entrepreneurial process. Additionally, nearly three-quarters of respondents hoped the students would in fact be able to learn to identify potential business ideas.

Most of the teachers questioned appeared to use an analytical approach in this respect. For example, students were asked to examine entrepreneurial case studies or to interview entrepreneurs, in order to discover the sources of their business ideas and the cognitive process that led to their insights. The intention here was that students would eventually be able to discern patterns and acquire those patterns for themselves by repeating the exercise frequently. Although less common, the experimental approach was also used to improve the students' perceptual skills in the opportunity detection process. For example, students were asked to keep a diary, writing down one business idea every day. At the end of the month they were asked to pick out the best three, thus learning how to evaluate their own ideas.

Clearly, then, there is no real consensus on the question of whether or not business opportunity identification and development can in fact be taught. However, there is a growing interest in the teaching of a sub-skill that is extremely important to the opportunity identification process, namely, creativity.

7.4.2 Some pedagogical proposals for teaching creative thinking

Many authors have argued in favour of renewing entrepreneurial education to take this element into account. Rabbior (1990), for example, mentioned the need for more learning activities in which the educator helps the students to produce and explore new ideas. Some teachers these days are trying to introduce exercises or activities designed to help students develop their creative thinking skills. Here again, entrepreneurship is associated with innovation and particularly with the identification or discovery of business opportunities. It is therefore necessary to teach students to seek out productive business ideas. As pointed out by Gundry and Kickul (1996), the search for potential business opportunities necessarily starts with the idea generation process. Students tend to think that inventors or innovators are 'special' or eccentric, or that they have particular powers, when in fact they are different only in their ability to think out of the box and spot opportunities that others do not see.

Gundry and Kickul (1996) propose that students be taught to use a certain number of creativity techniques, and suggest conceptual creative methods such as mind-mapping, divergent thinking, brainstorming, lateral thinking, metaphorical techniques and split-brain comparison. They also propose behaviour-centred methods such as board games, music-making, drawing and visualization (for example, *Picture Simulation*). They themselves used these exercises with undergraduate and graduate students, and noted that the undergraduates tended to approach them more spontaneously and more enthusiastically.

Carrier (2000) has also made extensive use of creativity techniques in her courses for future entrepreneurs. For example, in some of her courses, students must use the discovery matrix or morphological analysis to explore possible new products or services, or to transform existing products and services and offer them for new uses or to new customers. They may also apply these techniques to analyse the possibilities for making new use of technologies available on the market. In other activities, students are required to solve certain concrete problems using value analysis and lateral thinking techniques. In some classes, they are required to use attribute-listing techniques to rejuvenate an existing range of products, or to lay out a mental map on a theme of their choice, according to their individual preferences. Some genuine brainstorming sessions are also held. According to Carrier, most students believe this means simply stating their ideas freely, and are unaware of the methods required to ensure that a brainstorming session produces valid results. The underlying idea is that students must be brought to observe with their own eyes the sometimes surprising results that can be obtained with these techniques, and must be encouraged to use right-brain functions more often to deal with the problems they encounter.

Some entrepreneurship trainers acknowledge the need to help future entrepreneurs explore their business ideas in more depth before they embark on a more systematic search for detailed, rational information. Before submerging them with pre-start-up, start-up, survival and growth strategies, it would be appropriate to help them refine their visions and create a more detailed image of their products or services. It was from this standpoint that Carrier (forthcoming) developed a method to help future entrepreneurs explore the full potential of their initial business ideas. The method, which she calls 'the prospective map', incorporates the use of two creativity techniques, the nominal group and mind mapping.

This pedagogical approach, inspired by the principles of collaborative learning, allows the group of students to use the initial business idea of one of their members and then explore all the possibilities with a view to finding an innovative twist. They begin by identifying the major environmental trends, ranking those they feel will have the greatest impact on the development of the chosen idea, and lastly, exploring the possible changes and variations using mind mapping. The approach has been tested on 12 groups of students, and the students' perceptions of its utility were collected and examined. The results show that the vast majority of the students really enjoyed the exercise, which allowed them not only to view a whole set of possibilities on a single map, but also to make some interesting changes to their initial business idea.

7.5 Discussion and conclusion

As mentioned at the beginning of this chapter, our goal was to draw up an inventory of some of the less traditional educational approaches proposed in the entrepreneurship education literature over the past 15 years. As we have seen, the proposals are both varied and stimulating, although most of the tools and techniques have not necessarily been

empirically investigated for their impact on student learning. The volume and variety of approaches might, at first glance, appear to suggest that we have made significant strides in entrepreneurship education at university level. However, there is still a long way to go if we are truly to renew our teaching practices. The recent study by Solomon et al. (2002) cited at the beginning of the chapter showed that the vast majority of entrepreneurship teachers continued to prefer traditional approaches such as the business plan, lectures and case studies.

Generally speaking, this latter observation concerning the extensive use of lectures (traditional lectures on a particular topic or on how to produce a business plan or how to solve a given case) can be explained by the dominant pedagogical paradigm existing in our universities and advocated by our university teachers. In the university community, this dominant educational paradigm still appears to be the transmission of knowledge; as a result, teachers adopt a position that enables them to transmit knowledge systematically to students. In the terms of the metaphor proposed by Delaire (1988), students are the computer and the teacher is the programme. The task of the teacher is to organize and present the course content correctly so that it can be understood and memorized. Evaluation is simply the tool used to check whether the system is operating effectively.

Accordingly, it is clear that teachers who follow the dominant pedagogical paradigm tend to place emphasis on lecturing as a teaching method, an approach that often reveals more about the teacher than about the subject taught. This manner of imparting knowledge is even less reliable when the subject taught is entrepreneurship. In the words of Professor Paplauskas-Ramunas[6] of the University of Ottawa, the lecture method provides, at best, an opportunity for the *magister* to expose a problem and then attempt to solve it in order to give an example. In fact, teachers simply tend to imitate their own teachers, thus maintaining the dominant paradigm. This suggests that it may be important for entrepreneurship teachers to have access to training for themselves, exposing them to other teaching methods. One way of doing this would perhaps be to offer workshops at scientific conferences, allowing participants to test or observe new teaching tools. This would allow us to learn from one another in a peer-to-peer context that is likely to be more stimulating than a formal training session.

However, it is important to avoid simply comparing traditional methods with original methods, and ancient approaches with modern ones. Something that is new or original is not necessarily better. What we need to do instead is to see how effective an emerging approach is at helping the students acquire entrepreneurial attitudes and competencies such as creative problem-solving, strategic thinking, networking, negotiating, putting things together creatively, opportunity seeking and grasping, and so on (Gibb, 2005).

Teachers wishing to introduce students to entrepreneurship and innovation must be willing to adopt an innovative pedagogical paradigm that relates as much to the maieutic methods of Socrates as to the active methods paradigm. The goal is no longer to 'transmit' knowledge, but rather to 'ensure that knowledge is acquired'. In addition, the kind of knowledge that is acquired is not only intellectual and cognitive, but also, and more importantly, skill-related knowledge specifically connected to the personal development of each student. This constitutes an important challenge for teachers because, as Garavan and O'Cinneide (1994) pointed out in their evaluation of entrepreneurship training programmes, there is still far too much emphasis on knowledge and far too little on competency improvement.

Similarly, the latest developments on the need to open students' minds to fundamental skills such as the identification, discovery or creation of opportunities, also suggests a need to think about the content of entrepreneurship training. For example, if we look at the definition of opportunity proposed by Shane and Venkataraman, it is somewhat surprising to see that most programmes do not even mention intrapreneurship. Generally speaking, much remains to be done. As Kourilsky pointed out, 'Current entrepreneurship education tends to migrate towards its natural focus of "least resistance" – the traditional business management process areas; however entrepreneurship education cannot succeed without business management's seminal antecedent-opportunity recognition, marshalling of resources, and creation of the business venture' (Kourilsky, 1995, cited by DeTienne and Chandler, 2004, p. 242). More recently, Kirby (2004) went even further, arguing that there needs to be a shift in the emphasis from educating 'about' entrepreneurship to educating 'for' it. Better still, he suggests that entrepreneurship education should stop concentrating on small business creation or management and start concentrating on creativity and change.

Obviously, we can hope that the less traditional educational methods presented in this chapter will inspire those of us who wish to think about and renew our teaching practices. However, it is important to note that there is also a need to increase the number of publications that allow authors to explain how to use these new teaching strategies; the documents presented in this chapter are for the most part not very explicit in this respect. Similarly, although these approaches may not be in common use, neither do they all have the same level of interest in terms of the need to review course content. For example, many of the computer simulations presented here are still designed to teach purely analytical skills or small business management skills. Also, many of the original exercises and activities concentrate on the development of skills and attitudes that are more directly related to the managerial and technical-functional competencies evoked in Chandler and Jansen's model of entrepreneurial competencies. In the more recent literature, however, some stimulating proposals have emerged concerning the question of basically entrepreneurial competencies.

Even so, this new emphasis on competencies should not be to the detriment of knowledge. As Fiet (2000) pointed out, it is a question of changing the perspective from which we think students learn theories, rather than eliminating those theories completely from our courses. As Fiet says,

> An entrepreneurial competency consists of a combination of skills, knowledge and resources that distinguish an entrepreneur from his or her competitors . . . For student-entrepreneurs to master a competency in the classroom, they must be fully engaged in activities that will teach it to them. Thus, both students and teachers have a role in the acquisition of competencies. (2000, p. 107)

Accordingly, he suggests an action-based pedagogy that causes students to become active players in the learning process, and proposes a set of activities and experiments to help achieve this. He makes one particularly original proposal, namely, to involve students in the development of learning activities, for example by inviting them to think up exercises that would help them to assimilate a given theory or model.

At the end of this chapter, our main wish is that the less traditional educational strategies presented here will be of interest and use to teachers who wish to enrich the spectrum and range of their teaching tools, and perhaps will even encourage some to adjust or create new tools. In entrepreneurial pedagogy, where the student is a core element in

the learning process, the role of the teacher is not to teach but to provide activities that will help the students to broaden their own fields of entrepreneurial competency. When the development of imagination and creativity become core elements in these competencies, the teacher must also encourage students to use the right side of their brains, which have often been neglected by an educational system that treats analysis and logic as cults. To return to the metaphors proposed by Delaire (1988), teachers must cease to see themselves as a source of knowledge, and instead become 'gardeners' or 'instructors'.

Notes

1. See also Hindle and Anghern (1998).
2. Stumpf and Dutton (1990) used the dance metaphor to explain dynamics in behavioural simulations. Dance is an individual activity but is practised in groups, and every person can judge his or her own performance and try to improve it.
3. Robinson describes the game itself in his paper. Because the debriefing is particularly important, he goes so far as to suggest elements for discussion to help the moderator with this task.
4. Katz (1995) proposes approximately 15 possible roles for practitioners. Some examples are cited in this chapter, but interested readers should refer to his paper for full details.
5. In-depth interviews were carried out with 14 well-known entrepreneurship teachers.
6. This statement by Professor Paplauskas-Ramunas is quoted by Boivin (1997).

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8 Social constructionist thinking: some implications for entrepreneurship research and education

Denise Fletcher

Introduction

Entrepreneurship discourses and practices have become increasingly popular. Entrepreneurship courses feature in most business school programmes. Newspapers give daily accounts of successful and failing businesses. Publishers commission biographies, textbooks, research monographs and journals dedicated to identifying the different forms, contexts and practices in which entrepreneurial activities occur. Researchers apply a range of theories, concepts and methodologies to understand and explain entrepreneurial practice. And academics review the development of entrepreneurship research and the range of concepts, theories and methodologies used to carry out this inquiry over the past 30 years.

In contrast to Low's (2001, p. 17) assertion, therefore, that 'scholars have not come far enough, fast enough in order to make something of the field', all the evidence seems to indicate that we have come a long way in identifying many different forms, definitions and varieties of entrepreneurial practice. Our understanding has extended beyond the 'traditional' focus on personality traits or attributes that used to dominate entrepreneurship. There is analysis of the 'structures' that facilitate entrepreneurship such as political-economic environments, institutional frameworks, government policy support, regulatory frameworks, social, personal or instrumental networks and education programmes. In addition, research investigations are also beginning to adopt approaches that emphasize contextual, holistic, and language or process-oriented views of entrepreneurship and which challenge the notion of entrepreneurship as a fixed or static entity that can be fully known (Dodd, 2002; Fletcher, 2003; Gartner, 1990; 1993; Gartner et al., 2003; Kupferberg, 1998; Steyaert, 1998). It is also possible to identify a critical line of inquiry from those studies that question the sometimes oppressive and inhibitive aspects of entrepreneurial discourses (Nodoushani and Nodoushani, 1999; Ogbor, 2000).

What is also evident in entrepreneurship inquiry is a greater effort to reflect upon the purpose, process and product(s) of entrepreneurial research and its knowledge building. Efforts to reflexively monitor the purpose, process and theoretical effects of entrepreneurship research can be seen in the number of special issues (*Journal of Business Venturing*, 1999; *Entrepreneurship Theory and Practice*, 2001; *Journal of Management*, 2003) and texts such as 'New movements in entrepreneurship' (Steyaert and Hjorth, 2003).

A common feature of the reflexive efforts in entrepreneurship study is a concern with the scholarly standing and legitimacy of this field of research. In spite (and perhaps because) of the popularity, diversity, and multiplicity of entrepreneurial practices, a significant challenge facing entrepreneurship inquirers is the need to maintain relevance and accessibility as a subject area at the same time as enhancing the scholarly standing and legitimacy of this field of study. There is a concern about entrepreneurship inquiry being

'taken seriously' as a domain 'in its own right' (Low, 2001, p. 17) – as distinct from management, marketing or strategy. There are worries about the plurality of concepts, contexts, theories and disciplinary roots which contribute to lack of coherence and fragmentation within this field of study (Aldrich and Baker, 1997; Harrison and Leitch, 1996). There are concerns about the lack of 'solid' theorizing and the need to create coherence of research topics and interests in order to enhance theoretical depth (Busenitz et al., 2003). Some entrepreneurship inquirers are arguing for greater clarity, adequacy and sophistication in the use of research methods whether this be in the form of statistical analysis to examine issues of causality as Chandler and Lyon (2001) urge, or qualitative research, case analysis and historical inquiry identified by Olson (in Sarasvathy, 1997), Sexton (in Sarasvathy, 1997) and Sarasvathy (1997). In addition, there are calls for greater attention to epistemological and ontological issues of entrepreneurship research (Shane and Venkataraman, 2000).

Such reflexive monitoring and analysis is a necessary and indispensable activity to the scholarly development of entrepreneurship inquiry. This is especially important for entrepreneurship because, as Steyaert and Hjorth (2003, p. 3) argue, entrepreneurship 'is in the middle of many projects – theoretical, empirical, methodological, educational – and it can no longer live on a promise'. They suggest the need for spaces of reflection, 'a stepping out of the everyday busy-ness of entrepreneurial scholars, and of reconsidering the ways in which we are producing the field' (ibid., pp. 3–4). Such reflections enable researchers to evaluate the clarity and adequacy of particular concepts, propositions and models and methods that are used to undertake research (Turner, 1990). They encourage dialogue and debate about the cumulative effect of theoretical shifts which, over time, contributes to the enactment of 'community' between entrepreneurship scholars (Gartner, 2001). Also, through such reflections a meta-theorizing discourse is enabled – a theorizing about theorizing across theoretical emphases and levels of analysis (Ritzer, 1991).

Reflexive monitoring and analyses can, therefore, affirm entrepreneurship research as a scholarly area of inquiry. It facilitates an intensification of thinking and 'creat[ing] a collective of collectives and connections' (Steyaert and Hjorth, 2003, p. 3). More of this is to be welcomed in entrepreneurship inquiry, not only for the reasons cited above but also because it can facilitate greater transparency and debate about the philosophical presuppositions we hold about entrepreneurial phenomena. Being more explicit about the ontological and epistemological assumptions of our research can, as Shane and Venkataraman (2000) and Busenitz et al. (2003) argue, enable scholarly effort and solid theorizing to flourish. But, at the same time, it is important that entrepreneurship inquirers are mindful of the ways in which some reflexive or meta-theorizing efforts, rather than clarifying the epistemological/ontological basis of our research, merely serve to reinforce paradigm distinctions and dualisms. Some caution is needed here because such paradigm scrutiny and compartmentalism – tensions around which have dominated organization theory (see Keleman and Hassard, 2003) – can lead to greater fragmentation within the field.

In the first part of what is to follow, some of the tensions produced by paradigm scrutiny and compartmentalization are examined. It is argued that what is needed in entrepreneurship are more integrative theoretical understandings of entrepreneurial practice that have the potential to bridge levels of analysis and connect issues of agency and structure. In the second part of this chapter, consideration is given to the ways in which social constructivist and social constructionist ideas aid our understanding of entrepreneurial practices. The

claim is made that not only do social constructionist ideas facilitate engagement with the philosophical presuppositions we hold about entrepreneurial phenomena, but also they offer promise for integrative theoretical work and scholarly development of entrepreneurship inquiry. The chapter concludes with a summary of the key research implications for adopting social constructionist ideas.

The problems of paradigm scrutiny and compartmentalism

In European research, the Burrell and Morgan (1979) framework is frequently cited to help organizational researchers surface assumptions about how particular organizational practices come to 'occur' or 'be' in the social world. In this, the authors propose four paradigms that embrace particular assumptions about social reality (radical structuralist, radical humanist, functionalist, interpretivist). The value of such frameworks, it is argued, is that by showing the contrast and duality of such positions, researchers will be encouraged to surface assumptions about the world (and how we come to understand or 'know' that world) and from this be able to locate themselves within a particular research approach or paradigm. In entrepreneurship research this framework has been taken forward by Grant and Perren (2002), who demonstrate how such a paradigmatic framework might be used to review and categorize research cited in leading entrepreneurship journals in the UK, Europe and USA with a view to highlighting, in their review, the dominance of a functionalist paradigm.

The weakness of such frameworks is that they force dualist views of the world and inquirers become focused on locating themselves (or their research) in one paradigm or another. With such frameworks the investigator is drawn to either-or understandings of how things are in the world and how we can come to know such activity. Inquirers are either subjectivist or objectivist; functionalist or interpretivist; realist or non-realist; deductive or inductive, concerned with how knowing or understanding is personal/individual/social or value-free, given or neutral and/or is shaped by individual agency or determined by external conditions, structures or causal mechanism. Either way, such frameworks encourage dualism and polarization in our thinking and understanding.[1] And close scrutiny of paradigm dualisms and their application or unification in entrepreneurship would merely enhance tensions about lack of coherence and fragmentation.

For this reason, more integrative approaches are needed in the study of entrepreneurship – not only in the sense of drawing upon insights or concepts from various disciplines as Low (2001) argues for, but also by taking account of how entrepreneurial practices are constructed through an interaction between individual agency, industry/sector/firm structures *and* the wider economic, social or cultural environment. Developing a more integrative theoretical understanding of entrepreneurship is implied by Busenitz et al. (2003) when they urge researchers to probe at the nexus of opportunities, enterprising individuals (or teams) and modes of organizing. Investigating processes at this nexus is important, they claim, because it is at this intersection (of people, opportunities and modes of organizing) within the context of wider environments, that the domain of entrepreneurship lies. What is needed are methodologies that not only enable us to investigate different levels of analysis involving industry, firms and individuals (Davidsson and Wiklund, 2001), but also ways of theorizing that bridge issues of agency and structure.

With these concerns about developing theoretical frameworks that transcend agency structure dualisms in mind, I now turn to a discussion of social constructionist ideas. The

intention is not to present these ideas as a solution to all the problems in entrepreneurship inquiry. Nor is the claim made that these ideas are the only form of theorizing that can provide for an integrative view of entrepreneurship. On the contrary, my aim is to review these ideas and their application in entrepreneurship in order to show how they provide a means of responding to some of the tensions and problems discussed earlier. In this way, following Czarniawska (2003), the intention is to promote a constructionist way of thinking about research, rather than setting out to reject other approaches. It is argued that social constructionist ideas are useful to entrepreneurship because they provide a means of theorizing that transcends polarizing structure/agency emphases. These ideas also offer some promise for theorizing how and why entrepreneurial activities occur in relation to the cultural, social and opportunity structural environment in and through which such activities are recursively reproduced.

Social constructivist and constructionist ideas – their roots, variants and application in the study of entrepreneurship

Ever since Berger and Luckmann (1966) coined the term 'social construction of reality' to emphasize the shared processes and negotiated understandings in which people constantly engage to create meaning, there has been potential for the application of these ideas in the study of business and management. But only in recent decades have we seen this potential being realized in studies of organizations (Czarniawska, 2003; Czarniawska-Joerges, 1993; Hosking and Bass, 2001; Watson, 2002), entrepreneurship (Bouchikhi, 1993; Bouwen and Steyaert, 1990; Fletcher, 2003; Fletcher and Watson, in press; Mumby-Croft and Hackley, 1997; Steyaert, 1998), small enterprises (Chell, 2000), family business (Fletcher, 2002), and international entrepreneurship (Fletcher, 2004).

Engagement with these ideas, however, is not an easy task. Different terms such as constructivism or constructionism are often used interchangeably. A variety of emphases and variants can be identified (such as cognitive constructivism, social constructivism or constructionism and process or relational constructionism). This variety is due to the fact that these ideas have their roots in many intellectual traditions. Berger and Luckmann (1967) and Gergen (1999) point out that they generated from symbolic interactionism (with its interest in subjective meaning, Blumer, 1969; Goffman, 1972; Mead, 1934) and social phenomenology (Schutz, 1967) (where conscious experience is derived from social interaction). Gergen (1999) gives more emphasis, however, to the cultural psychology roots of the ideas and the ways in which cognitive and mental processes are shaped through social process (Piaget, 1967; von Glasersfeld, 1974; 1991). Berger and Luckmann (1967) relate their work to Durkheim (1982) and Weber (1978) and debate how objective facts and subjective meanings are reproduced in the construction of social reality.

In part, the strength of these ideas is that they relate to several philosophical traditions. But this diversity of roots means that there is confusion about what it is that is being socially constructed (Hacking, 1999), whether this be time (Fischer et al., 1997), meanings, identities, 'lived experiences', the self or social reality (Gergen, 1999). As a result, social constructionist ideas are often misunderstood (for their linguistic reductionism) and maligned (for their ability to be able to say anything 'solid' about social reality). In addition, this confusion also means that any qualitative research work highlighting words, perceptions, interpretations, cognitive properties and processes (see, for example, Hill and

McGowan, 1999) – as opposed to numbers and statistical correlations – often gets wrongly accredited with the constructionist label.

In the following sections a review of the broad set of ideas labelled as 'social constructionist' is undertaken. Their application in entrepreneurship inquiry is also addressed. In the next section social constructivist ideas are reviewed because it is this emphasis which has been applied most frequently in entrepreneurship studies. In the subsequent section, the analysis is expanded to include social constructionist ideas. A summary of the ways in which these ideas offer some promise for entrepreneurship inquiry is presented in the final and concluding section.

Social constructivist ideas and the study of entrepreneurship

Central to social constructivist thinking is a set of key assumptions about social reality and the ways in which we can come to know or construct understandings of that reality. Drawing primarily upon Piaget (1967) and to some extent Kelly's construct theory (1963), a key assumption of social constructivist thinking is that social reality is pre-given and the aim of cognition, the processing capabilities of which varies between people, is to absorb and make sense of environmental and sensory information in order to construct accurate representations of this reality. Social constructivism, in slight contrast, is more concerned with how individuals mentally construct their worlds with categories supplied by social relationship (Gergen, 1999). In addition, a further key assumption is that such cognitive-processing capacities can be accurately known, mirrored or represented in the research process. These assumptions are outlined in the left-hand column of Table 8.1 and a discussion of them is now undertaken to illustrate how social constructivist assumptions shape an approach to research. In constructing the table in this way, it is not suggested that constructivist and constructionist ideas can be neatly divided into two categories or 'camps'. On the contrary, the table is a means of organizing and making sense of two dominant *emphases* in social constructionist thinking in order to show what is distinctive (rather than different) for each set of ideas.

In the first instance, social constructivist ideas are pertinent when research questions are concerned with examining how and why entrepreneurial activities are constructed in the way they are. Fieldwork activities and analyses focus on individuals, their cognitive processing abilities, personalities and social-psychological attributes. Given the research interests, the key interpretive task is to lean inwards towards the subject of research and examine personal subjectivity. Attention is given to the meanings, sense-making or linguistic processes people use to give expression to their thoughts, feelings and experiences. Some attention is given to the social context or 'structural' forces in the environment/culture, but only in the sense of how they are absorbed or embodied in the person. During analysis, regression is made to cognitive dispositions as the researcher maps the outward expression of internal processes, attributes, traits or ways of thinking.

A cognitivist understanding of entrepreneurial activities has a strong presence in entrepreneurship studies. It is important to point out, however, that researchers can be cognitivist in orientation without necessarily being constructivist in philosophical orientation. Concerned with the relationship between the cognitive and information-processing abilities of people as they enact entrepreneurial practices, writers emphasize how people develop entrepreneurial heuristics (Manimala, 1992), use metaphors and mental models (Hill and Levenhagen, 1995), think differently from non-entrepreneurial people (Baron,

Table 8.1 The application of social constructionist ideas in entrepreneurship research and education

	Social constructivist	Social constructionist
What is it we want to learn about?	How entrepreneurial activities are constructed through individual, cognitive processes in a social context	How entrepreneurial activities are constructed through dialogic, social structural and relational processes
What do we focus on for learning, teaching and research?	Individual people – their expressions Cognitive processes Personalities Social-psychological attributes Meanings Language	Social/relational self Teams Partnerships Joint acts Co-ordinations Meanings Interactions Multiple perspectives Conversations Discourses
What is our learning, teaching and research task?	To draw attention to and map individual outward expressions of internal processes, attributes, traits or ways of thinking. Emphasize how knowledge is constructed in individuals' minds rather than through shared interactions. Some attention to 'structural' forces in the environment or culture but only how they are absorbed or embodied into the person	To be interpretively and relationally aware when considering entrepreneurial accounts. Examine interrelationship between individual acts of entrepreneurial agency *and* the cultural, social and opportunity structural environment in and through which such activities are recursively reproduced
How might we conceptualize entrepreneurship in our learning?	As mind work A mode of thinking A way of being A way of acting As transformative of individuals As epiphany As sense-making	As relational As multi-voiced As collective As community As co-ordinations As dialogic As transformative of social patterns/life
How do we develop our learning and understanding about entrepreneurial activities?	Leans inwards towards the subject – focus on personal subjectivity and regression to cognitive dispositions. Deals with the entrepreneurial self, their 'being' and knowing	Looking outwards into relational processes through which entrepreneurial practices are constructed. Deals with relational being, knowing and doing, connecting and transformation via dialogic processes. Gives attention to multi-voicedness of entrepreneurial practices
What can we infer about the ways in which entrepreneurship is seen to 'exist' and to be known?	That entrepreneurial activities are constructed through cognitive processing capabilities. That entrepreneurial activities mirror, map or represent that which is going on in individual beings	That entrepreneurial understandings are the outcome of interpretation and interaction processes and that these are always ongoing. Everything is an expression of relationship and always emerging and becoming. Does not deny an 'external' reality but questions ways in which that reality is constructed
What learning tools, techniques and methods can I draw upon?	Heuristics Psychometric tests Life histories Discourse analysis Autobiography	Ethnography Discourse analysis Participant observation Narrative Biography

1998) or managers (Busenitz and Barney, 1997) and respond differently to situational cues in order to discover, evaluate and exploit opportunities to create future goods and services (Shane and Venkataraman, 2000).

There are some studies of entrepreneurship, however, that are explicitly social constructivist. Bouchikhi (1993), for example, applies constructivist ideas as a way of dealing with the duality created by individual (endogenous) and environmental (exogenous) explanations of entrepreneurship. He argues that entrepreneurial outcomes are determined not by entrepreneurs, nor environments, but from the process of their interaction. Also, Chell (2000) examines how entrepreneurs use words to label past experiences of business venturing and how these constitute patterns over time. Although presenting her work as social constructionist, Chell tends toward constructivism in giving centrality to the social construction of personalities. Bruyat and Julien (2001) also take a constructivist stance in order to argue that understanding the phenomena of entrepreneurship is difficult without taking account of the individual entrepreneur, the project they are engaged in and their interrelationship with the environment.

Applying social constructivist ideas to the study of entrepreneurship

First and foremost a social constructivist analysis privileges individual, subjective knowing. Research attention would focus on entrepreneurial individuals or teams at the centre of new venture creation. But, more distinctively, understandings of entrepreneurship would be seen as being constructed through cognitive activities in people's minds.

Second, from a social constructivist perspective, consideration is given to the social context and environment within which entrepreneurial activities are being constructed. Here reference and linkages are made to the educational and family background of the entrepreneurs as a way of understanding and explaining the cognitive constructions of new business venturing. However, primacy is given to the cognitive (rather than wider social or cultural structural influences) processes through which new businesses are constructed.

Third, analyses applying social constructivist ideas would give particular attention to linguistic expressions or discursive resources that are used to construct entrepreneurial accounts. The constructivist researcher would map out and label the cognitive/linguistic categories which are given expression. He or she would also tend to claim that these linguistic expressions are a mirror or representation of what is going on in the cognitive processing activities of that individual.[2]

The assumption that entrepreneurial reality can be known, mapped or mirrored in some way through the research process is labelled as 'representationalist' (Chia, 1996; Rorty, 1980). Much research in entrepreneurship with a social constructivist orientation leans towards the representationalist. Here, there is more of a concern with representing through the research process that which is occurring out there in the world, or that which is going on in the minds of entrepreneurial individuals. This is indicated by the ways in which writers speak about their research task in terms of accessing, discovering, uncovering and labelling, categorizing or mapping the cognitive properties that have been revealed during talk or the interview situation. Those researchers who want to claim that their research has enabled them to say something 'solid' about social reality tend to be more representationalist. For these inquirers their key research task is to uncover, or discover, particular structures or causal mechanisms that explain why things are like they are.

When we analyse accounts given by people involved in entrepreneurial activities, it is tempting to emphasize how a business idea is constructed through the cognitive-processing activities of individual people. However, just because people speak about opportunity recognition in the way they do, this does not necessarily mean that they, as individuals, hold special cognitive processes for evaluating opportunities that enable them to respond differently from other people to situational cues in the way Shane and Venkataraman (2000) or social constructivists would argue. On the contrary, to a social constructionist, this is only part of the story.

Social constructionist ideas and the study of entrepreneurship

As with social constructivism, central to social constructionist thinking is a set of key assumptions about social reality and the ways in which we relate to and construct understandings of that reality. These assumptions are outlined in the right-hand column of Table 8.1 and further elaboration is now given to four of the issues identified there.

First, in contrast to the cognitive orientation of social constructivism, social constructionist ideas are more concerned with how people come to be and know the world interactively through dialogue, exchanges, conversations, relations, joint acts and co-ordinations. Like constructivism, social constructionist ideas emphasize individuals as social beings but attention is given to the *relational* rather than *cognitive* aspects of social becoming. A key assumption is that social reality is always an expression of relationship – to what has gone before and will come in the future. People, too, are relational beings – constantly becoming and emerging in relation to their families, societies and cultures.

Second, with these assumptions in mind, research questions are directed towards investigating the dialogic, interpretive, social and relational processes through which entrepreneurial activities are constructed. The main research task is to 'look outwards' and be relationally aware when constructing and analysing entrepreneurial accounts. This might be done by giving attention to the social context or 'embeddedness' of entrepreneurial practices (Jack and Anderson, 2002; Zafirovski, 1999). But also analyses would go further than claiming entrepreneurial activities are socially situated or constructed, they would show how, why and in what ways. Also, fieldwork activities and analysis would emphasize the joint acts, conversations, dialogues and co-ordinations that people engage in when constructing ideas about business. Studies might focus on entrepreneurial individuals as relational beings but give attention to the multi-voicedness of entrepreneurial practices. Others might study an industry, team, family and/or partnership situation. Either way, the research interest moves away from attempting to capture the 'essence' of what that person is about entrepreneurially and instead explores how entrepreneurial activities are constructed and co-ordinated *between* people in conversations and joint acts *in relation* to their environments or cultures.

Third, social constructionist thinkers, in contrast to what many critics claim, do not deny the presence of an outside reality. On the contrary, inquirers would be concerned to question the ways in which that reality is constructed. More specifically, their aim is to examine the interrelationship between individual acts of entrepreneurial agency *and* the cultural, social and opportunity structural environment in and through which such activities are recursively reproduced. In this sense social constructionist thinking tends to be non-representationalist (Chia, 1996; Rorty, 1980) which means that claims are not made that our research accurately 'captures' or mirrors what entrepreneurial reality 'is' for those

people speaking about their experiences. Instead, our research task moves to a closer examination of the relational processes through which some notion of entrepreneurial reality is brought into being.

Finally, in applying social constructionist ideas and being relationally aware in their research, it is insufficient for researchers to claim that they are separate or detached from what is being investigated. During interviews entrepreneurs are constructing meanings and giving expression to their business-venturing activities in relation to the interviewer. In recounting their experiences of business venturing, entrepreneurs are dialoguing with the researcher generating meanings and selecting/making choices about how to frame their account on the day according to situational cues such as context and whom they are constructing. Also, after the interview, a further construction occurs as the entrepreneurship researcher becomes a writer and is constructing an account. This written account is concerned with analysing how entrepreneurs create meanings and descriptions of the venturing processes. In it, concepts and sensitizing themes that are drawn from the literature are used to make sense of the account. Applying social constructionist ideas, then, means making explicit or transparent the processes through which the research work (literature reviewing, theorizing, conceptualizing and analysis) is undertaken.

Conclusions: social constructionist ideas – some implications for entrepreneurship research and education

In this chapter, it has been argued that social constructivist and constructionist ideas can significantly aid our understanding of entrepreneurial practices. It is shown how this set of ideas has roots in social phenomenology and the sociology of knowledge – roots which have enabled particular emphases (constructivist and constructionist) to be developed in research inquiries. Depending on the research questions to be investigated both emphases yield potential for theoretical work and scholarly development of entrepreneurship education. It is helpful at this point to refer, once again, to Table 8.1 in which the following implications are outlined.

From a social constructivist perspective, learning and teaching becomes concerned with the ways in which entrepreneurial activities are constructed through individual, cognitive processes within a social context. Our pedagogy would be concerned with how knowledge about entrepreneurship is constructed in individuals' minds rather than through shared interactions or relational processes. Learning objectives would privilege entrepreneurship as a primarily cognitive capacity, a mode of thinking and way of being or acting. A key assumption would be that individuals have the capacity to be transformed by and through entrepreneurial activity. The focus of learning would be individual people – their expressions, cognitive processes, personalities, social-psychological attributes, meanings and sense-making processes. Course programmes would privilege the entrepreneurial self, and the 'being' or 'knowing' within such individuals. And course material would constitute psychometric tests, heuristics, discourse analysis, autobiographical accounts and life histories of entrepreneurial people. This material would emphasize personal subjectivity and cognitive dispositions with some attention being given to 'structural' forces in the environment or culture but only to illustrate how these are absorbed or embodied into the person.

With social constructionist ideas in mind, the learning, teaching and research process becomes more concerned with the interrelationship between individual acts of entrepreneurial agency *and* the cultural, social and opportunity structural environment in and

through which such activities are recursively reproduced. This is because social constructionist ideas enable a particular theoretical orientation – one that highlights how entrepreneurial activities are always an expression of relationship – not only to past (and future) conversations, events, experiences, thoughts, ideas, family and educational backgrounds as Dachler et al. (1995), Burr (1995) and Gergen (1999) claim, but also to the society and culture in which one is located (Fletcher and Watson, in press). So, whether acting alone or collectively to create a new business, individuals are situated in a particular society or cultural and economic context which influences the way they approach setting up a business. Also, there are structural properties in society which shape their action (such as notions of family, gender, self-employment, enterprise culture). But at the same time, their action in creating a new business also contributes to the structural properties they are relating to.

Turning more specifically to the learning and teaching implications of engaging with social constructionist ideas, our efforts become concerned with how entrepreneurial activities are constructed through dialogic and relational processes. And this theoretical orientation would engender views of entrepreneurial activity as relational, multi-voiced, as dialogic and as transformative of social patterns/life. In terms of programme or course material design, our teaching efforts would highlight the joint acts, co-ordinations and interactions through which entrepreneurial activities are brought about. But rather than relating these insights to the inward, cognitive abilities or special personalities of certain people, these activities would be seen as outwardly or relationally/communally constituted (Fletcher, 2006). As such, teaching efforts would be concerned to de-centre an entitive view of entrepreneurship in which entrepreneurship (its behaviours and properties) can be 'fully known' and discovered through learning or research.

In contrast, learning objectives would privilege the 'ongoing becomingness' of the activities that get labelled entrepreneurial. This can be liberating in the teaching process because such an assumption encourages inclusivity and respect for students' different abilities and needs. It also engenders creativity and freedom of expression in the learning process where those students who do not necessarily consider themselves to be entrepreneurial, in the sense communicated by media images of hero-entrepreneurs, can explore what they are capable of in an everyday sense in relation to their peers. Teaching methods would tend to utilize group or team working to illustrate the relationality of knowledge and understanding. Case or research material would emphasize the relational aspects of learning and becoming in both the inter-personal and intra-cultural/societal. For this reason, ethnographic studies, participant observation, narrative, storytelling and biography are useful learning resources because they take account of the cultural, political and historical setting in which entrepreneurial activity takes shape. But the point of such resources is not merely to describe the political or social context of entrepreneurial practices but to examine how issues of culture, political economy and society 'come together' in the production of entrepreneurial outcomes. Finally, utilizing social constructionist ideas for learning and teaching entrepreneurship would mean interrelating entrepreneurial understandings from multiple levels (such as individuals, firms and industries, communities, families or societies) – thereby providing multidimensional and more integrated explanations of entrepreneurial practice.

Finally, rather than contributing to fragmentation within the field – a claim sometimes attributed to the use of phenomenological approaches in entrepreneurship (Ucbasaran

et al., 2001) – social constructionist ideas offer promise for integrative theoretical work and scholarly development of the study of entrepreneurial activities. But, as mentioned earlier, entrepreneurship can no longer live on a promise (Steyaert and Hjorth, 2003) – it has to start delivering on this promise, and social constructionist ideas can help us to do this.

Notes

1. This debate has received much attention in organization studies (see Keleman and Hassard, 2003).
2. Von Glasersfeld's 'radical constructivist' approach (1991), tries to give up all representational or mirroring claims and, instead, is concerned with how knowledge and understanding is constructed through cognitive processing.

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9 Multi-disciplinary entrepreneurship clinic: experiential education in theory and practice

Peter Robinson and Sandra Malach

I hear and I forget
I see and I remember
I do and I understand. (Confucius)

Introduction

Entrepreneurship is a complex set of activities that encompass a wide range of knowledge, behaviors, and motivations in the identification, evaluation and development of opportunities (Shane and Venkataraman, 2000). Developing entrepreneurs requires an equally complex set of activities to facilitate the acquisition and understanding of the requisite entrepreneurial abilities.[1] Teaching entrepreneurship, then, requires a multi-dimensional and cross-disciplinary approach with an emphasis on dynamic processes that will expose students to the complexity of entrepreneurial activities in such a way that their actions can be examined and understood relative to the context of their own entrepreneurial development.

Experiential education provides just such a set of activities for teaching complex concepts and activities. This chapter provides a theory base for the development of effective experiential educational practices for entrepreneurship and then goes on to describe the implementation of that theory base through the use of clinical-based education in business and law. Finally, three cases are provided with reference back to the theoretical framework to illustrate the effectiveness of the outcomes of experiential education.

Educational theory

Dynamic paradigm

Robinson (1996) noted that current social science theorizing about the nature of personal characteristics has adopted the perspective of a dynamic interactive relationship between an individual and the environment. Mitchell and James (1989) describe this relationship as:

> a new view that stresses the important attributes of people, their contexts, and their interactions. First the person is seen as fitting into an environment. Second, both the person and the environment change over time. Third, changes in the person can cause changes in the environment and changes in the environment can cause changes in people. Fourth, people are both active and reactive with respect to these changes. Fifth, people's views of their past and future influence whether they are active or reactive and how much or how little they change. Thus, what emerges is a human who is active psychologically and behaviorally, interacting in a dynamic way with a changing environment. For the person, there is both stability and change, there is [pro]active and reactive behavior, [and] there are abilities and acquired skills that merge. (p. 401)

This paradigm of human environment interaction has strong implications for education and training where the objective is to go beyond rote learning. With a dynamic paradigm, learning becomes a process whereby knowledge and understanding[2] are created through

the transformation of experience with a realistic environment. In education this is best achieved through actual performance of task relevant to the learning objectives (Specht and Sandlin, 1991). This model has been a standard in the field of medicine for hundreds of years. Students of medicine are expected to learn through the 'practice' of medicine and this 'practice' usually includes a clinical setting as part of the overall curricula. It also follows that learning entrepreneurship or law would be best accomplished through undertaking entrepreneurial activities or 'practicing law' in a realistic environment.

The fundamental assumptions of experiential education embraces a wide variety of activities consistent with the dynamic person–environment interaction critical to achieve understanding and the kinds of learning discussed above. Crosby (1995) indicated that the assumptions underlying experiential education are more reliable than those underlying traditional theories of education. By this she means 'that students educated according to these assumptions are better prepared to deal with the world than are students educated according to traditional epistemologies' (Crosby, 1995, pp. 4–5).

At the foundation of this type of learning is a shift in the way learners interact with their environment. Simply interacting with the environment is not enough for education; Joplin (1995) states that the process must include reflection. She provides a five-step model for how this interaction may be structured for maximum effect. These include:

1. *Focus*. This consists of presenting the task and isolating the attention of the learner for concentration, preparing the individual for the challenging action that is to follow.
2. *Action*. This stage places the learner in a stressful situation where he or she is unable to avoid the problem presented, often in an unfamiliar environment requiring new skills or the use of new knowledge. Actions may be physical, mental, emotional, spiritual or any combination of several actions. Actions are student centered requiring a sustained effort in observing, sorting, ordering, analysing, behaving, emoting, struggling, and in general interacting with the environment and the presented problem.
3. *Support*. Support provides security and protection for the learner giving them the confidence to try new things and stretch themselves in risky situations.
4. *Feedback*. Feedback provides information about the students' performance relative to the task and gives some guidance for future actions.
5. *Debrief*. Here the learning is recognized, articulated and evaluated. The teacher is responsible for seeing that the actions previously taken do not drift along unquestioned, unrealized, unintegrated, or unorganized.

Experiential education and attitude theory

One conceptualization of the acquisition of understanding comes from attitude theory and models of attitude change. Gaining understanding involves a shift in the way an individual perceives and interacts with the world around them. This shift usually includes not only the cognitive aspects of the person–environment relationship but the conative[3] and affective aspects as well. In short, attitude theory offers a framework for understanding the ways in which people are affected by experiential learning activities.

Attitudes in this context are defined as an organized predisposition to respond in a generally favorable or unfavorable manner with respect to an object or a specific class of social objects (such as a person, place, thing, event, or idea) in the environment (Ajzen, 1982; Rosenberg and Hovland, 1960; Shaver, 1987). One approach to attitude theory

holds that there are three types of interaction with attitude objects in our social environment: affective, cognitive, and conative. Attitudes are a combination of all three elements interacting with the perceived environment as well as with each other (Allport, 1935; Bar-Tal, 1992; Brecklet, 1984; Kristensen et al., 2001; McGuire, 1969; Smith, 1947; Verplanken et al., 1998). Attitudes, then, are the focus of one's affect, cognitions and conations on real or conceptual objects in an individual's environment. The object could be as concrete as a specific piece of art or a type of food, or as abstract as a business opportunity or the structure of a legal problem. With regard to entrepreneurship, Robinson et al. (1991) demonstrated that a constellation of attitudes are effective in differentiating between those who start businesses and those who do not.

Attitudes toward a specific object can change (be learned) by focusing on the affective, cognitive, and/or conative elements associated with that object. Applying this approach to education provides a foundation for experiential learning that encompasses not only the cognitive elements of traditional educational programs, but also includes an understanding of principles and processes by incorporating affective and conative elements into the learning process. For example, in traditional education learning has consisted primarily of classroom experiences in which an instructor either delivers a lecture or discusses a case. This process focuses primarily on the cognitive aspects of business, such as the acquisition of knowledge and beliefs about the subject at hand, with little thought given to the affective and conative aspects of the business experience.

Although the cognitive and analytical aspects of business are important for success in most ventures, they lack emotional anxiety, excitement, and action imperative that emerge from the dynamic tension existing in the 'practice' of business or more precisely entrepreneurship and law.

Traditional educational methods do not directly address the emotive and conative aspects of the business, and thus limit a student's understanding of the practice of entrepreneurship. Experiential activities such as a 'clinical experience', as demonstrated in the Venture Development Legal Clinic at the University of Calgary, combine cognitive, affective, and conative elements, which can be examined either individually or in concert to enhance a student's understanding of business and legal principles within the entrepreneurial process. The enhanced understanding gained by the students through experiential education provides more reliable learning; this results in better retention and application of concepts and principles.

Specht and Sandlin (1991) and McMullan and Boberg (1991) have demonstrated that as a pedagogy moves away from traditional teaching to more experience-based methods the long-term retention of material, the understanding of concepts, and the application of knowledge are enhanced. Concepts take on a greater sense of reality, which creates a more relevant context for knowledge within the individual.

Experiential education in practice

Experiential learning activities in general are designed to teach complex principles through the use of structured behavioral activities (Dutton and Stumpf, 1991; Thatcher, 1990). It is through these activities that the person–environment relationship with respect to cognitions, conations, and affect can be established or changed for a particular individual and a particular set of complex principles. The following are elements that will enhance the effectiveness of attitude change and thus are elements of good experiential education:

- *A balance of content and process*. An examination of process is fundamental to experiential learning. How we solve the problem is as important as the solution in the learning process (Chapman et al., 1995; Joplin, 1995).
- *Student rather than teacher based*. The teacher will create safe working boundaries and then get out of the way, placing the responsibility for learning squarely on the student (Joplin, 1995).
- *Personal not impersonal in nature*. The learner as a perceiving, thinking, feeling and behaving human being is placed under stress to perform in a specific situation. Individuals must be engaged in the process to bring all their faculties to bear on the problem. It must become personally relevant to them (Joplin, 1995).
- *Holistic rather than reductionistic*. Complex environmental situations facilitate learning the complexity of relationships in real-world settings. Solutions must take into account the rich diversity present in realistic environmental situations. The whole is in reality greater than the sum of the parts (Chapman et al., 1995: Joplin, 1995).
- *Creates an emotional investment*. Any experiential learning model which does not recognize the importance of emotional investment diminishes its potential effectiveness for the learner. The processes needs to engage the learner to a point where what is being experienced strikes a critical central chord within the learner (Chapman et al., 1995; Joplin, 1995).
- *Reflection and self-examination.* Experience without reflection and examination is only interaction and not education. Learners must reflect on the processes and examine their reaction to the situation and their actions (Chapman et al., 1995).
- *Moving outside one's comfort zone.* Experiential learning often stretches the learner beyond their normal range of cognitive, conative, and affective responses. This enables them to examine their normal responses and learn new patterns of responding to situations (Chapman et al., 1995).

In summary, experiential education is an approach to learning whereby knowledge and understanding are acquired through a complex set of interactions between a thinking, feeling, and behaving being and a complex environment. Through this interaction relationships and theories can be explored and examined to create new insights into the practice of any specific field.

Multi-disciplinary clinical education

The Venture Development Legal Clinic was a joint program of the Faculty of Law and the Haskayne School of Business at the University of Calgary that operated from 1986 to 2003. During that time, over 600 law students and 200 MBA students assisted over 3000 entrepreneurs by providing them with information regarding pre-start-up legal and business issues. The first objective of the clinic was to give law and MBA students an experiential learning opportunity by working in a clinical setting with entrepreneurs and applying their subject-specific knowledge to identify and provide solutions to pre-start-up issues. The second objective of the clinic was to provide local entrepreneurs with access to legal and business planning advice. Thus, the program provided law and MBA students with multi-disciplinary experiential education and entrepreneurs with an affordable and accessible source of business and legal expertise.

Students experienced a quasi-independent interaction with both clients and students from other faculties through which they applied substantive knowledge and problem solving strategies to real businesses. Through this process the students were fully immersed cognitively, affectively and conatively in the learning process. The result was a rich experiential learning environment where the acquisition of understanding about business and legal principles went well beyond that of traditional pedagogy or case-based analyses.

Clinic operations

The clinic was managed by a director and an administrative assistant. These positions varied between full time and part time, depending on funding availability. The director, a lawyer with practice experience, was responsible for overseeing the management of the clinic and clinical education and reported to the deans of both the Faculty of Law and the Haskayne School of Business. Management activities included: fund-raising, financial reporting, policy creation, operations management, public relations and mentor relations. The role of clinical instructor involved: screening clients, conducting pre-interview sessions, chairing the post-interview de-briefing session, determining the scope of individual student assignments, advising students on research requirements, reviewing all client letters and evaluating student work.

An administrative assistant helped the director in all ways but primarily in telephone contact with clients and preparing student letters for mailing. A summer student enrolled in the LLB/MBA program provided services to clients between May and August.

Clinic sessions were held weekly during the fall and winter semesters following a standard protocol for each clinic session (Appendix 9.1). Clinic sessions were attended by up to five clients, five law students and five MBA students. The use of a standardized procedure was an important factor in the student's experience, as it allowed the student to have confidence in the process even though there was uncertainty associated with client relationships and issues. The established process also allowed clinic staff to effectively institute operational and quality controls to insure client satisfaction.

At the beginning of each term students attended an orientation session where they were instructed on the clinic procedure and registered for a clinic session. This allowed the students to understand their role and responsibilities, along with clinic support services, and it provided an opportunity to review client profiles and expectations. Two days prior to the interview date students selected their client from a list describing the business and legal concerns. Student self-selection of clients was utilized to increase the student's interest in the client's business and increase motivation. Students arrived at the clinic approximately half an hour prior to the clients' arrival to allow the director to introduce law and MBA students, organize the interview strategy, determine relevant lines of inquiry and provide other assurance to students. The hour-long client interviews were not directly supervised; however, students were permitted to seek advice from the director by adjourning the interview.

Immediately after the client interviews were concluded all of the students attended a debriefing session with the director and mentor (practicing lawyer). During this session, each group of law and MBA students first described their clients' business, then identified the pertinent legal issues and input from all law students, and the mentor was solicited in an attempt to define the best solution or course of legal research. The MBA students provided comments on the effect of various legal strategies on the business plan, and then discussed the weaknesses of the business plan and identified strategies that could be utilized for its

improvement. At the conclusion of each discussion, the director outlined the scope of the students' research assignments and client letters. This session was a dynamic interactive learning experience for all students where each participated as a teacher and a learner as a result of the inter-disciplinary nature of the discussions and often lively debate.

Post-interview activity involved students conducting the applicable research on legal or business issues and writing a client reporting letter. Law students' letters were reviewed in draft by a mentor lawyer, specializing in the relevant legal issues and the final draft was reviewed and evaluated by the director. The MBA students' letters were reviewed by the director. The director's review and evaluation of student letters was based not only on accuracy of technical information, but also an integration of relevant facts about the client's business and clear writing skills. Students were given feedback on their letters and in some cases required to rewrite the letter in order to provide the client with applicable information. These activities challenged students to insure that the research conducted was correct and applicable to the client's business and also to write in a non-academic style that could be comprehended by the client.

Clinical environment

The clinical environment was novel for the students in two ways: (1) they were required to interact with clients and (2) they formed an analytical team with a student from another discipline. Clients were drawn from the local community and were of varying ages and education (Brown and Sears, 1990). Furthermore, the clients often had more technical knowledge than the students. Cross-disciplinary student interaction exposed students to others with applicable cognitive knowledge which could be either conflicting or complimentary to their knowledge base when applied to client issues. Examples of client cases may best illustrate the experiential learning garnered through the clinical model as identified by Dutton and Stumpf (1991) and Thatcher (1990).

Goal net

An entrepreneur developed a collapsible hockey goal net to facilitate the transportation of the net to different outdoor practice and game venues. The target market for the net were parents and youths involved in hockey programs. The design of the net incorporated a locking pin that projected downward from the front crossbar when the net was collapsed. The locking pin was long enough and projected downward at an angle so that the potential for injury was apparent if a player was unlucky enough to be caught under the net when the crossbar collapsed.

The entrepreneur presented his product to a clinic group composed of MBA, law and engineering students. The students unanimously agreed that the product idea had merit and a good potential to make it to market. However, their reaction to the design defect illustrated differing cognitive knowledge. The MBA student believed that the defect would have a negative impact on marketing the product. The law student believed that it was a product liability issue. Both of these students perceived the problem to be a fatal flaw which would negate the business's feasibility. However, the engineering student only identified the design defect after the law and MBA student assessed the significant problems associated with use of the pin. The simple solution was substituting the pin with a locking hinge. The technical solution was adopted. The fatal flaw was eliminated and product development proceeded. Eventually the product made it to market.

It was interesting to observe the cognitive dissonance exhibited by the law and MBA students. Initially, both the law and MBA student exhibited affective anxiety over having to deliver a negative assessment to the client whom they believed had developed a feasible product, except for the pin mechanism. Subsequently, when the technical solution was adopted they believed their contribution had been marginalized by the adoption of the technical solution. The requirement to deliver a negative client report was eliminated by adopting the redesign solution and their marginalization belief was reduced when, after coaching by the instructor, the engineering student related that he only identified the product design defect as a serious one after the law and MBA students indicated the implications associated with the initial design. When the students realized that multi-disciplinary knowledge led to the solution and that one student in isolation could not have devised the optimum solution the cognitive dissonance and affective anxiety dissipated. The result was an exponentially higher level of understanding that increased the range of solutions that could be applied to complex business issues. Students also gained a deeper appreciation of the knowledge and the perspectives that other disciplines can contribute to business development.

Party planning

The entrepreneur was an extremely personable single mother in her late twenties, enrolled in a business planning program. She intended to open a birthday party planning business. However, these were not ordinary parties. These were birthday party extravaganzas for children that would never be forgotten. One of the themes was a 'Birthday Fair' complete with amusement rides, including a children's roller coaster.

The students immediately liked the client and were enthused by the idea. However, the law student was concerned about the liabilities arising from the roller-coaster operation. The student believed that utilizing a well-drafted waiver would provide the entrepreneur with some protection against this uninsurable risk. However, the mentor-lawyer advised that the courts are often reticent to uphold waivers. The director also discussed the logistics of obtaining properly executed waivers in a situation where the party hosts often have no contact with the parents of the guests (invitations are often distributed at school and the children are car-pooled to the party). At this point, the MBA student became concerned regarding the negative effect on the event if a guest was denied participation and the corresponding decrease in goodwill associated with the client's business. As a result, reliance on a waiver was discounted as the best solution to reducing liability.

The MBA student had questioned the client regarding operations management and was advised that the client was renting the roller coaster from a third party. The roller-coaster supplier was responsible for supplying, assembling and operating the roller coaster. Therefore, the MBA student assumed that the roller-coaster supplier would be liable for any injury resulting from its operation. The law student informed the MBA student that any litigation would likely allege negligence against the party host, the client and the roller-coaster supplier. However, the MBA's remark regarding the liability of the roller-coaster supplier caused the law student to suggest the incorporation of an indemnity clause in the contract between the client and the roller-coaster supplier. The result would be that the client could shift any liability risk to the roller-coaster operator. This solution provided better liability protection than waivers and reduced the risk of an unsuccessful

event due to exclusion of guests who failed to properly execute waivers. Legal issues should not be apparent at birthday parties.

Infant car seat

The client, an engineer, had designed a new infant car seat, incorporating features that provided additional comforts for the child. The client presented a prototype car seat and draft business plan to the students for their review. After an initial review, the MBA students were satisfied that the plan presented a realistic assessment of the market and financing required to produce and market the product. However, the legal review identified a critical element missing from the business plan: a regulatory review. Infant car seat designs are required to meet extremely stringent safety standards and undergo testing in approved laboratories to ensure that the seats meet the required regulatory standards. At this early stage of product development, it was not apparent whether the prototype design would fulfill these regulatory standards. Once the information regarding the regulatory requirements was conveyed to the client it became clear that significant changes to the business plan were required. These changes included delaying the proposed production date to accommodate the testing process thus deferring revenue for at least an additional fiscal quarter. Additional funds were also required to create additional prototypes for testing and the testing process. Uncertainty was also increased as the cost of materials and manufacturing process may be increased. The result was a poorer financial forecast and the need for additional external financing. After a review of the technical regulations, by the engineer-entrepreneur, the project was abandoned due to the increased cost structure and deferred revenues resulting from the testing process which decreased the car seat's feasibility. Although the business was not successful the clinic project did save the client a great deal of time, money and frustration in trying to get this product to market. Had it not been for both the business and legal input the care seat could have been a significant failure as opposed to a 'no-go' decision.

Theory implementation

Clinic protocols implementing experiential education theory

Clinic protocols were developed and consistently followed to provide all students with certainty regarding their role and expectations. The protocols incorporate Joplin's five-step model to optimize the experience.

1. Focus was attained by allowing the students to select their client based on the information provided to them (business type and legal concerns identified by the entrepreneur). Students were required to prepare for the client interview by conducting preliminary research and developing interview questions. For example, when the client was an inventor of a new product law students were required to develop an interview focused on the protection of intellectual property and business students focused on market feasibility.
2. Action occurred during client interviews where the multi-disciplinary teams were required to implement their personal interviewing skills and accommodate a student from a different faculty. The interview required students to simultaneously employ multiple actions in a changing environment during the course of an interview. The practice most commonly implemented by the teams was for the law student to open

the interview by utilizing open-ended questions to solicit a description of the business followed by a series of progressively narrowing questions followed on each legal issue identified by the law student (that is, intellectual property law, finance law and business structure). The MBA student would then assume the role of interviewer and conduct a series of questions surrounding the relevant business feasibility issues (that is, industry structure, target market identification, distribution channels, financial projects and financing requirements). The interview would be closed by the MBA student soliciting additional questions from both the client and law student prior to informing the client of the process for completing the file. Implementing this interview method was critical to accurately obtaining information from the entrepreneur in a timely way. Interviews where this method was not used often resulted in random questioning from both students at unpredictable intervals. Often the entrepreneur was unable to fully respond to the questions in a meaningful way resulting in information that lacked clarity and was out of context.

3. Support and feedback were provided primarily by the director and practitioners in the role of mentors. Immediately prior to the interview the director employed positive reinforcement to reaffirm students' cognitive knowledge and approve the interview plan. This was a necessary step as often the students were conducting their first client interview. The director intentionally avoided directly observing interviews to decrease student anxiety. However, students were permitted to briefly adjourn the interview to seek support from faculty. Although mid-interview support was sought infrequently, most support was for an affirmation that the students had solicited sufficient information and that the interview could be concluded in significantly less time than allotted.
4. Feedback on the success of the interview was provided during the all student debriefing session immediately following the interview. This session was conducted utilizing a quasi-Socratic teaching style where the instructor's questions caused students to recognize whether the client information required to properly identify and analyse the issues was obtained in the interview. Further feedback was provided to the students on the quality of the information compiled for clients via mentor review and faculty grading of the letters to the client. Students usually thoroughly discussed the issues relating to the client business; however, common deficiencies were in failing to describe the business in sufficient detail and inadequately linking the business or legal information to facts from the interview. Clients with the most complex cases provided feedback to the students in an additional interview following receipt of the student report. In this follow-up interview the students and entrepreneur discussed key points in the reports and evaluated the effects of alternative solutions on the business plan. Client surveys were included with all reports to ascertain the value of the services to the client. One method of determining value was for the client to place a dollar value on the information provided. The average was approximately $1000.
5. The debrief session, held immediately after the first interview provided the student with an opportunity to articulate relevant details of the client business and their initial identification of relevant issues and potential solutions. Recognition of accuracies and deficiencies was provided by the director, mentors and fellow students in the issues discussion. Evaluation was initially conveyed through the discussion and subsequently provided by the mentor's and director's comments on the client letter.

Teaching methodology implementing educational theory

The teaching methodology utilized in the clinical program also exhibited elements of good experiential education by employing techniques to maximize the student's learning experience.

1. *A balance of content and process*. The multi-disciplinary approach to solving the client's problem was balanced, allowing each of the students to make a contribution based on cognitive knowledge. This enabled students to assume the role of both student and teacher. At the conclusion of each case the director recapped the salient facts, critical issue identification, possible business and law solutions and the consensus reached. Summarizing the de-briefing session discussions in this way allowed the students to retain the consensus reached for each client file.
2. *Student rather than teacher based.* The professor merely guided the students through the process of issue identification, discussion and conclusion. Furthermore, by identifying cognitive dissonance, in students whose cognitive knowledge failed to provide the best solution their contribution was acknowledged. On occasion, students with less self-confidence had to be encouraged to express their professional opinion. For example, when law students encouraged the over-use of product disclaimers on product packaging, the MBA student had to be coaxed by the instructor to elicit her opinion regarding the negative effect of numerous disclaimers on product packaging and market strategy effectiveness.
3. *Personal not impersonal in nature.* The formation of a student–entrepreneur relationship increased the students' motivation towards excellence as the entrepreneur's passions and emotions are transferred to them. Frequently, students expressed an opinion on either the product or the entrepreneur. Common comments were 'I sure hope this product makes it to market because I can't wait to buy it' or 'Those clients are very smart and seem to have what it takes to make this business successful.' However, on occasion the students thought that either the product was poor or that the entrepreneur did not have the ability to start the business. Secondly, the students were interested in accurately informing the non-disciplinary students of their perspective on the issues and conclusions reached. The de-briefing sessions gave students an opportunity to explain discipline-specific issues and information to enhance interdisciplinary communication and assist the group in reaching a consensus. For example, in the party planning case the law student corrected the MBA student's notion of liable parties. Even though students were not required to exchange client letters with each other they routinely did so.
4. *Holistic rather than reductionistic*. Although each student narrowed the problem to evaluate it within the limitations of their cognitive knowledge, the sharing and discussion of issues, solutions and impacts allowed the students to reach a consensus and adopt the solution most beneficial to the client. Utilizing the example of the sports goal net, each of the students identified the correct problem within their area of expertise. The recommendation of the multi-disciplinary team was often far superior to that resulting from a singular perspective. For example, the law student may have suggested the importance of the use of disclaimers, the marketing student may have excluded damage from the pin in the warranty and the engineering student may have suggested, but not strongly recommended, an alternative to the locking pin.

The holistic solution offered the client maximum protection from liability and reduced marketing issues.

5. *Creates an emotional investment*. The learners were engaged by the entrepreneur who affectively presented his or her product to the students causing them to recognize how the application of their work would affect its feasibility in the marketplace. As the final product was being delivered to a client, many students were overly conscientious about the quality and presentation of their work, including writing the letter in a way that was comprehensible by the client. Often, students requested that the mentor and faculty review the work on numerous occasions.
6. *Reflection and examination*. The students were given an opportunity to reflect on the client's problem and the interview process during the de-briefing session and client reporting process. Further reflection occurred during the research phase and composition of the client letter. Upon reflection students often consulted with faculty and other students to confirm the accuracy of information. When students realized that additional information regarding the business was required, the client was contacted.

Conclusion

Inter-disciplinary clinical education provides students with an optimal experiential education. Students assume the role of counselor when working with clients, teacher when conveying knowledge to other students, and student when learning from other students. The educational components can be classified as: cognitive, affective and behavioral.

There are four sources of cognitive knowledge providing a complex learning environment where all parties are contributing to the project (Table 9.1). This is a simulation of real-life business problem-solving where meetings and project teams often are made up of individuals with complimentary knowledge bases. Students must have a firm knowledge base in their discipline, often attained through traditional education methods, thus a prerequisite for this program was at least second-year standing.

Student's affective experience includes the inter-personal relationships formed with the client and other students. A student's performance will often be superior to that demonstrated in academic assignments as they realize that the information provided will be utilized by the client and the other student.

Student's behaviors were challenged by moving outside their comfort zone as a student. The clients regarded them as professionals and corresponding behavior resulted. This is exemplified by student dress, deportment and preparation of client letters in a timely and meaningful way.

As entrepreneurship is holistic by nature, faculty can provide an optimal learning experience by incorporating multi-disciplinary clinical experiences into their curriculum. The

Table 9.1 Sources of cognitive knowledge

Source	Cognitive knowledge
Client	Technical/industry knowledge, human resources
Law students	Legal principles
MBA students	Business knowledge
Engineering/science students	Technical knowledge

result is an enforcement of the substantive knowledge acquired in traditional learning methods through the experiential application of this knowledge to a client problem. Furthermore, interdisciplinary education creates awareness among students that the expertise gained in one area of study is not holistic and that consulting with individuals with complementary expertise is often critical in obtaining the optimal client solution.

Notes

1. Ability is the power or capacity to perform specific acts, either physical or mental, with competence based on natural or acquired skills and knowledge within a particular domain. It is a combination of behavior and knowledge along with attitudes, focused on elements of the situation or environment (Robinson et al., 1997; *Webster's Collegiate Dictionary*, 1991).
2. Defined as a quality of knowing going beyond cognitions such as facts, concepts, beliefs and principles to include conation and affect.
3. The aspect of mental life having to do with purposive behavior, including desiring, resolving, and striving (*Webster's College Dictionary*, 1991).

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Appendix 9.1: Legal clinic process

This is a description of the process a file follows through the legal clinic.

1. Students sign up for a clinic session at the beginning of the year.
2. Client calls and is screened. Appointment is booked.
3. Students arrive at the clinic at 6.00 p.m. for their clinic session to receive background information regarding the client. Students interview client at 6.30 p.m. for a maximum of one hour.
4. Students attend the de-briefing session with the lawyer-mentor and Sandra Malach to discuss the files and determine the client's needs. Students are encouraged to fully participate in this discussion, and to use their knowledge and experience to provide the client with legal strategies regarding their business association and its internal and external attributes. This session will end at approximately 8.30 p.m.
5. Students conduct research and prepare a draft client letter outlining the business association issues and their importance. During this phase students may obtain guidance from the Director, regarding scope and application of legal principles to the client's business.
6. Students' assignments are *due three weeks after their client interview*. The complete file including: (a) Confidentiality Agreement, (b) Client Release, (c) Interview Notes, (d) Research Notes, (e) Client Documentation and (f) Hard and Disk Copy of a client letter constitutes the assignment. All documents must be saved in RTF (Rich Text Format).
7. If no major revisions are required the letter is printed on Venture Development letterhead, signed by the Director on your behalf, and mailed to the client.
8. If changes are suggested, the student will be contacted to discuss the letter with the Director. Revisions are then made and the letter is re-submitted.
9. Clinic performance is graded, by the Director based on the distributed grading criteria including the letter and professionalism.

10 Towards a new methodology to assess the entrepreneurship teaching programmes*

Alain Fayolle, Benoît Gailly and Narjisse Lassas-Clerc

A main current research issue in the field of entrepreneurship education is to know to what extent the entrepreneurship teaching programmes (ETPs) influence students attitudes toward the entrepreneurial behaviour, entrepreneurial intention and the behaviour itself (Hytti and Kuopusjärvi, 2004; Moro et al., 2004). Entrepreneurship literature also underlines the role of the social context. The orientations and behaviours of students and young graduates are influenced by a number of personal and environmental factors (Lüthje and Franke, 2003). As an example, researchers have shown the importance of the social status of entrepreneurial activities and situations (Begley et al., 1997) in the participant's environment. Particularly, empirical evidence for the relationship between the parental role model and preference for a self-employment career has been reported several times (Matthews and Moser, 1995; Scott and Twomey, 1988).

Based on these observations, the aim of our chapter is to present a full experimentation of a new methodology designed for assessing the ETP, the objective being to put some light on the research questions exposed above. The main focus of our chapter is clearly on entrepreneurship education and particularly on the assessing programme question. The new methodology is based on the theory of planned behaviour (Ajzen, 1991; 2002) and was described by Fayolle (2005). A first experimentation was reported by Fayolle and Gailly (2004). More precisely, the objective of our research is to apply our theoretical and methodological framework to an experimentation consisting in a three-day pedagogical process with a sample of 275 French students following a specialized Master in Management.

Our research sample is composed of students who recently started a one-year specialized management programme at a business school ranked among the top four in France. This business school has been promoting and diffusing the entrepreneurial spirit throughout its programme and curriculum over the past 20 years. Before attending the specialized master's programme, students have received a degree at the Master of Science level, usually in technological disciplines from French engineering schools and technological universities.

At the beginning of the master's programme, students are intensively trained for several weeks to acquire fundamental managerial skills and competencies. Upon completion of this portion of the programme, they are trained and educated according to their chosen specialty. During their first weeks in the master's programme students are all engaged in a three-day case study related to entrepreneurship. We have used this pedagogical event as a field of study for our research programme, applying our methodology in a longitudinal way to capture student variation in attitudes and intentions through the three-day programme. To begin our *first phase of research*, we administrated a questionnaire at the beginning of the programme, to measure attitudes (antecedents of intentions) and the level of entrepreneurial intentions. All antecedents and measures were derived from literature focused on theory and previous empirical research on intentionality.

In our *second phase of research*, we administrated the same methodological conditions in a follow-up questionnaire to measure the same variables, with a specific emphasis on assessing the influence of the pedagogical process on the eventual variation of entrepreneurial intentions.

The results have been analysed for the entire group as well as through segmentation of the sample into sub-groups based on various social factors influencing entrepreneurial intention.

In a first section of our chapter, we study the entrepreneurship literature dealing with issues of ETP impact. The second section presents our theoretical approach which is based on the theory of planned behaviour. It is important to note that the theory is used not as a predictor of the entrepreneurial behaviour, but as a powerful model of conceptualizing entrepreneurial intention and its antecedents. The third section describes the details of our study, including the sample and the research material. It also presents and discusses our results. In the conclusion, we underline the main research outcomes, and then we develop the theoretical and practical implications of the research, commenting on its limitations and avenues for future research.

10.1 Effects of entrepreneurship teaching programmes

Throughout the world, student interest in entrepreneurship as a career choice is growing (Brenner et al., 1991; Fleming, 1994; Hart and Harrison, 1992; Kolvereid, 1996a), while interest in traditional professional employment in big business is gradually declining (Kolvereid, 1996b). The orientations and behaviours of students and young graduates are influenced by a number of personal and environmental factors (Lüthje and Franke, 2003). Empirical research has shown that the presence of entrepreneurship education programmes and a positive image of entrepreneurs within the university are both incentives for students to choose an entrepreneurial career. Johannisson (1991) and Autio et al. (1997) underscore the impact of students' perceptions of entrepreneurship, along with resources and other support mechanisms available in the university environment, on positively influencing student attitudes towards entrepreneurial careers. Other research has shown the importance of the social status of entrepreneurial activities and situations (Begley et al., 1997) and the statistical link between the level of entrepreneurial intention and the number of management courses taken by students enrolled in other programmes (Chen et al., 1998). Entrepreneurship education and training influence both current behaviour and future intentions (Fayolle, 2002; Kolvereid and Moen, 1997; Tkachev and Kolvereid, 1999). In other words, there are significant differences between students who have taken entrepreneurship courses and those who have not. However, the question is can the causal relationship between the educational variables (course content, teaching methods, teacher profile, resources and support, and so on) and the direct intentional and/or behavioural antecedents (attitudes, values, knowledge, and so on) really be explained in detail? While findings of researchers who have attempted to do this are summarized below, we still believe there is a need for further conceptualization and testing.

Attempts have been made to compare the intentions and/or behaviours of students from different groups. For example, Varela and Jimenez (2001), in a longitudinal study, chose groups of students from five programmes in three universities in Columbia. They found that the highest entrepreneurship rates were achieved in the universities that had invested the most in entrepreneurship guidance and training for their students.

Noel (2001) looked specifically at the impact of entrepreneurship training on the development of entrepreneurial intention and the perception of self-efficacy. The students in the sample had all taken an entrepreneurship education programme and were graduates in entrepreneurship, management or another discipline. Noel's findings at least partially confirmed the assumption that the entrepreneurship graduates were more likely to launch businesses and had a higher level of intention and a more developed perception of self-efficacy than students in the other two groups.

Other researchers have tried to explain the relationship between entrepreneurship programmes and individual characteristics, such as need for achievement and locus of control (Hansemark, 1998) or the perception of self-efficacy (Ehrlich et al., 2000). They found that entrepreneurship education had a positive impact, enhancing these characteristics and the likelihood of entrepreneurial action at some point in the future.

However, less attention has been paid to educational variables. Dilts and Fowler (1999) attempted to show that certain teaching methods (traineeships and field learning) are more successful than others at preparing students for an entrepreneurial career. Lüthje and Franke (2003) discuss the importance of certain contextual factors within the university environment which hinder or facilitate access of technical students to entrepreneurial behaviours. Their findings confirm those of Autio et al. (1997) and Fayolle (1996), which were obtained using similar samples.

10.2 The theoretical model of the research

Regarding specific research focusing on students, while some considered the role of institutional surroundings as significant (Autio et al., 1997), the type of training and programmes was not explicitly taken into account. Little is known about the impact of such variables connected to the formation of entrepreneurial intention, based on the antecedents of the model of Ajzen (1991; 2002).

The theory of planned behaviour is an extension of the theory of reasoned action (Ajzen and Fishbein, 1980), including the factor of 'perceived behavioural control'. The central factor of this theory is the individual intention to perform a given behaviour. Intention is the cognitive representation of a person's readiness to perform a given behaviour, and is considered to be the immediate antecedent of behaviour. The first claim is that intention is the result of three conceptual determinants:

1. *Attitude toward behaviour*. The degree to which a person has a favourable or unfavourable evaluation or appraisal of the behaviour in question (Ajzen, 1991). When new issues arise requiring an evaluative response, people can draw on relevant information (beliefs) stored in memories. Because each of these beliefs carries evaluative implications, attitudes are automatically formed.
2. *Subjective norms*. Perceived social pressures to perform or not to perform the behaviour (Ajzen, 1991); in other words, the subject's perception of other people's opinions of the proposed behaviour. It is possible for theses pressures to have a strong or weak role in creation of intention. For example, in France, the failure of a company is often negatively perceived whereas in the United States, a person can often undergo several failures and still undertake new attempts at creating a successful business.
3. *Perceived behavioural control*. Perceived ease or difficulty of performing a behaviour (Ajzen, 1991). This concept was introduced into the theory of planned behaviour to

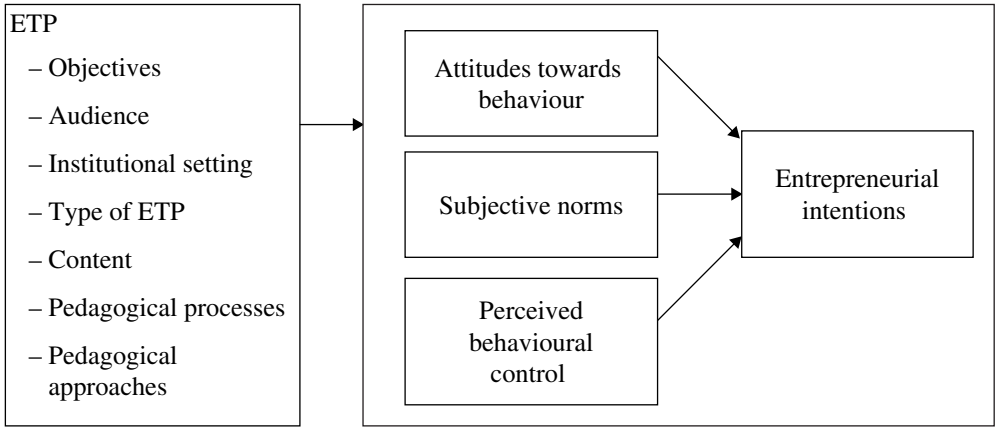

Figure 10.1 ETP assessment model

accommodate the non volitional elements inherent, at least potentially, in all behaviours (Ajzen, 2002). Krueger and Dickson (1994) show us that an increase of perceived behavioural control increases the perception of opportunity.

The model used to assess the impact of ETP is presented in Figure 10.1. In this model, an ETP is assessed based on its impact on participant's attitudes and intentions regarding entrepreneurial behaviour (Fayolle, 2005; Fayolle and Gailly, 2004).

In this model, the independent variables are the characteristics of the ETP that one wishes to assess or compare. These variables can be related to the ETP itself (whether or not it was attended) or to some specific dimensions related to its objectives, content (Gasse, 1992; Ghosh and Block, 1993; Gibb, 1988; Wyckham, 1989), teaching approach, audience or institutional settings (Safavian-Martinon, 1998).

In particular, Johannisson (1991) identifies five content levels for the development of entrepreneurial knowledge that can be used to characterize the content dimension of ETP: the know-why (attitudes, values, motivations), the know-how (abilities), the know-who (short- and long-term social skills), the know-when (intuition) and the know-what (knowledge). Similarly, Develay (1992) distinguishes three dimensions of teaching approaches: content strategies, relationship strategies and acquisition strategies.

The dependent variables in the model relate to the antecedents of entrepreneurship behaviour as defined using Azjen's theory, that is, measures of attitude towards the behaviour, subjective norms, perceived behavioural control and intention. These are measured through surveys of the participants completed before and after the ETP.

In our research we do not use all the independent variables exposed in our model. We simply consider the ETP as a whole and as the unique independent variable of the experimentation.

10.3 Experimentation and empirical results

In this section, we present the experimentation and the main empirical results from the survey we conducted both before and after students followed an entrepreneurship

training programme. We describe the sample and test several hypotheses regarding the intention model and how its antecedents are effected by the ETP and student background, using standard statistical procedures (SPSS).

Study

Our study is a short-term one. It is supported by a three-day seminar focusing on the evaluation of new venture projects, mainly based on the business plans written for the regarding ventures. This seminar aims to increase student awareness of entrepreneurship and to help them understand some main issues in relation to entrepreneurs and their own entrepreneurial projects. The seminar covers many of the key dimensions of entrepreneurship and specifically the context of new venture projects. Students work in small groups (four or five) and interact with entrepreneurs and professors specializing in entrepreneurship, during the seminar.

At the beginning of the programme, we administrated a questionnaire to the 275 participants in order to capture their attitudes and measure the level of their entrepreneurial intentions. As discussed earlier, we used measures derived from social psychology literature. At the end of the three-day programme, we measured these same variables in similar methodological conditions.

The two questionnaires (before and after the ETP) were sent to 275 students and included 47 Likert-scaled items related to the parameters of Ajzen's intention model (attitudes towards the behaviour, subjective norms, perceived behavioural control and intention) and 23 questions related to the student's background (age, gender, entrepreneurial experience, and so on). Our research material is derived from the questionnaires developed and validated by Kolvereid (1996a and b), for the measure of the parameters of Ajzen's intention model. Each item is scaled from 1 to 7 and different model parameters are measured as the average score of a predefined set of items.

As stated above, the research material also included items related to what is usually called 'demographic' variables (Robinson et al., 1991) and students background variables (previous entrepreneurial experiences and exposure). Finally, we also measured the extent to which entrepreneurial knowledge and skills are acquired by participants, using a specific approach developed by Johannisson (1991).

Sample analysis

Among the questionnaires, 131 answers out of 275 were incomplete or inconsistent (52 per cent valid response rate). An answer was considered inconsistent if the standard deviation of the items related to one of the parameter of Ajzen's model was greater than 2 (given the 1 to 7 scale). The average age of the respondents was 25 and all but seven were French. The main statistics regarding Ajzen's model parameters before and after the ETP are presented in Table 10.1.

Before testing the impact of the ETP, we tested the validity of Azjen's model (that is, whether the antecedents were good predictors of the entrepreneurial intention) before and after the ETP. The result of the corresponding linear regression is presented in Table 10.2. Please note that the measures of the antecedents were significantly correlated (correlations ranging from 0.3 to 0.6, $p < 0.01$).

These results allow us to validate the use of Azjen's model to predict the entrepreneurial intention of the students surveyed. We also note that the regression increases after the

Table 10.1 Survey results

Measure	Number of items	Average score	Standard deviation	Crombach's alpha
Before the ETP				
Attitude towards the entrepreneurial behaviour	32	5.01	0.54	0.86
Attitude related to subjective norms	6	3.69	0.96	0.77
Attitude related to perceived control	6	3.86	0.75	0.70
Entrepreneurial intentions	3	3.90	1.24	0.83
After the ETP				
Attitude towards the entrepreneurial behaviour	32	5.00	1.52	0.87
Attitude related to subjective norms	6	3.67	0.91	0.75
Attitude related to perceived control	6	3.95	0.76	0.75
Entrepreneurial intentions	3	3.97	1.25	0.86

Table 10.2 Validation of Azjen's model

Variable	Value	Standard deviation	Significance
Before the ETP			
Attitude towards the entrepreneurial behaviour	0.40	0.17	0.02
Attitude related to subjective norms	0.57	0.09	0.00
Attitude related to perceived control	0.23	0.12	0.06
R-square	0.36		0.00
After the ETP			
Attitude towards the entrepreneurial behaviour	0.34	0.14	0.04
Attitude related to subjective norms	0.56	0.06	0.00
Attitude related to perceived control	0.27	0.10	0.01
R-square	0.51		0.00

ETP, which could be interpreted as a refinement of students' attitudes and expectations as a result of the ETP.

Analysis of the impact of the ETP

To test whether the ETP had an impact on students' intentions and attitudes, we used a mean comparison T-test and analysed the correlation of the mean difference with other factors related to the students background.

As indicated in Table 10.1, there were limited differences observed as a result of the ETP when considering the entire sample. Among the three antecedents of the entrepreneurial

intention, only the attitude related to perceived control was significantly influenced by the ETP (mean difference = 0.09, $p < 0.05$) when considering the whole sample of students.

The two other measures of attitudes were not significantly affected by the ETP. However, there is a significant correlation between the impact (mean difference) of the attitude towards entrepreneurial behaviour and intention and between the impact on the attitude related to subjective norms and the attitude related to perceived control (0.20 and 0.30 respectively, $p < 0.01$).

When considering the entrepreneurial intention, the absolute impact of the ETP is not statistically significant (mean difference = 0.06, $p < 0.36$). However the relative impact (mean difference divided by mean before the ETP) is significant (relative mean difference = 4%, $p < 0.05$).

When considering all the respondents, the ETP appears therefore to have a significant impact only on attitudes related to perceived control and only, in relative terms, on entrepreneurial intention. Moreover, there are significant correlations between the impact observed, which might indicate a strong interdependence between how attitudes are affected by the ETPs.

Considering this apparent interdependence and the difference between absolute and relative effects, we have tested whether these results remain valid when considering only a subset of the respondents, taking into account their initial situation and backgrounds.

Analysis of students' initial situations

We first analysed whether some student characteristics that are known to influence entrepreneurial behaviour had an impact on the results presented above. To do so, we considered subsets of our sample based on the socio-demographic data we had collected, and tested whether the results obtained on those samples differed from the results presented above (see Table 10.3).

Using mean comparison T-test to compare the subsets considered above, the impact in terms of controllability appears to be somewhat higher for students that did not have any entrepreneurship training ($p < 0.13$) or experience with an association ($p < 0.14$). On the other hand, the presence of a role model, such as an entrepreneur in the family, appears to decrease the impact of the ETP in terms of entrepreneurial intention, although not significantly from a statistical point of view ($p < 0.25$).

An international experience (more than six months spent abroad) had no impact on the influence of the ETP.

By comparing subsets of students with increasing initial levels of entrepreneurial intentions (Table 10.4), we tested whether the initial perspectives of the students about entrepreneurial intentions influenced the impact of the ETP.

These results indicate that the initial student perspectives on entrepreneurial intention do have a strong influence on the impact of the ETP, ranging from significantly negative to significantly positive. This calls for further research in terms of student selection and an equation of programmes with specific student profiles.

In particular, initially identifying students for which the ETP will have no or a negative impact in terms of entrepreneurial intentions could be very valuable. While using a measure of intention as a selection criteria might lead to biased results because of self-selection, using student background as criteria can provide potentially useful results, as

Table 10.3 Analysis of students' background

Sample	Sample size	Initial intention	Impact of ETP (mean difference)			
			Attitudes towards behaviour	Perceived social norms	Perceived control	Intention
All students	144	3.90	0.00	0.02	0.09**	0.06
Entrepreneurs in family = Y	90	4.05	−0.01	−0.04	0.06	0.12
Entrepreneurs in family = N	54	3.67	0.00	0.02	0.15*	−0.04
Association experience = Y	78	4.09	−0.03	0.03	0.15	0.09
Association experience = N	65	3.72	0.02	−0.07	0.01	0.03
Foreign experience = Y	68	3.95	0.00	−0.04	0.09	0.07
Foreign experience = N	76	3.87	−0.02	0.00	0.10	0.06
Entrepreneurship training = Y	33	4.28	−0.03	−0.10	−0.04	0.05
Entrepreneurship training = N	111	3.80	0.00	0.00	0.13	0.07

Notes: * $p<0.10$, ** $p<0.05$.

Table 10.4 Analysis of students' initial intention

Sample	Sample size	Initial intention	Impact of ETP (mean difference)			
			Attitudes towards behaviour	Perceived social norms	Perceived control	Intention
All students	144	3.90	0.00	0.02	0.09**	0.06
First quartile	36	2.39	0.00	−0.08	0.11	0.25**
Second quartile	36	3.39	0.09	0.05	0.19**	0.27*
Third quartile	36	4.29	−0.05	−0.01	0.03	0.09
Fourth quartile	36	5.56	−0.07	−0.04	0.06	−0.36***

Notes: * $p<0.10$, ** $p<0.05$, *** $p<0.01$.

there are significant differences in terms of initial intentions among the subsets of students considered (Table 10.3). In particular, students having an entrepreneur in their family, with an experience in an association or having already followed an ETP, tended to have a higher initial entrepreneurial intention (mean differences equal respectively 0.39, 0.37 and 0.47, significance respectively of 0.08, 0.07 and 0.10).

10.4 Conclusion: effect and counter-effect of ETP

In this research our main aim was to capture variations in attitudes and intentions of students throughout a three-day seminar focusing on entrepreneurship with the objective of understanding the effects and possible counter-effects of ETP.

Looking at our results, and trying to extract from them key elements, we can identify a set of very interesting outcomes.

First, it seems that for the entire sample, the impact of the studied ETP on entrepreneurial intention is significantly correlated with perceived behavioural control. Other research has underlined this kind of relationship between intention and self-efficacy or perceived behavioural control. This could lead to further research aiming at testing relationships between perceived behavioural control and educational or pedagogical variables to understand the influence of such variables. These variables could concern, for example, pedagogical methods or types of trainers as our general research model suggest.

Secondly, taking into consideration the results from subgroups of students selected from their previous exposure to entrepreneurship (coming from a family of entrepreneurs, having developed experiences involving entrepreneurial behaviours, and having been exposed for a long time to international context), we have found empirical evidence through these additional outcomes. Particularly, we have found a positive impact of ETP on perceived behavioural control and on entrepreneurial intention for the following subgroups: students having not previously attended a course in entrepreneurship, students having not been exposed to entrepreneurship through their family, and students having not actively participated in the founding and the development of students associations. In the other cases we did not find an impact.

Thirdly, in one of our most interesting results, we have found that the impact of the ETP on entrepreneurial intention is significantly dependent on the student's perspective on entrepreneurial intention (see the Table 10.4). This means that for students in the first quartile (those having the lowest level of entrepreneurial intention), the impact of the ETP is significantly positive and for the fourth quartile students (those having the highest level of entrepreneurial intention) the impact is significantly negative. In other words, the ETP could have some strong positive effects for some students, depending on their background and initial perspectives on entrepreneurial intention. At the same time, the ETP could also actually decrease the level of entrepreneurial intention (counter-effects) for other students who have been yet exposed to entrepreneurship or experienced to a certain extent something like entrepreneurial situations.

These results lead us to ask some new and important research questions. For example, depending on the type of ETP, are there some ways and tools for selecting students and orientating them with an appropriate ETP which fits their profile and background? In some cases, ETPs aiming to give a first awareness of entrepreneurship are not useful (existence of counter-effect) for certain types of students. Further research along these lines could improve our understanding about these issues. In addition, we are far from attaining a good knowledge about the influence of the main factors playing a role within an ETP. Further research would allow us to verify specific relations between pedagogical and educational variables and perceived behavioural control. Therefore, our research model could be improved by including new independent variables influencing one or more of Ajzen's antecedents.

Note

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11 A conceptual approach to better diagnosis and resolution of cross-cultural and gender challenges in entrepreneurial research

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Introduction

In the United States in recent years the growth of diverse business owners and students has created more interest in what historically has been labeled as minority group entrepreneurship. However, many researchers and educators were educated at a time when most educational and theoretical models were based in an Anglocentric knowledge base. Thus, for both research and education to reflect the current realities of diverse entrepreneurs a cultural paradigm shift is required. Although many entrepreneurial scholars understand the need to shift from an ethnocentric and monocultural model, the framework to do so has yet to appear.

This chapter proposes an explicit model that provides a conceptual grounding for the change model required for diagnosis and resolution of cross-cultural and gender challenges in entrepreneurial research and education. We refer to a research and educational lens throughout this chapter because we assume that the two spheres are intertwined and should not be decoupled. We begin by making the case for challenging the current entrepreneurial paradigm. Based on our recent case research on female women of color business owners in the US along with our previous research that explored the 'white-wash' dilemma in diversity research, teaching and practice, we propose a new model that is inclusive of and values the uniqueness among diverse entrepreneurs. This model identifies factors that help both researcher and educator diagnose problems with dominant perspectives in much of the current literature and teaching materials. We end with conclusions and implications for educators and researchers as they undertake the paradigm shift needed to move our research and teaching forward.

Before expanding on this model, it is necessary to understand our diversity lens and premises.

Initial premises

Our contention is that the entrepreneurial literature grounded in diversity perspectives lags about 10 years behind the diversity management literature which in the United States emanates from research that pays attention to how factors of race, gender and social class impact organizational behavior and success. The nature of the current research on white women and women of color business owners makes it difficult to say anything definitive about these entrepreneurs. In our experience, an interdisciplinary approach, using varied methodologies, is needed to help expand the entrepreneurial knowledge base, particularly when attempting to be more inclusive of diverse entrepreneurs who reflect varying cultural backgrounds. However, we have found that thematic connections across fields are

difficult to make because as the breadth of literature expands, the depth is quite limited. In the last decade we conducted a comprehensive journal-based literature search on diverse women entrepreneurs. Although we were able to see interesting trends from this analysis, we could not draw any definitive conclusions about diverse female entrepreneurs due to the lack of depth of knowledge in any one area. The social science fields of feminism, multiculturalism and cross-cultural communication, to mention a few, provide a rich context for studying diverse entrepreneurs. This breadth is important because without this balanced approach to the research, we as researchers and educators are likely to make erroneous assumptions about similarities and differences about entrepreneurs; assumptions that are based on current dominant relatively homogeneous models of entrepreneurship. These erroneous assumptions that reflect a majority group perspective decrease the quality and accuracy of research on white women and women of color entrepreneurs. We believe the same holds true for research and teaching about diverse male entrepreneurs, but this chapter focuses on diverse women entrepreneurs due to the nature of our expertise, research and experience. In any event, in this rapidly expanding field, there is a strong case for making sure that the research model employed for expanding our knowledge of diverse female entrepreneurs in the United States uses a new lens.

The case for challenging the current research model

As of 2004, there were an estimated 10.6 million privately held, 50 per cent or more women-owned firms in the US, accounting for nearly half (47.7 per cent) of all privately held firms in the country. Of these firms, 29.9 per cent were majority owned by women and 17.8 per cent equally owned by men and women. These 50 per cent or more women-owned firms generated $2.46 trillion in sales and employed 19.1 million people nationwide (Center for Women's Business Research, 2005). In fact, women-owned businesses employ one-third more people than the Fortune 500 companies worldwide (Moore, 1999). Women are forming businesses at twice the rate of their male counterparts (Adler, 2004).

The figures are also compelling for businesses owned by women of color in the US. As of 2004, there were an estimated 1.4 million privately held firms owned by women of color in the US, employing nearly 1.3 million people and generating nearly $147 billion in sales. One in five (21.4 per cent) of women-owned firms were owned by a woman of color. Another interesting fact is that regardless of race or ethnic background, the vast majority of women entrepreneurs have growth as a primary goal (86 per cent African-American, 71 per cent Asian, 80 per cent Caucasian, 84 per cent Latina). And between 1997 and 2004, the number of firms owned by women of color was estimated to have increased by 54.6 per cent; employment by 61.8 per cent and sales by 73.6 per cent. Across the world, women-owned firms typically comprise between one-quarter and one-third of the business population (Trieloff, 1988). In Canada and the US growth of women-owned firms continues to outpace overall business growth by approximately two to one ('Leading women entrepreneurs of the world and women to watch', 1997).

The study of women entrepreneurs should no longer be considered a branch of entrepreneurship, the last chapter in the text or a 'minority' population to be studied within the research. But until we become better at recognizing the predominate homogeneous model in place and how women entrepreneurs differ from this 'mainstream' model, it will be difficult to include research on diverse women entrepreneurs and therefore to provide relevant and up-to-date education. Much of our previous research and writing has

provided an explanation for our failure as researchers to recognize the hegemony of the white male model; we call it 'the whitewash dilemma'.

The whitewash dilemma revisited

In the early 1990s our research concentrated on the women in management field, which in the US was primarily focused on 'glass ceiling' work in corporate America (Morrison et al., 1992). We came to the conclusion that this field – dominated by white female researchers – had replicated the mistakes of our white male counterparts, which was the creation of a dominant white organizational model. We identified a basic assumption underlying historical women in management research that organizations as currently conceptualized and constructed were basically acceptable as is; therefore, for women of color the problem was one of adapting these women to the normative dominant organizational culture. Interestingly enough, early research on women in management grew out of the demand to challenge the prevailing management education paradigm that might be summarized as 'think manager, think male' (Nkomo, 1989). Research attempted to expose gender biases in existing research and, more importantly, critique and challenge the male-dominated corporate hierarchy. What happened, however, was that most of the writing repeated the same exclusivity error that gave rise to its existence. That is, much of the early writing only addressed one group of women managers and, subsequently, we learned little about the effects of race and gender on the status of women in management positions (Betters-Reed and Moore, 1995).

We identified that women in management research had not been on gender per se, but on the implications of gender for organizations. For example, most of the writing and research was focused on the 'fit' between women and organizations. In fact, the assumption in most of management education was that human resources must 'fit' or adapt to the organizational culture. Becker (1963) describes 'fit' in terms of deviance.

> Social groups create deviance by making the rules whose infraction constitutes deviance, and by applying these rules to particular people and labeling them as outsiders. From this point of view, deviance is not a quality of the act the person commits, but rather a consequence of the application by others of rules and sanctions to an 'offender'. (p. 9)

If the dominant organizational structure has been hierarchical and reflective of a white, male, Anglo-Saxon culture, then the notion of 'fit' was certainly a paradox for women; especially women of color. Therefore management research and education would assume difference as deficient and encourage assimilation by the minority group to 'fit' the majority group's philosophy, norms, expectations and so on (Betters-Reed and Moore, 1995). For white women managers, racial privilege provided access and advancement, but did very little to pave the way for women of color in leadership positions, essentially creating a hierarchy of the glass ceiling, or a 'colored glass ceiling' (Betters-Reed and Moore, 1995).

The whitewash dilemma, think management and think white men (and later white women), has clearly been an issue in the study of women entrepreneurs. Fascinated by the increase in female-owned businesses and the external organizational challenges they faced, we turned our attention to entrepreneurship in the mid 1990s. Although corporate female managers dealt with organizational glass-ceiling barriers, women business owners face similar issues related to nationality, race, class, and gender. It was clear to us that the

whitewash dilemma was a critical issue for the study of women of color entrepreneurs. It has already permeated the first wave of research on women of color business owners.

Diagnosis of cross-cultural challenges and recommendations for conducting research on women entrepreneurs

Our early work as researchers in diversity and entrepreneurship has led us to continually question dominant thinking as it relates to research and theory. In this chapter we intend to offer a conceptual paradigm that transforms the dominant thinking in regards to women entrepreneurs from a cross-cultural perspective. Although our research is based on a multidisciplinary review of US literature on women business owners and cases on US women of color entrepreneurs, we expect that this model will investigate the ethnocentric nature of all entrepreneurial research and education. It is intended to be beneficial to researchers of broader streams of research, which focus on the intersection of culture, race and gender. We suggest that a paradigm shift is necessary for the research on entrepreneurs and entrepreneurship education that is inclusive of diverse owners and their context. We will explore a conceptual framework that challenges conventional wisdom that diverse women entrepreneurs be measured against the successful white male and female entrepreneurs that have dominated the US-based literature.

Diversity researchers in the US are increasingly asking how international perspectives inform our work, and vice versa. We think it is important to look at ethnocentric and nationally centered assumptions about entrepreneurial education and practice as they impact our work. In particular, we are interested in identifying what is unique about US concepts in diversity education that do not translate to other countries or the internationally based entrepreneur, as well as what does translate.

We are learning to deal with our own issues of racial and social privilege as we research others unlike ourselves. We are well aware of the many humbling moments for anyone venturing into this type of research or teaching, as well as many uplifting opportunities to make much needed contributions. For example, many of the current cases on people of color entrepreneurs have a deficit tone to them. Shifting the research paradigm will help researchers and educators see that expanding benchmarks and definitions of success will not only help add new diverse positive role models in the literature, but might change the way we teach current cases that feature diverse entrepreneurs or different types of businesses. For example, how might we 'better' define success for social entrepreneurs or business owners who believe that social leadership and contributions are as legitimate as economic indicators? Another issue that must be dealt with involves the ethics of not intervening with case research, as dictated by good research practice, when there is a moral imperative to help advance a member of an underserved population. This is related to an overarching challenge embedded in the nature of this type of work that essentially positions a social agenda for business educators. Just how far do we go with our own advocacy when conducting the research or teaching the concepts? Reconciling all of these challenges as researchers and educators is important for expansion of entrepreneurial knowledge. We propose to identify these and other diversity related challenges as we offer both conceptual yet practical approaches to help advance entrepreneurs in all their diversity.

In the following section, we translate our premises, insights and research related to the whitewash dilemma into five factors that together comprise the unilateral lens through which most of the past research and education on entrepreneurs has been conducted in

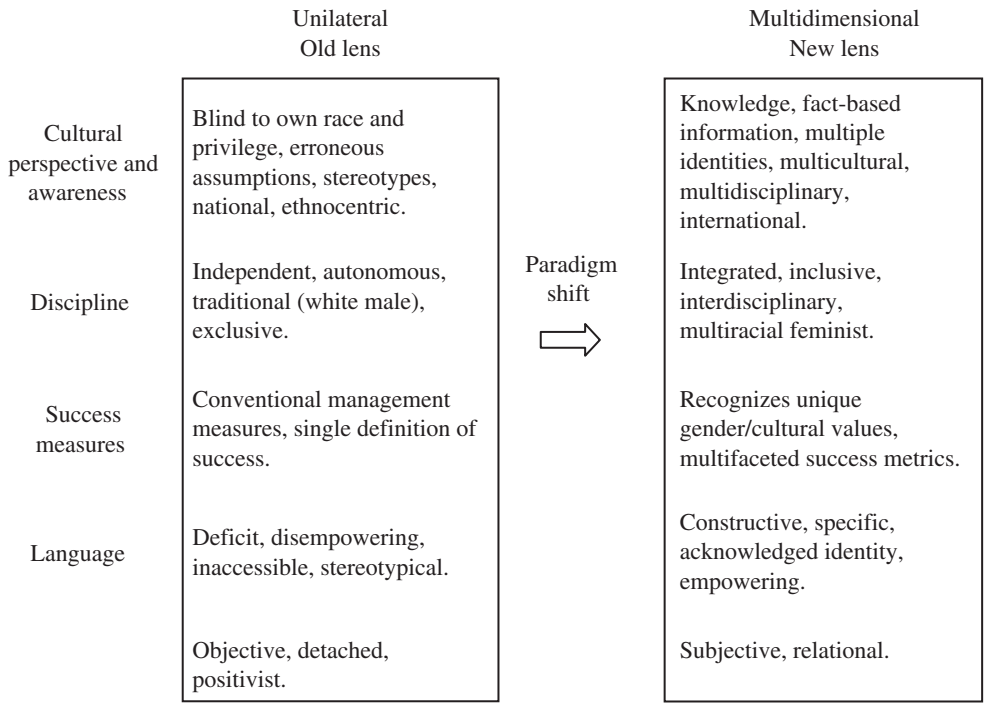

Figure 11.1 The five factors: from a unilateral to a multidimensional approach

the US. As we discuss and critique this 'old lens' we will also present the multidimensional 'new lens' that reflects the paradigm shift necessary to conduct research and to teach about diverse women entrepreneurs. A summary of the resulting change model is represented in Figure 11.1.

Change model for entrepreneurial research and education: diagnosis and resolution of cross-cultural and gender challenges

In this section we describe the dominant thinking in entrepreneurial research, the 'old lens' or unilateral approach, and suggest a 'new lens' or multidimensional approach using examples from our own and others' research. We propose this as a change model for reconceptualizing research, diagnosing critical issues and providing resolution of cross-cultural challenges. The five factors are critical to understanding the issues inherent in conducting research and teaching about diverse women entrepreneurs.

Factor 1: Cultural perspective and awareness

Cultural perspective and awareness is critical to understanding the 'lens' concept. This factor is based on sensitivity to the concept of culture as 'software of the mind' (Hofstede, 1991), a complex cognitive concept or mental model that shapes assumptions of the world around us. Without this awareness we remain both parochial and ethnocentric in our understanding of what constitutes good entrepreneurial research. As described in our earlier work, we found that awareness of racial privilege requires the researcher to acknowledge

culturally based misattributions and omissions and to search for differences among the experiences of women of color business owners using a new multidimensional lens.

Historically, a majority Anglo-American perspective has dominated entrepreneurship research and practice in the US. Even the inclusion of women and a gender perspective in research and writing has done very little to diversify and change this Anglo-American foundation. More specifically, the women's entrepreneurship field, similar to the women in management field, has until only recently included women of color (Betters-Reed and Moore, 1995). Within the US context, we believe that a paradigm shift must begin with an understanding of majority group white privilege. The ability to successfully understand multicultural women business owners begins with an understanding of majority group privilege in US culture and its tendency to assimilate a homogenous business culture. Although we are Eurocentric in our orientation, we assume that institutional dominance or institutionalized power structures create the same majority/minority social group dynamics in many other cultures. Our cultural perspective requires an understanding of the concept of 'voice' and emerging international women's entrepreneurship research. For this first and most complex factor we explain these perspectives within the framework of entrepreneurship drawing upon our own research and experience.

The old lens versus the new lens We have explored how white racial identity and white privilege have impacted management writing and practice, and we see similar parallels with the entrepreneurship field. For instance, the lack of understanding by the majority group of their white racial identity and racial privilege and resulting perception prohibits an understanding and accurate perception of cultural differences. Additionally, popular assumptions about the similarity of culturally different groups disallow understanding of those differences. In the US, researchers have documented how issues of white privilege (McIntosh, 1988) and institutionalized racism (hooks, 1989) impact women differently.

Recognition of one's own racial and gender difference makes it possible to hear many different voices in today's organization, as well as recognition of one's own identity. Other writers have highlighted the fact that the concept of voice as historically documented is representative of the dominant group's white authority and can only therefore be that of white women (Cianni and Romberger, 1991; Collins, 1990; hooks, 1989, 1990; Martinez, 1992; Moraza and Anzaldúa, 1981; Betters-Reed and Moore, 1995, p. 31).

Racial privilege in the US The concept of racial privilege as practiced in the US is probably best documented through the work of Peggy McIntosh (1988) who identifies 'white privilege as an invisible package of unearned assets that I can count on cashing in each day, but about which I was "meant" to remain oblivious' (p. 95). Because white people in the US are accorded this racial privilege, they never have to think about being white. They may also be quite ignorant about their racial heritage and other aspects of their identity. We see this obliviousness playing out in the whitewash dilemma previously discussed and in the failure to understand interrelated dynamics of our multiple identities within a dominant culture.

Since racism, sexism, and heterosexism are not the same, the advantaging associated with them should not be seen as the same. In addition, it is hard to disentangle aspects of unearned advantage, which rest more on social class, economic class, race, religion, and sex and ethnic identity than on other factors. One factor seems clear about all of the

interlocking oppressions. They take both active forms, which we can see, and embedded forms, which as a member of the dominant group one is taught not to see (McIntosh, 1988, p. 104).

Other researchers have explored the complexity of using race as an intervening variable and the difficulty of disentangling the simultaneous and interactive nature of race, gender and class (Blake-Beard, 2001; Cox, 2004; Holvino, 2001; Nkomo, 1989; 1992). Barbara Smith (1983; 1998), a Black feminist, asserts that race, class, gender and sexuality are crucially interlocking factors that must be integrated simultaneously in any analysis of women of color.

We learned the significance of multiple identities when we researched a business case on an Asian woman entrepreneur. In 1988 when Kija Kim, a Korean woman, started Harvard Design and Mapping, Inc. in Cambridge, Massachusetts, women ran only 1 per cent of the software firms in Massachusetts and only 8 per cent were run by people of color. Kim described the challenges she faced in establishing her network as she built her business: 'Connections, connections, and connections . . . I've gone back and forth on whether being a woman, being a minority person or being an immigrant was the most difficult part of breaking into business' (Kim, 2004).

Most of the diversity discourse within the US by whites seems to be about equal opportunity to try to get into a position of dominance while denying that systems of dominance exist (McIntosh, 1988). As McIntosh eloquently discusses, obliviousness about white advantage, like obliviousness about male advantage, is kept strongly acculturated in the United States so as to maintain the myth of meritocracy, the myth that democratic choice is equally available to all. Keeping most people unaware that freedom of confident action is there for just a small number of people props up those in power, and serves to keep power in the hands of the same groups that have most of it already.

As the management field evolved to include women, studies began to highlight the unique contributions that white women brought to management and organizations. Instead of merely adapting to existing organizational norms, women were identified as bringing their own unique ways of managing to organizations. All of this more recent work identified new leadership models that emphasize shared power and authority. They indicate that women's voice or style of managing and leading reflect the notion that there are distinct cultural differences among women managers and entrepreneurs (Betters-Reed, 1994; Betters-Reed and Moore, 1995; Helgesen, 1990; Loden and Rosener, 1991).

Early stages of research: sparse and comparative Separate research on women business owners failed to acknowledge distinctive cultural differences as the term 'woman entrepreneur' really meant white women entrepreneurs. 'Research on women as a separate group began in the 1970s, however until late 1980s research on women entrepreneurs was essentially a neglected area of academic study' (Moore, 1999, p. 372). Only very recently has data from the US Department of Labor been collected on women of various racial/ethnic groups within the US. Indeed, research on women was described by Wortman and Kleis (1991) as 'an entrepreneurship sub-field studied only by a small subset of researchers focused on behavioral characteristics' (cited in Moore, 1999, p. 372). The roots of entrepreneurial research have reflected this historical bias explained in Gilligan's concept of voice.

Gilligan (1993) explains the concept of voice as representing two different modes of thought and communication rather than a generalization about either sex. In hierarchical

organizations, the voice of authority dominates all other voices. Therefore, those with relatively little power have rarely been heard or valued; their stories have been lost or suppressed (Betters-Reed and Moore, 1995, p. 30).

We are just beginning to see research that identifies the different experiences of culturally diverse entrepreneurs in the US. For example, Adams and Sykes (2003) report that little or no research has been done on African American entrepreneurs: 'Obstacles in capital markets, key performance indicators, and owner's measures of success [are] not being examined among African American entrepreneurs' (p. 418). One study they found, the Milken Institute report, identifies challenges faced by African American businesses based on the perception of these businesses as being small, unprofitable and not ideally located. Adams and Sykes identify how *Black Enterprise Magazine*, a US publication, is combating this stereotype by publishing an annual list of top African American owned businesses: 'These are companies that have become powerhouses of the New Economy – [they are] companies that are staking their claims, rewriting the rules and embracing an economy driven by technological innovation, high productivity and soaring financial markets' (2003, p. 418). In their own research, Adams and Sykes also identified the financial and non-financial measures used by African American entrepreneurs to measure their business success. Although their work is a valuable contribution to the field of people of color entrepreneurs and a step in the right direction, the important dimension of a breakdown of findings by gender was not reported.

The whitewash dilemma, basically assuming that all women entrepreneurs resemble a mythical homogeneous white woman, is reflected in the emerging research on the diversity of women entrepreneurs. Although Moore (1999) exclaims that 'it is time to stop clumping entrepreneurs together in one group' (p. 388) most researchers have yet to clearly indicate the cultural background of their subjects and, more importantly, consider the impact of this identity on their analysis or interpretation. We think the failure to deal with the complexities of cultural identity is in part due to lack of self-awareness and multiculturalism.

During our experience researching women of color entrepreneurs, we found ourselves struggling with the challenges of understanding cultures different from our own. We suspect that other researchers who examine cultural origins of entrepreneurial success will also struggle with feeling like an 'amateur anthropologist'. In our case research we have studied an African American and a Korean immigrant. Though our knowledge of both these cultures was limited, our own feelings of insecurity did not stop us from learning about these cultures. We discuss this further within other factors in the change model and below with international perspectives.

International perspectives Although the rationale for understanding international and domestic multicultural issues is well documented, the lack of theoretical management material has prevented educators from being able to research and teach about diverse groups in all but a didactic and culturally limited or parochial manner. This parochial cultural awareness appears to apply to entrepreneurship research and practice, as Nancy Adler (2004) has identified. Although there is little doubt that the world of business education and research has gone global, 'the assumptions about building a global business and succeeding as a global entrepreneur, remains parochial' (Adler, 2004, p. 1). According to Adler (2004), there are two levels of parochialism that seem to be occurring in

entrepreneurship. One is the view based on the experience of men in general and the other is based on the experience of men within their country of origin.

Adler also documents that research is needed to differentiate between the impact of being a woman manager versus being a woman entrepreneur or corporate executive, and to investigate both positive and negative reactions to women entrepreneurs in different countries and cultures around the world. Additionally, she says we need to benchmark the most innovative ways that companies and individuals are balancing professional and private life demands, especially when the careers involve global commitments. A new multidimensional lens provides a richer and better understanding of women business owners within a culturally diverse context, both domestically and cross-culturally.

Factor 2: Discipline

This factor looks at the cultural assumptions embedded in the conventional wisdom of the discipline. The values embedded in every discipline are influenced by the research and the cultural context of this process. We will discuss the monolithic disciplinary view of entrepreneurship, the hegemony of the dominant model, and the challenge of breaking out of the closed-loop nature of a young field that discourages cross-disciplinary and more robust methods of research.

The old lens In entrepreneurial research it is important to ascertain which models are hegemonies, as they will differ according to cultural context. Research and its contribution to any field of study can be a closed loop, thereby oppressing researchers desiring to expand the field, particularly in cross-disciplinary ways (Calas and Smircich, 1992). If there is a higher value placed on competition versus collaboration, autonomy versus team, conventional wisdom versus deconstructive methods, then these attributes perpetuate a monolithic disciplinary view and make it very difficult to infuse new approaches.

Entrepreneurship, historically a marginalized field due to a prevailing attitude in the academy that it is a-theoretical, has only recently been gaining acceptance. In struggling for legitimate status within the academy, the discipline of entrepreneurship mimicked the same mistakes made by researchers in the managerial discipline. The first mistake was ignoring women (gender), and the second mistake was ignoring the diversity of women (race and class).

Another problem in a young discipline is providing sufficient depth of knowledge. Therefore research that provides depth and specialization is highly valued and rewarded in the mainstream review process. Subsequently, researchers asking interdisciplinary questions or looking at entrepreneurs not considered 'legitimate' run the risk of editorial rejection, which perpetuates a limited and inaccurate view of the discipline. Low submission rates, reviewers' unfamiliarity with the relevant literature, editors' and reviewers' insistence on comparative research designs have been recently cited as hampering publication of research on racioethnic issues in the management journals (Cox, 2004). And, of course, publication is a requirement for tenure and promotion, making it unlikely that researchers would pursue an area that would be unlikely to yield publication. Mary Matsuda (1988) makes clear the responsibility of educators and researchers to include the voices of 'outsiders', otherwise we are supporting 'the continuation of an exclusionary system, and depriv[ing] all scholars of the full breadth of intellectual stimulation and rigor we require' (p. 8).

Worldwide, women and people of color do not fit the traditional definitions found in the discipline. For example, where do the specialized areas related to microenterprise, third world development, and immigrant entrepreneurship fit? Because the entrepreneurial discipline is at a young stage, it presents itself as monocultural. And because it is in this early stage of bringing a different cultural lens to understanding diverse women business owners, published research perpetuates dominant assumptions about who is worth studying and how they are studied (Betters-Reed, 1994). The conventional wisdom of the discipline directs the questions that should be asked and fails to recognize that women entrepreneurs should be researched on the basis of their own merits rather than compared to the majority male entrepreneur. Furthermore, as a young field, there is even disagreement on definitions of entrepreneurship and small business, which hampers the development of models and paradigms (Moore, 1999, p. 386).

As tenured faculty members we had the freedom to conduct research on an area previously unrecognized and not considered 'legitimate'. The timing was right. Research on women business owners within the US was increasing and we had the opportunity to contribute to the understanding of diversity of diverse women entrepreneurs. As we looked closer at the entrepreneurship field, the extent to which it lacked current understanding of the context of women business owners was startling. Our case research needed to demonstrate the importance of cultural and personal heritage and its impact on leadership. Ironically, we were not prepared for just how significant this lens was. In our case on Darlene Jeter, an African American business owner, our initial interviews revealed a keen sense of community service. But when we probed about this service-minded leadership, it was clear that her values were rooted in her great grandmother's influence on each successive daughter. In fact, Darlene Jeter should be considered a fourth-generation entrepreneur if her grandmother's enterprises are considered. Without this historical and cultural context, the story would be told and interpreted very differently, especially since the founding of the business tended to be credited to her husband.

Toward the new lens The new disciplinary paradigm is more integrated, interdisciplinary, multiracial and feminist. In our experience, an interdisciplinary approach, using varied methodologies, is needed to help expand the entrepreneurial knowledge base. This research challenge will push disciplinary boundaries of the traditional entrepreneurial researcher's academic preparation to become more integrated and inclusive.

A cross-cultural approach to the literature requires a more comprehensive and cross-disciplinary method (see factor 5). As previously mentioned, this is much harder to do in a young academic discipline struggling for acceptance. In addition the lens itself is a complex one, most likely not well understood by teachers in the entrepreneurial discipline. For example, we have also struggled with the issue of writing case teaching notes to help the educator learn about newer fields. How does the researcher present gendered leadership, and integrate across seemingly different fields, while maintaining integrity within these somewhat competing disciplines?

Furthermore, our cases reflect breadth and demonstrate the complexity of understanding the lives of women business owners. In our attempt to provide a holistic perspective on the successful leadership of diverse women entrepreneurs we have encountered the lack of integration among the disciplines of leadership, diversity and entrepreneurship. We found that entrepreneurs, particularly women business owners, are

a field ripe for integration of diversity and leadership because it is not dominated by a corporate culture that separates the individual from the organization and its leadership. The field of leadership, for instance, has only recently moved into the theory that supports new voices, but the voices remain culturally specific, reflecting the white majority group. For all of these reasons, it seems that the argument is equally strong for moving to a more inclusive stage of development; the entrepreneurial discipline is young enough and nimble enough to infuse new diverse leadership perspectives.

It should also be apparent that the nature of cross-disciplinary work requires editors and reviewers who are sophisticated and appreciative of the contribution the new scholarship lens affords. Feminist researchers have faced this issue within their respective disciplines for some time (Matsuda, 1988). Clearly we also benefit from our 50 combined years of experience as researchers with a successful publication track record. Our record is long established and therefore we are ceded authority in the topic to a certain degree. This does not mean that it has been an overnight acceptance. As two white women, our original motives, our expertise and our right were challenged many times. The assumption that racioethnic issues as topics of social science research should be the exclusive domain of scholars of color is still prevalent today, among both writers and editors (Cox, 2004).

All entrepreneurial researchers and educators can learn the new lens for the discipline, one that is inclusive, interdisciplinary and cognizant of rich multifaceted context. But one of the critical challenges for this multidimensional lens is to not only challenge the conventional wisdom of the discipline, but to go yet another step and challenge the conventional measures of success. Covertly contained in each discipline are the values, which establish norms for success. We will expand upon this factor 3, 'success measures' in the next section.

Factor 3: Success measures

This factor concerns itself with uncovering the conventional management and business measures, which define success in a culturally limited manner. In the US being bigger is frequently synonymous with better. In addition, the bottom line is the ultimate measure of success. Rarely are personal and social criteria considered for this bottom-line measurement. Without critically examining conventional, culturally bound constructs, we remain blind to the many ways in which diverse types of organizations and individuals judge their own success. We discuss the dominant lens, and suggest a new lens that recognizes gender and cultural values along with recommendations for application to entrepreneurial research.

The old lens Entrepreneurship research and education has traditionally deferred to corporate benchmarks for success thereby maintaining the dominant white male measurements as legitimate. In the business discipline high growth, high profit, and larger size are criteria by which successful businesses are judged. For example, Buttner and Moore (1997) observe that in the entrepreneurship literature, business performance is usually measured from the economic perspectives of growth in sales or employees, and/or by the increase in profits. Because women-owned businesses tend to be smaller and slower growing, they appear less successful as measured by traditional economic criteria. Additionally these measures do not apply to emerging fields of social entrepreneurship, not-for-profit and non-governmental organizations.

Given that men-owned and women-owned businesses experience comparable survival rates (Kalleberg and Leicht, 1991), the ways women lead their businesses to achieve the success they desire, combined with the limited growth opportunities, may mean that traditional measures do not adequately assess business success for female entrepreneurs. Other criteria such as stability of employment, duration of the business, and the entrepreneurs' satisfaction with her work may provide a different dimension of women business owners' success.

Buttner and Moore's (1997) research also found that success seemed to be measured internally in terms of personal growth, professional development, and improving one's skills, rather than measured externally in profits or business growth. Adler (2004) believes that 'context, deep meaning and soul are without counterparts in the pragmatism of successful careers, successful businesses, successful lives and successful societies' (p. 1).

We find that cases on culturally diverse entrepreneurs will contribute to our understanding of new success measures. The dearth of cases on women entrepreneurs, and especially women of color entrepreneurs, represents a void in our knowledge and perpetuates misinformation in business and entrepreneurial education.

Toward the new lens Research is emerging which provides evidence of a more complex cross-cultural set of success measures. Women both in the US and other cultures may define their success in terms that conflict with the prevailing measurements.

Many women, especially in such Anglo-cultures as the United States, have been led to believe that they must emulate men to succeed. Fearing to differentiate themselves in any way from their successful male predecessors and contemporaries, many women resist openly challenging the abundant myths describing the barriers women supposedly face when attempting to conduct business abroad (Adler, 2004, p. 4).

Comparing female business owners to a male norm seems to occur outside the US as well. Moore (1999) cites numerous studies across Europe illustrating the breadth with which entrepreneurs were identified with masculine characteristics. Given the tremendous growth in women-owned businesses both in North America and internationally, male-based assumptions are not appropriate measures or guidelines for entrepreneurial success (Adler, 2004).

Research has documented that women may use other success benchmarks than the traditional benchmarks previously mentioned. Several studies cited that jobs offering professional growth, development and self-fulfillment are important goals for women. Other studies have investigated the relationship between women's entrepreneurial motivation and the ways they measure success. Stoner and Fry (1982) found a relationship between the level of dissatisfaction an entrepreneur reported with his/her previous job and the type of business subsequently started. Recent research on the glass ceiling for corporate women indicated that it was possible that women leave their corporate positions because of barriers to upward mobility (Catalyst, 2000; Merrill-Sands et al., 2005).

Buttner and Moore (1997) suggest that the motivation of entrepreneurial women may be related to the ways they measure success in their own businesses. For example, in their study, women who felt frustrated by the lack of challenge in their prior positions measured success internally in terms of personal growth and/or externally in terms of business profits and business growth. They also found that women who experienced work/family role conflict in their former jobs might measure success in terms of achieving a balance of work

and family responsibilities. Noble (1986) suggests that women see their decision to start a business not as a career but as a life strategy. Other research found that women entrepreneurs for whom a balance between family and work was an important reason for leaving their position in an organization carried that priority to their own businesses. The correlation between family, motivation factor and profits suggest women ensure the financial security of their families through management of a profitable business (Buttner and Moore, 1997). In our research a woman entrepreneur clearly passed on to her son, as successor, the expectation of generating wealth for the security of their family.

Women may also have a heightened sense of responsibility to others, which reflects a different measure of success. Gilligan (1993), in her study of men and women and their moral decision-making, described women's approach in terms of an 'ethic of care', in which a solution is sought which best fits the needs of all individuals involved. Women may demonstrate this approach through their philanthropic or civic activities. The women entrepreneurs we have researched all demonstrate a keen sense of social responsibility and a strong desire to 'give back' to the community from which they came or in which their business operates. One of the women entrepreneurs acknowledged that her role as volunteer activist was an important part of her own measure of success. She received public acknowledgement of this 'double bottom line' in news stories, which documented her journey as a successful woman entrepreneur.

On an international level, the need for multifaceted success metrics that recognize gender and cultural values is being recognized. Adler (2004) documents that if business leaders continue to believe current parochial assumptions about business success, few, if any, women would venture out into the world beyond their national borders, and even fewer would succeed once there. She acknowledges the importance of bringing a broader perspective by offering a context of meaning beyond each entrepreneur's specific position, company, and industry. She suggests that we need to ask questions that are beyond the bottom line 'and offering opportunities for entrepreneurs to more consciously consider the types of contributions they are making to society' (Adler, 2004, p. 5).

The new lens will use success measures that better represent the values and goals of the entrepreneur. In other words, if community development, family financial security, or self-fulfillment are important outcomes, then appropriate measures must be employed. These measures will be multifaceted and culturally based.

The dominant discourse in entrepreneurship reflects the underlying assumptions of the field and the means by which we communicate those concepts. The next factor examines our current culturally based interpretation of common terms in the field of entrepreneurship and diversity.

Factor 4: Language

This fourth factor concerns itself with the means by which one can change the dominant discourse within a discipline or field. The dominant deficit and disempowering language of entrepreneurship is discussed and a new language lens is provided that is constructive, recognizes unique identities and is empowering.

The old lens Language is an important factor as it signifies the implicit assumptions and interpretations that researchers bring to the discourse in the field of entrepreneurship. As a symbolic representation of thinking, language conveys assumptions of which we may

not be aware. Terms denote meaning that reinforce and perpetuate a collective interpretation and can perpetuate a status quo, even unconsciously. The importance of unexamined underlying culturally learned assumptions is frequently underestimated by failing to recognize that our assumptions reflect our own cultural context. A shift in language used by researchers to describe their 'subjects' and the issues that need to be addressed will signify a shift in the dominant research paradigm. In the field of entrepreneurship, the label 'entrepreneur' has historically meant white men, which is misleading.

Another label that has been misleading and condescending is the term 'minority'. It implies a subordinate status, which connotes less power as it contrasts the 'minority' group with a more powerful (larger) group. Likewise the term 'non-traditional' has been applied to people of color and white women, which juxtaposes them with the traditional normative group (white males): this implies a deficit orientation, as the traditional group is considered the status quo. Furthermore, in terms of demographics in the US, the term 'minority' may no longer be accurate. For example in the state of California, Latino men and Latina women are now the majority population.

Language also reflects a stage of awareness or inclusion for both individuals and organizations. Diversity by definition focuses on differences, while multiculturalism focuses on aspects of multiple cultures. The differences referred to here are differences in contrast to the dominant group, again white males in the US context. Programs in US corporations have gone from 'appreciating diversity' to 'valuing diversity' to 'embracing diversity'. When programs and policies include looking at the dominant group from a cross-cultural lens it reflects a major shift in dominant thinking (Cox, 1993; Thomas, 1990).

As two white women researchers, we recognize the need to carefully ensure that the language we use is respectful, inclusive and suitable for multiple audiences. We also recognize that because we both have 25 years in diversity research, we need to remind ourselves that our audience may not understand the terms or embedded concepts in much of our work. As academics we too frequently speak in a coded language, which is inaccessible and exclusionary.

Towards the new lens Recent research on racial and ethnic identity in the US found that racial ethnic groups in the US were more aware of their ethnicity than the dominant European American group. Since their culture is the dominant culture, European Americans do not usually have to think about it, whereas members of a minority group often must constantly consider their culture because there are cues everywhere to remind them that their culture is part of a subset rather than part of the whole (Connerley and Pedersen, 2005). Thus earlier research in the field of entrepreneurship did not identify the racial and ethnic differences among men, and later the same error was repeated among women (Moore, 1999).

When one is unaware of one's racial identity then the point of comparison is always to one's group, that is, non-white, minority. A new conceptual paradigm would use language that clearly identifies the cultural group being studied: when we say women, do we mean white women or women of color? (Notice here that the term 'color' only refers to non-white women, again a comparison to the dominant group.) In our work we struggle with the labels and terms in conducting research: minorities or people of color? Anglo, White, European American? Black or African American? Dominant group or majority group? Diversity, cross-cultural or multicultural? International or global? In order to change the

discourse on women entrepreneurs, we have found that we need to be clear about the terms we use and what they mean. This, of course, is true in interdisciplinary work where different terms are used for the same or related concepts, as noted above.

We have also found that we must be careful about our assumptions about the audience/reader for our work. We were recently presenting our case at a national conference and found the cultural context of a case was misinterpreted. In the case, an African American business owner, when asked about the cultural origins of his leadership, discussed the importance of his role as a leader in the African American community. Our audience, predominately white males, interpreted his statement to mean he would only hire African Americans, and expressed concern about the viability of the business if such a racially biased hiring philosophy was employed. It became clear to us that we needed to write and present our cases in a manner that allows multiple points of entry, given both instructor and audience levels of cultural awareness. We sometimes forget that our audience does not possess the same level of cross-cultural awareness and will interpret our language and implicit cultural metaphors incorrectly.

For case writers providing guidance for the case facilitator in a teaching note, this introduces an additional level of work and skill in describing possible answers to discussion questions that reflect multiple levels of cultural awareness.

The new lens is more constructive and explicit about cultural identity. This may pose new dilemmas for researchers who fear sounding offensive if using racial/ethnic labels, yet if the cultural identity of those being researched is not identified the same conceptual errors previously identified are repeated and poor research is perpetuated.

Factor 5: Research approach

This factor questions traditional research approaches which are rooted in western scientific epistemology and positivist methodologies of mainstream organizational science and business research. This section discusses the boundaries of approaches, designs and methods of traditional business research. This unilateral approach proves limiting when attempting to hear culturally distinct voices. The new lens suggests more narrative and relational methods and also challenges conventional assumptions about appropriate roles and ethics within the research relationship.

Old lens The traditional empirical forms of research assume objectivity and detachment. As we have previously discussed, being a successful entrepreneur is not just about adopting the traditional management practices and measures of success. People of color and white women have a multidimensional set of lenses through which they engage strategies and gauge their success. In order for researchers to learn how these entrepreneurs operate their businesses and become successful we need to understand their motivations and value systems. This means the traditional positivist white male model of objectivity and distance from the subject will not work in understanding multicultural women entrepreneurs. 'To explain and understand any human social behavior, we need to know the meaning attached to it by the participants themselves' (Nielsen, 1990, p. 7). A new, multidimensional approach to research is required that encompasses a relevant code of ethics.

Researchers are currently held to an old code of ethics, which reflects objectivity and detachment in order to avoid contaminating the research. It is implied that to conduct research without strict adherence to this code lacks integrity and raises questions not only

about quality, but ethics. Yet in order to hear culturally distinct voices the new lens requires a more subjective and relational approach.

Our research has taken a more critical and deconstructive approach. As Joyce Nielsen (1990) describes, 'theory is critical because it departs from and questions the dominant ideology, creating at least the possibility of being "outside" of that ideology . . . Everyone or every group is located socially and historically, and this context inevitably influences the knowledge they produce . . . Knowledge is socially constructed' (p. 9).

When researching diverse entrepreneurs we cannot take their point of view for granted. Distinct from the dominant group's view, their position 'has to be developed or acquired through education' (Nielsen, 1990, p. 11).

Towards the new lens When studying diverse entrepreneurs we found anomalies that did not fit the unilateral lens outlined in our model. This led us to develop a multidimensional set of lenses that allow for a dialectical exchange or 'fusion of horizons' (Gadamer, 1976). This fusion results in an 'enlargement, broadening or enrichment of one's own horizon' (Nielsen, 1990, p. 29). Research on multicultural entrepreneurs can enrich the knowledge base across the management, sociology, women's and cultural studies disciplines. To gather this knowledge means shifting to a more feminist and narrative approach that incorporates cultural awareness. Quoting Stimpson, 'this seemingly simple but obviously important shift from male-centered perspectives influences what is studied and how it is studied' (in Nielsen, 1990, p. 21).

The new research lens is more subjective, relational and explicitly concerned with ethics. When conducting entrepreneurial research with a cross-cultural lens a new complexity is introduced in the relationship. For example, in our recent case research on women of color entrepreneurs we faced the issue of how to position the cases of women leaders whose racial and cultural heritage is used as an advantage without appearing opportunistic or exploitative. In one case the woman business owner clearly identified her cultural heritage as unique among her competitors and proudly acknowledged the advantage it gave her over others. Our dilemma as white women was to represent her multiple identities with integrity and authenticity without exploiting the visibility her uniqueness gave us as researchers. Thompson (1998) identifies four ethical principles regarding research about people of color: a valuing of subjectivity, an ethic of accountability, an epistemological privilege and an ethic of democratic representation. Thompson also expresses the need to ensure that sensitivity to multiple identities is accounted for in research designs.

Ethnographic and narrative methods may more accurately capture the cultural nuances in constructing entrepreneurial research, but these methods do not necessarily lend themselves to fast or certain publication (Hjorth and Steyaert, 2005). There is some writing to support the notion that racioethnic research is inherently biographical and autobiographical, and that the complexity of the topic make surveys and other mass sample methods inappropriate. Furthermore, it is also assumed that the relative absence of well-established theoretical foundations requires more in-depth data collection to promote theory construction. However, researchers, concerned about their work being accepted, will adapt to the dominant model and comply with the publication criteria established by the gatekeepers of the profession/field. To the degree that cross-cultural entrepreneurial research requires more qualitative and other non-conventional designs, the publication of such may be hindered by a bias among mainstream journals for more quantitative design.

Another issue that must be dealt with involves the ethics of not intervening with case research, as dictated by good research practice, when there is a moral imperative to help advance a member of an underserved population. As case writers it is considered unethical for us to provide consultation and feedback. In one of our cases we felt torn between our role as researchers and providing feedback to a woman business owner whose leadership was clearly being undermined by an employee.

There is an overarching challenge embedded in the nature of this type of work that essentially positions a social agenda for business educators. Our agenda has been to inform and educate for social change, which requires us to be vigilant about our own assumptions in our research approach and methodology. We know that many educators would be uncomfortable mixing advocacy with research.

This new multidimensional lens of research allows a richness and robustness that was previously ignored in dominant research approaches. We have found the research journey into understanding the connection between entrepreneurial leadership and cultural heritage complex and exciting. New approaches to conducting research using ethnographic and narrative methods and designs will yield an infusion of new knowledge into the discipline. We believe our case research will contribute to re-envisioning women business owners in all their diversity. While statistics for women business owners abound, there is a lack of true understanding about who they are and their rich contributions to the national and global economy. This new lens will help us understand and appreciate the culturally diverse contributions of women business owners to best practices in entrepreneurial leadership.

Conclusion and implications

Perhaps women of color and white women are successful in the entrepreneurial field precisely because they are able to make their own rules. They do not have to follow the dominant white male model of business and management when they are in charge. This change in practice is a paradigm shift in how businesses operate. As we have illustrated, a corollary shift in how research is conducted on entrepreneurs is also necessary. 'Paradigm shifts are more likely to occur at the margin of a society or discipline . . . those in between different disciplines are more likely to formulate as well as adopt new paradigms' (Nielsen, 1990, p. 21). Entrepreneurship is positioned precisely at this point within the business and management discipline to cause such a shift.

According to Kuhn, the two elements necessary for a paradigm shift to occur are 'the presence and awareness of anomalies – phenomena that either do not fit, contradict, or cannot be explained by the existing dominant paradigm, and the presence of an alternative paradigm, one that can account for both the phenomena that the earlier paradigm explained and the anomalies that it did not' (Nielsen, 1990, p. 12).

Our research on diverse entrepreneurs uncovered anomalies that do not fit the unilateral lens or earlier paradigm through which entrepreneurial and management research has traditionally been conducted. The alternate new paradigm or multidimensional lens that we propose provides for an inclusive, multidisciplinary, knowledge-based approach to entrepreneurship research and education that recognizes unique gender and cultural values, acknowledges people's multiple identities and uses subjective, relational research practices. This change model serves as a means of diagnosing critical issues, reconceptualizing research and providing resolution of cross-cultural

challenges relative to studying and teaching about people of color and white women entrepreneurs.

There are many ways to help advance the paradigm change in research that will have relevant implications for teaching entrepreneurship. From a theoretical perspective, future research could examine the special barriers faced by non-majority group members and explore appropriate solutions in educational entrepreneurial domains. Survey research could be conducted to specifically consider the views of non-majority group members in generating items, hypotheses and their testing, and case research could use the GLOBE research that clusters minority groups by clusters and therefore suggests an overlay of similarities and differences that could be examined through in-depth case analysis.

It would also be very helpful to entrepreneurial educators to assess whether or not current research is 'de-whitewashed' and to make sure that future research does not replicate the mistakes of the old unilateral lens. Essentially the new lens offers a methodology for critical cultural analysis or deconstruction of subject matter. Using the model as criteria for choosing good educational materials as well as how to conduct related research will potentially prevent the perpetuation of the whitewash dilemma. As a standard for more accurate multicultural awareness and understanding simultaneity, the model will help educators and researchers alike recognize multiple voices that impact education, that is, voice of the researcher or theorists, the entrepreneur and themselves. In particular, majority group researchers need a deliberate intervention as the 'gatekeepers' of entrepreneurial knowledge. Publication editors and reviewers need a way to shift their own lens so as to encourage and support new contributions to entrepreneurial research and education.

Note

* This chapter is written from the perspective of the two lead authors' 20 years of collaboration and previous diversity work. The authorship is however shared with their Research Assistant, Laurie M. Hunt.

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PART III

UNDERSTANDING CONTENTS

12 Entrepreneurial marketing and university education

Gerald E. Hills, Claes M. Hultman and Morgan P. Miles

Introduction

Throughout the last century, the content of marketing courses has been focused on understanding the practices and processes within large corporations; however, interest in the marketing practices of small and medium-sized enterprises (SMEs) and by entrepreneurs has been increasing both in the US and globally.[1] It is now recognized that 99.7 percent of all US employers are classified as small and 90 per cent of these businesses employ fewer than 20 people. Small and medium-sized enterprises contribute 50 per cent of private sector income and 54 percent of the private sector jobs in the US and most of the net new job growth (US SBA, 2004). While employment opportunities have shifted away from traditional large corporations to SMEs, marketing education has not reflected this change. In this chapter we adopt Venkataraman's (1997, p. 123) perspective that entrepreneurship is the nexus of entrepreneurial 'opportunity and enterprising individuals'. This definition of entrepreneurship is broad enough to include individual and organizational venturing, strategic renewal, and social entrepreneurship. Entrepreneurial marketing is explicitly linking Venkataraman's (1997) nexus of entrepreneurial opportunities and individuals with the value-creating, need-satisfying mechanisms of marketing. While entrepreneurial marketing can be applied in any organizational context from a new venture to a large established corporation, we take the position in this chapter that high-growth SMEs have unique resource constraints, marketing processes, and marketing strategy – implementation issues which are the focus of the present study.

The uniqueness of marketing in SMEs has been largely ignored by marketing scholars. Superficial observation has led to the often implicit and incorrect conclusion that new businesses and smaller enterprises require a simplified, rather than a different form of marketing. Equally little research has focused on the nature of marketing in high growth SMEs.

Increasingly, however, scholars are finally questioning existing marketing concepts and theories as well as how these frameworks might apply to SMEs. More than 10 years ago, for example Webster (1992) and Gronroos (1990; 1994) broadly challenged the dominant marketing paradigm, and others have reasoned that the special conditions in new ventures and SMEs are so different from the conditions in mature, large firms that the normative marketing management prescriptions may not be applicable (Birley, 1982; Bjerke and Hultman, 2002; Carson, 1985; Carson et al., 1996; Davis et al., 1985; Hills et al., 1982; Hills, 1994; Hultman et al., 1998).

Entrepreneurial marketing covers marketing activities in new and entrepreneurial ventures. Kotler (2003, p. 5), in his most recent international edition, cited entrepreneurial marketing as the first of three stages that marketing practice naturally passes through when organizations mature. In later development stages, organizations' marketing practices evolve into 'formulated marketing'.

However, entrepreneurial marketing behavior may occur in larger firms. Many firms continue to be entrepreneurial. Entrepreneurial behavior may be present either for a very long period of growth or during entrepreneurial stages of reorientation and reconstruction that some firms pass through as they evolve. Hence, Bjerke and Hultman (2002) take a wider approach in a theoretical framework for understanding recurrent entrepreneurial marketing when linking entrepreneurial processes to marketing processes in different development stages. Miles and Darroch (2006) discuss the strategic use of entrepreneurial marketing throughout the competitive advantage cycle.

Regardless of perspective, entrepreneurial marketing is regarded as different from marketing in traditional textbooks. In general, marketing education continues to be focused on mature, large firms. This focus is disproportionately represented in virtually all business college and university marketing textbooks. The risk is that the fundamental concepts and principles being advanced in marketing education today pertain more to the past than to the present and future.

The first part of this chapter is partly based on a cross-country study[2] that explores how marketing-related behaviors actually occur in high-growth SMEs. In the second part, the chapter focuses on the educational implications for teaching marketing in an era in which many of the career opportunities for students are with high-growth SMEs.

Entrepreneurial marketing behavior in high-growth SMEs

The nature of marketing

The first and most salient issue addressed by the study was to assess if entrepreneurs within SMEs conceptualize marketing in a way consistent with marketing textbooks. For example, one major issue was whether the traditional textbook 'marketing mix' existed in the minds of practicing entrepreneurs. Entrepreneurs seemed to think of marketing as a fragmented set of factors that affect sales performance, rather than a substitutable, coherent, and comprehensive set of demand generating variables that included the traditional marketing mix variables of price, place, promotion, and product. It is striking that the best practices of highly successful entrepreneurs did not encompass the marketing mix construct. In fact, little evidence existed, in the way marketing was discussed by the business owners, to suggest that they had a cognitive model of marketing approximating those in the leading marketing textbooks (Bearden et al., 2004; Kotler, 2003). This included many high-performing SMEs, with the exception of two US entrepreneurs who held MBA degrees. In fact, 83 percent of the US business owners discussed 'promotion' when asked about 'marketing' and pricing was rarely mentioned except in response to a specific pricing question. Although the companies' products and services were discussed, it was not apparent that many of the respondents considered these to be part of the function of 'marketing'. Sixty percent of the high-growth firms in the Swedish study and nearly all of the US high-growth firms emphasized the importance of flexibility and adaptability, and, consistent with the teaching of the marketing concept, they were prepared to incur almost any effort to satisfy the wishes of customers.

A compelling priority of the entrepreneurs was to make the customer satisfied and prepared to buy again. In fact, high-performing SMEs were willing to incur substantial extra costs and make all necessary changes in accordance with the customer's wishes during the fulfillment phase of each individual order. They also regarded their ability to make rapid

decisions, as well as their ability to adapt quickly, as crucial strategic capabilities. They explicitly cited this ability as a means to satisfy customers, and to increase sales – both in the short and the long run, to provide the 'best customer value'. The results from the US SMEs found that 93 percent of the growth firms engaged in 'superior customization' of services and products provided to customers, maintaining substantial flexibility in responding to customers. Although many marketing professors undoubtedly cite the importance of flexibility and customization in their teaching, this cannot be overemphasized for SMEs seeking growth. The evidence, therefore, suggests that marketing definitions and conceptual models as taught in the marketing discipline should be reconsidered. Successful entrepreneurs often do not embrace marketing as it is commonly taught by marketing educators.

Selling versus marketing

Despite marketing principles that warn against a 'selling orientation', the US study respondents placed very heavy emphasis on selling. It is estimated that the overall 'marketing' focus in 77 percent of the firms was actually on selling rather than the broader marketing function. All but one of the remaining firms 'balanced' both selling and marketing. Only one firm was classified as primarily adopting 'marketing'. As one of the more successful business owners said:

> Marketing can be . . . like accounting where . . . there's certain ways of doing things and ways of gathering information and analysing information. Where I think sales is much more personality and empirical . . . You know that's really the interaction of people, where marketing is gathering facts and making decisions based on things that either have happened or you think will happen. But it's much more formal . . . my marketing is much more gut. I've never had the patience to try to dig out . . . market sizes and things of that type.

Most growth and non-growth entrepreneurs considered personal selling to be the dominant part of their marketing programs and budgets. Also, most of the growth and non-growth entrepreneurs considered a selling orientation to be more important to firm performance than a marketing orientation. The Swedish results were compatible, with all the Swedish firms also placing emphasis on selling as a critical skill.

Marketing planning

Marketing educators, using traditional marketing principles, typically encourage students to develop a marketing plan. We asked respondents about their planning procedures, and, among the Swedish firms, formal market planning was carried out in only 28 per cent of the firms. Of the 17 high-growth SMEs, formal planning was carried out by only six firms (35 per cent). By analysing all of the companies in the Swedish database, a sector-related pattern could be detected. None of the growth service firms did any formal planning, while a majority of the trading firms did. Of the seven firms classified as high-growth manufacturers, three of the firms made formal marketing plans while four did not. Among the growth trading firms, formal marketing planning was used by 75 per cent of the owners.

In the US study, only 13 percent of the firms had a written marketing or strategic plan. Most of the business owners interviewed could be characterized as strongly 'intuitive' in their marketing decision making although a small number were also somewhat analytical. Most operated businesses with little structure, and few companies were specialized by

traditional management functions. The owners were not only the CEOs, but also the senior marketing officers for their companies and were proactively oriented. This integrated 'structure' fosters the rapid exchange of information and, combined with close proximity to the customer, rapid decision making. As one high performer stated, 'I guess we were opportunistic as I think most entrepreneurs are. I was able to run the company to maximize opportunities rather than to do a business plan.' Another said, 'I think that you can overplan. I think our company works best because it is a creative type of business.'

Other research has reported the tendency of many, if not most, entrepreneurs to engage in limited formal planning (Lumpkin et al., 1998). Perhaps the normative marketing models that prescribe a major emphasis on planning need to be fundamentally questioned, given the growing empirical evidence.

Formal market research

An important part of marketing education focuses on how companies obtain information about the environment. In traditional marketing, marketing research, in combination with salesperson knowledge, is the leading source of information, but the information generation may be conducted differently in SMEs. When the respondents were asked about formalized market research activities, the results were overwhelming. Of the Swedish firms studied, only 41 per cent of the high-growth firms used any formalized marketing research activities. Only three of the 15 US high-growth firms indicated that they carry out formal market research. They also noted that they did not conduct research in the earlier stages of the business life cycle. Instead of formalized procedures for learning about and understanding the business environment, many successful entrepreneurs found market information through their continuous interaction with people in their markets. They constantly tried to learn about their business environment and they had an optimistic perception of their own abilities to deal with these challenges. This is well illustrated by the statement from a Swedish manager: 'I receive information. I travel a lot and I am always on the move, both external in the marketplace and internal in the company. I collect information, and we also have a reporting system. Information is not a problem.' In contrast, a US manager complained: 'I think I was pretty naive . . . I spent a lot of money on formal market research. It did absolutely nothing for me. It didn't tell me anything that I did not already know.'

The environment will be analysed and understood through the eyes of the beholder – the entrepreneur. In similar business situations, two entrepreneurs rarely act in the same way. They may exist in the same business environment, but since they perceive, interpret, and identify different parts and possibilities, the perceptual context in which they take action may be completely different.

Long-term relationships and personal contacts

The investigated Swedish firms, especially the knowledge-based service companies, often used marketing methods emphasizing personal contacts. As one manager said,

> We deal with people, not companies. If there is good chemistry and they are clever people, you can work with them wherever they are. But if they are jerks, it does not matter how large and fine a company they work for. It all depends upon the people in our kind of business. No institutional cooperation – it is from one human being to another. And when we look at it this way we have many partners.

We also found that a majority of the Swedish firms discussed long-term relations and emphasized personal relations as the key to sales and profit and as a method for dealing with price competition. As one manager said, 'We have cooperation and integration, between us and the customers, and it is much easier to work together. You can market your company even when you have run into trouble. The way you handle complaints or solve a technical problem very much determines your future business.'

Very importantly, in many of the Swedish and US firms studied, a focus on long-term marketing relations was not seen as being in conflict with a transaction orientation. Many of the high-growth firms were both relational and transaction oriented. Relationship marketing is more and more accepted by marketing teachers, but it is often regarded as an alternative to a transactional orientation (see, for example, Li et al., 1997).

Networking and referrals

In the Swedish sample, 76 percent of all the high-growth SMEs used referrals as a key part of marketing. The non-growth firms used referrals to a much lesser degree. In the US study, the importance of networking and encouraging referral business was also of high importance, with 40 percent of the respondents placing a high importance on referrals. Five of these six entrepreneurs who felt that networking was not important were non-growth firms, and all of the 'high importance networkers' were growth firms. Many of the SMEs have a limited market size with a manageable number of identifiable customers. Compared to a large corporation with global markets, networking may be a particularly important part of the marketing function in SMEs. Despite new attention to relationship marketing in recent years, networking typically receives limited attention in classic marketing management and principles teaching. The practical impact of networking was noted by one of the high performers:

> Well, it was very interesting to me to learn that you could go to a luncheon and talk to nine other people at a table instead of going door to door . . . nine times. It was very interesting for me . . . that you could do that and at least get your name known out there. You never work a room for yourself. You work a room for the other people who are there.

She went on to say that by doing others a favor, then you get a 'chip' to be used later.

The entrepreneurs that were rapidly growing engaged in more networking than the non-growth entrepreneurs. The importance of personal networks is often stressed in entrepreneurship teaching and research (see Johannisson, 1995), but is less emphasized in marketing courses. For marketing majors, personal selling courses typically place more attention on referrals, but for most business students who only take the introductory marketing course, networking and relationship-building should receive more emphasis.

Reputation/credibility/customer loyalty

In the US study, 87 percent of the high-growth companies placed great importance on maintaining a strong reputation and constantly building trust and credibility. Similarly, 'high' customer loyalty as compared to 'moderate' customer loyalty appeared to be related to higher performance. Although this finding is consistent with the traditional teaching of marketing, its importance cannot be overemphasized. Again, a manageable number of customers, as compared to the market sizes of large corporations, often make these relationship factors more important to SMEs. As stated by one SME owner, 'your reputation

is maybe the most important thing you have. Your personal reputation and your company's reputation. And it's hard to get and it's easy to lose, so you have to guard that very preciously.'

The respondents also emphasized the importance of credibility. This was particularly critical for new businesses, in which no prior firm reputation or experience for potential customers existed.

Marketing goals

Encompassing marketing strategy are marketing goals, definition of the target market, and the marketing mix. Although large, publicly traded firms are driven to achieve financial goals such as return on investment and profit, SME owners typically mix personal goals and preferences into their goal set. The impact of this can be seen because marketing goals may be influenced dramatically. For example, it is often irrational for SME owners to attempt to maximize sales growth. Although marketing textbooks typically presume that sales growth is desirable, SME owners do not always make that assumption. Our study results suggest that the exceptions to a growth orientation are numerous. Our study design ensured the inclusion of no/low-growth firms, but we anticipated this condition would be the result of strategic failures rather than deliberate personal goals. For example, the discomfort associated with managing larger numbers of employees and concern about retaining financial control of the firm were reasons given for not wanting to grow. In addition, dilution of ownership may result from growth. These reasons are embedded in deep personal, and even psychological, feelings that are overlooked by classic marketing teaching. As noted by one US respondent,

> So that was a great lesson and it was a long time ago, but one of the things I determined was I'm not going to grow at the expense of making a profit because I'm in business to have a great life, not in business for the sake of the business . . . I'll be forty in the year xxxx, and the objective is . . . enough passive income so that I can choose whether I want to work or not.

Another business owner said,

> What I am really striving for is not the three to five or ten year goal . . . My . . . goal is to have this company in a situation where it is extremely marketable . . . I'm hoping it would be worth a couple million dollars . . . I want to have the option to do something else if I want.

Marketing behavior is often guided by the personal goals and wishes of the entrepreneur rather than by marketing opportunities (see, for example, Bolton, 1971; McClelland and Winter, 1969; Scheinberg and MacMillan, 1988).

Conclusions

More than 40 years ago Neil Borden (1964) asked the question, 'Is marketing a science or an art?' Today the answer seems to be even more distant than in 1964. We have evidence that many entrepreneurs do not behave in the rational, sequential manner that was regarded as desirable in the 1950s and 1960s. Instead, they 'live' continuously with the market and with customers' preferences present in their minds, constantly thinking of how to improve customer value. When they find new methods to improve what they offer the market, they are not constrained by what was stated in any previous plan. Yet, this

behavior is not based on traditional marketing principles, nor is it how most educators teach marketing. Moreover, as scholars, we know that successful entrepreneurs and their marketing behaviors call for a re-examination of our assumptions about marketing. It is clear that several of the fundamental 'truths' in marketing should be questioned, at least in the context of SMEs. Consistent findings are reported by Carson and Gilmore (1997) and Hulbert et al. (1997).

Clearly, evolving organization forms, which emphasize flexibility in responding to changing customer needs, create new definitions of the role of marketing and its responsibilities in the firm. In SMEs, both the role and implementation and performance of marketing are likely to be different from marketing in hierarchical bureaucratic structures of large corporations that dominated economies in decades past. In this study, several important discrepancies between the actual behavior of CEOs of SMEs and accepted marketing 'principles' arose. Small and medium-sized enterprises question the very nature of marketing as it is widely taught, and core concepts such as the marketing mix were challenged. We also found that marketing in SMEs is often implemented successfully, but in different ways than traditional marketing. The relative absence of planning and formal marketing research, the influence of personal goals upon the firm's marketing behavior, as well as the importance of personal relationships and referrals as marketing tools, provides an opportunity to modify marketing education as we know it.

Marketing principles textbooks, in general, remain very much the same as in the 1960s. Hultman and Hoglind (1998) examined marketing textbooks from the US and UK, and the content has changed very little for decades, especially in US textbooks. The situation remains the same today. The flow of new 'how-to-do-it' literature, targeted at business managers and consultants is constant, but the fundamental literature in basic marketing, principles of marketing, and marketing management remains largely unchanged. Students of the new millennium are still exposed to the same marketing concepts as their teachers were in the 1960s and 1970s.

Much, if not most, marketing teaching has neglected the dynamic business changes that have occurred, including the new importance and behavior of fast-growing SMEs. In addition, marketing teaching often neglects the latest knowledge regarding, for example, decision-making and strategy formulation produced in other disciplines such as management and entrepreneurship.

On the positive side, a new focus on long-lasting relationships between buyers and sellers as well as relationships in networks and supply-chain management are important new contributions; however, we need to encourage more inductive studies of business practices in which the emerging marketing challenges of the twenty-first century can be explored from a marketing education vantage point. Moreover, important contributions from the growing entrepreneurship literature should be embraced by marketing educators to better prepare students to understand marketing in entrepreneurial organizations.

Although many of the traditional components of marketing education are still useful for SMEs, we need to augment traditional marketing education with learning modules in which the 'art-aspects' of marketing are emphasized. This concerns both *content* and *form*. Teaching content needs to be modified with less focus on rational analysis and planning models. These are better suited for large multinational bureaucratic organizational forms in stable business environments. The checklists and planning models should be fewer, and the functional thinking should be less. We suggest that the traditional content in marketing

courses should be supplemented with a more holistic understanding of business processes, an integrated rather than a functional perspective of how to create customer value, a greater focus on what causes buyers to buy, as well as an understanding of decision-making in dynamic situations and leadership in network structures. Further, Cunningham (1995) pointed to the need for marketing skill development, not only new marketing knowledge. Practical skills are important when used in conjunction with analytical skills, such as knowledge of how to conduct sales visits as well as using elementary networking skills.

We also propose bringing students closer to the marketplace, with more informal classroom projects. To teach the skills that are more relevant to SMEs, students need to be in contact with actual business problems and behavior. We recommend more action learning principles (Pedler, 1991) and more collaborative methods in marketing education, where students are exposed to actual real-time situations and behaviors. Internships, projects that solve actual problems in growing firms, and continuous interaction with firm representatives are suggested. Further, regular discussions of theoretical knowledge with practicing entrepreneurs represents another path for marketing educators to meet the demands of growing firms in the twenty-first century.

To implement changes in teaching the marketing principles course, a wide array of adjustments is possible. The review of our study findings in Table 12.1, with action-oriented teaching recommendations, calls for an intellectual open-mindedness by marketing faculty. Some of the more fundamental marketing truths are being questioned, and so it is tempting to reject these findings prima facie. It is, of course, recognized that these findings are based on a small sample of SMEs and, indeed, each of the behaviors cited in Table 12.1 demands further study. Yet, we are confident that marketing in entrepreneurial-driven, high-growth companies is different in important ways from marketing in large, mature firms. The differences are likely to be as substantial, or more substantial, than consumer products marketing as compared to services marketing, for example. It is important to teach students that marketing principles, as we know them, may not be universally applicable to all organizations and all marketing activities.

In Table 12.1, it may be argued that all 12 of the entrepreneur behaviors may be added to principles of marketing courses in all of the six ways cited, but priority should be placed on the interfaces. Entirely new lectures and major class activities could be developed to expand attention on selling, promotion, and networking. A new lecture combined with class activities and/or a mini-case could also be developed to emphasize the impact of entrepreneurs' personal goals on marketing goals. Examples and mini-cases could be used for nearly all of the increased emphases. Also, 'live-cases' or SME class speakers could greatly enhance the principles of a marketing course. For example, inviting three successful founders and/or owners of very successful SMEs as class speakers, and by encouraging them (and the students through their questions) to address several of the points in Table 12.l could greatly enrich a class.

An insightful and enjoyable class project is to have individual students or small teams (two or three maximum) interview a successful SME founder and have the students and entrepreneur discuss the issues listed in Table 12.1 (for example, 'Do you agree or disagree that . . . ?'). Students could also add other questions of special interest to them. Then a class period could be devoted to discussing each of the issues in Table 12.1 in the context of all the student interview findings. Executives in large companies could also be interviewed and the results compared to entrepreneurs in the class discussion.

Table 12.1 Teaching marketing principles propositions: entrepreneurs' marketing behavior and action teaching implications

Propositions	Uses/suggestions					
	A	B	C	D	E	F
1. Growth entrepreneurs' concept of 'marketing' focuses heavily on promotion	X	X	X	X	X	X
2. Most growth entrepreneurs are selling orientated rather than marketing orientated	X	X	X	X	X	X
3. Growth entrepreneurs typically do not recognize or implement the 'marketing mix'	X					X
4. Being extremely flexible and adaptable in the pursuit of complete customer satisfaction is typical of growth entrepreneurs	X		X	X		X
5. Most growth entrepreneurs develop strong, personal relationships with key customers	X		X	X		X
6. Both a long-run relational orientation and a shorter-term transaction orientation are usually adopted by growth entrepreneurs	X		X			
7. Growth entrepreneurs typically use networking and referrals to build their customer bases		X	X	X	X	X
8. Growth entrepreneurs usually place importance on building trust, credibility and reputation to foster customer loyalty	X		X	X		X
9. Formal, written marketing planning is not engaged in by most growth entrepreneurs	X			X		X
10. Marketing decision-making, by most growth entrepreneurs, is strongly intuitive and not very analytical	X		X	X		X
11. Growth entrepreneurs rarely use formal market research but obtain market knowledge through frequent customer contact and secondary sources	X		X	X		X
12. Growth/non-growth entrepreneurs' marketing goals are often driven by personal priorities		X	X	X		X

Notes:
A. Integration into existing lectures.
B. New lectures and class activities.
C. Use of growth entrepreneur examples.
D. Invited entrepreneur speakers.
E. Supplementary readings.
F. Consulting projects and internships.

It is clear that numerous options exist for implementing a teaching focus on the marketing–entrepreneurship interface. These processes, combined with student and entrepreneur feedback, will help take us to the next level of teaching marketing in the new millennium.

Notes

1. This chapter is adapted from, and builds upon, Hills and Hultman (2001).
2. *Methodology*. This chapter discusses the results of a qualitative study of 59 Swedish and American firms from the late 1990s. We interviewed a convenience sample of 29 independently owned Swedish SMEs managed by their owners that had fewer than 200 employees (Hultman et al., 1998). In addition, we interviewed 15 US

firms that were selected as outstanding in an extensive screening process for an 'Entrepreneurship Hall of Fame', and 15 US SMEs that were not experiencing growth. A mix of manufacturing, service, and trading firms were selected by the authors to reflect the local economy.

The data collection, both in Sweden and in the US, encompassed in-depth, semi-structured interviews averaging 90 minutes each. Interviews began with broad questions and then probed for additional insights based on the flow of the discussion. For example, the first question was, 'How do you generate sales?' Despite the unstructured nature of the interview, discussion was guided with a general interview protocol of 34 items to ensure that comparable issues were addressed across all interviews. All of the Swedish interviews were transcribed into English.

We sought to better understand the marketing issues that face SMEs. Non-numerical Unstructured Data Indexing, Searching and Theory-building computer software (NUD*IST) was used for the qualitative analysis of the interviews. Thirty-nine categories were created from the interview data and coded, including market research, pricing, cash flow, performance, and target market. The software made it possible to retrieve all coded text units across all of the respondent interviews. It was also possible for the coder to enter related memos, which were then retrieved at the same time. The searching involved different ways of retrieving text, parts of text, or even single words and phrases relevant to various steps in the analysis and to the categories chosen for indexing material. NUD*IST also provided an opportunity to find and analyse patterns in the coding. The interview transcriptions were independently analysed for the Swedish and US firms with a remarkably high degree of consistency between the two country's samples.

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13 The role of entrepreneurship education in the entrepreneurial process

Francisco Liñán

13.1 Introduction

Starting a new venture is, in the first place, an individual's personal decision. This is so obvious that it is quite often forgotten. Most research in entrepreneurship concentrates on analysing the firm-creation process once the decision to create has already been taken, completely overlooking the internal process that leads people to that decision. From this viewpoint, the important thing is not which particular individuals will create a new firm. It is understood that at least some of them will take that decision and start their ventures. Taken to the extreme, ecological approaches to entrepreneurship could be an example of this view (Aldrich and Wiedenmayer, 1993). However, it does not answer why there are such important differences in regional start-up rates.

On the other hand, there is an opposite way in which that obvious precondition may be overlooked. The individual's decision is sometimes assumed to depend on personality traits: 'If you have the proper personality profile, you will become an entrepreneur sooner or later.' This is what Shaver and Scott (1991) call the 'personological' approach, which seems to have proved largely fruitless in predicting start-up decisions by individuals. Even though some statistically significant relationships have been found between certain personality traits and being an entrepreneur, predictive capacity has been very limited (Reynolds, 1997).

Entrepreneurship educators should keep these theoretical considerations in mind when designing, implementing and evaluating a training programme. The way firm creation is viewed will undoubtedly play a relevant part in each stage of the training activity. Thus, in our view, the individual's decision to become an entrepreneur should not be taken for granted. It should be the first element addressed.

When the entrepreneurial process is carefully analysed, there are at least three kinds of variables involved in any start-up: (1) the person(s) leading the project; (2) the environment in which it is embedded; and (3) the characteristics of the opportunity to be exploited. It is very common for entrepreneurship education initiatives to select participants on the basis of, first, being decided and having built a balanced entrepreneurial team and, secondly, having detected a viable opportunity to be seized. In such situations, teaching concentrates on how to manage the project: that is, business planning, locating resources, marketing the goods or services, and so on. Thus, the number of start-ups created by participants will probably be higher. But this approach is very restrictive, as it leaves all those individuals still undecided or without a clear business idea out of the programme.

In our view, entrepreneurship education may act on the three elements of the entrepreneurial process, but to a different extent and with distinct instruments. Its major role will surely be played preparing the person for successfully attempting the start-up. In this sense, intention models provide a very promising tool to explain the decision to become an entrepreneur, and the variables that affect it (Fayolle and Gailly, 2004). Regarding the

second of those three areas, entrepreneurship education may be very useful in providing specific knowledge and network contacts within the local environment. But it certainly cannot modify it. Finally, its role with respect to the economic opportunity is somehow more controversial. There is considerable debate regarding whether such opportunities are discovered or enacted. The latter would mean a greater role for entrepreneurship education. But the former also implies the need to transmit techniques to search actively for the existence of new opportunities.

Therefore, in this chapter, firm creation is seen as a complex process whereby the three above-mentioned variables are important. After this introduction, some contributions about the entrepreneurial process are considered. Then, in section 13.3, a concept of entrepreneurship education is provided. In particular, we are concerned with its possible role in increasing the supply of people who both have the willingness and feel able to become entrepreneurs and, therefore, take a firm-creation decision. However, personal decision is not enough. In section 13.4, we consider what the role of entrepreneurship education should be with respect to the entrepreneurial process. Finally, in section 13.5 we summarize our main conclusions.

13.2 The entrepreneurial process

Since the economic crisis of the 1970s, entrepreneurs have received increasing attention as job creators (Acs and Audretsch, 1990), innovators (Cohen and Klepper, 1996), as promoting flexibility (Kirchhoff, 1990), productivity (Nickel, 1996) and economic growth (Wennekers and Thurik, 1999). They are increasingly being seen as 'heroes' (Allen and Lee, 1996), at least within the academic and policy-making communities. It is not strange, then, that so many attempts have been made to identify what makes an entrepreneur, and how to differentiate them from the rest of the population.

Yet, as Gartner (1985) puts it, this quest has diverted attention from the essential point that all new firms are very different from each other, and so it is very difficult to establish general characteristics that are valid for all of them. Gartner identified four elements that are present in any new venture creation. The characteristics of the resulting firm will be substantially different depending on the specific combination of those four elements. In particular, he considered that there was no point in studying the entrepreneurs as such, as they alone are only one dimension of the new venture-creation process.

Besides studying the *individual*, there would be three other elements in the process. One of these would refer to the actions undertaken by the individual to perform entrepreneurial functions. This is called by Gartner (1985) the '*process*'. In this sense, the functions performed and the specific actions undertaken would result in different ventures. Finally, the *environment* and the *organization* would represent the other two complementary elements. Thus, those circumstances considered to be relatively fixed conditions from the outside, to which the new venture has to adapt, would belong to the environment. On the other hand, variables over which the new firm may have some degree of control should be considered as belonging to the organization, especially the so-called strategic-decision variables.

More recently, Bygrave (2003, p. 2) has described the entrepreneurial process as 'all the functions, activities, and actions associated with perceiving opportunities and creating organizations to pursue them', and considers it to be made of the personal, sociological and environmental factors that give birth to a new enterprise. To describe this process, Bygrave (2003) follows Timmons's (1999) framework. According to this, the new venture

is the result of combining three crucial components: the *entrepreneur*, the *opportunity* and the *resources* needed.

From a different perspective, Katz and Gartner (1988) investigated the properties which would be indicating that a new organization is emerging, and suggested four factors that had to be taken into account:

- intention to create an organization (individual's decision and commitment)
- developing an organizational boundary (trade marks, incorporating the firm, and so on)
- assembling resources (finance, premises, equipment, and so on)
- exchange of resources across the boundaries (sales, cash-flow, marketing agreements, and so on)

Reynolds and Miller (1992), using this framework, found that the most common first event in the business-creation process was the nascent entrepreneur's personal commitment towards creating the venture. In their sample, five out of every six interviewees answered this way, dating their commitment back to several years before the firm emerged as an economic actor. In this sense, Krueger has worked extensively on the analysis of entrepreneurial intentions (Krueger, 1993; 2000; Krueger and Brazeal, 1994; Krueger and Carsrud, 1993; Krueger et al., 2000), showing the applicability of Ajzen's (1991) theory of planned behaviour to firm-creation activity.

The contributions referred to so far have stressed different elements in their analysis of the entrepreneurial process. The one thing that they have in common is the importance they attach to the individual creating the firm. Gartner's (1985) *individual* and, to some extent, *process* dimensions concentrate on people and their actions. Bygrave (2003) considers the personal factor as one key element, as does Timmons (1999). Finally, Katz and Gartner (1988) also highlight the relevance of the individual's *intention*. Therefore, we think the individual's mental decision to create the firm should be considered as a first element to be analysed.

In our opinion, this personal intention is a previous element in the entrepreneurial process. Intention is a cognitive construct that captures the motivational factors influencing behaviours (Ajzen, 1991, p. 181) and therefore, it precedes actions. As Degeorge and Fayolle (2005, p. 3) put it, 'entrepreneurial intention is a moment of reflection which directs the acts of the contractor towards the development or the improvement of a new concept'. However, it can be said that, in moving from intention to action, people are not alone in the vacuum. They have to face reality, interacting with their environment, in the pursuit of their business opportunity.

The intention to perform a given behaviour has been described as the single best predictor of actual behaviour (Ajzen, 1991). In particular, entrepreneurial intention would be the most important element to predict the individual's firm-creation behaviour (Fayolle, 2003; Kolvereid, 1996). However, intentions are difficult to analyse, and their link to actual performance also deserves close attention. As Shaver and Scott (1991, p. 28) point out,

> most modern psychology subscribes to some version of the S-O-R [stimulus-organism-response] model, but all recognize that only the stimulus and the response can be observed directly. Any and all of the organismic variables (the various O states) must be inferred from the relationships observed between classes of stimuli and classes of responses.

In its original formulation by Ajzen (1991), intention depends on the individual's perceptions of these three elements: attraction towards the behaviour, social norms, and behavioural control. This model has been applied to firm creation with good results, becoming one of those 'organismic' variables that mediate between stimulus and response. In this chapter, we consider the entrepreneurial intention model as a basic element in the entrepreneurial process.

The environment in which the firm would be created may be considered as the second key element in the entrepreneurial process (Bygrave, 2003; Gartner, 1985). It is evident that potential entrepreneurs act within a specific milieu that influences their decisions and actions (Bird, 1989). The opportunities to be pursued will depend, at least partially, on the characteristics of such an environment. In this sense, ecological approaches have made extensive use of two concepts: munificence and carrying capacity (Specht, 1993). The first of these concepts is defined as the degree of resource abundance in that environment. This would be particularly relevant for more specific assets, such as highly skilled labour force or advanced business services. In its broadest sense, therefore, munificence could be somewhat similar to Timmons's (1999) 'resource' factor. Carrying capacity, in turn, refers to the number of organizations competing for the same resources or markets. There is some empirical evidence that these two factors do have an effect on start-up rates (Begley et al., 2005).

The presence of entrepreneurial role models in that society is another environmental element that has been extensively highlighted in the literature. Role models have been recognized in general as an important source of 'vicarious learning' (Bandura, 1986). In particular, with respect to entrepreneurship, there is strong empirical evidence relating entrepreneurial role models to preference towards self-employment (Carsrud et al., 1987; Matthews and Moser, 1995; Scott and Twomey, 1988). A close personal contact with one or more of these role models, if they are seen as successful entrepreneurs, would help potential founders to consider firm-creation as a visible, viable and respected career option for them (Davidsson, 1995; Kirby, 2003; Scherer et al., 1991).

Finally, we will consider the business opportunity as the third variable in the entrepreneurial process. In the literature, there is a considerable debate about whether opportunities are discovered or enacted (Alsos and Kaikkonen, 2004; DeTienne and Chandler, 2004). The former would imply they are objective potential businesses that are there waiting for someone to exploit them (Shane and Venkataraman, 2000). The latter, on the other hand, would mean opportunities have to be built by combining personal knowledge, skills, experience, and so on (Gartner et al., 2003). One could easily think about examples of both types of opportunities. A conveniently located shop to sell mobile phones in the mid-1990s is an obvious example of the former. Meanwhile, a firm established by two engineers to exploit their own patented innovations would be an enactment act.

As Alsos and Kaikkonen (2004, p. 4) point out, these two contrasting views would be based on different ontological perspectives about the world. One of them sees it as consisting of objective facts, while the other considers it as made up of subjective perceptions and constructions. In this sense, opportunity recognition could be understood as the combination of both elements: first, objective resources, market needs and information; and secondly, the potential entrepreneur's subjective abilities, skills and perceptions.

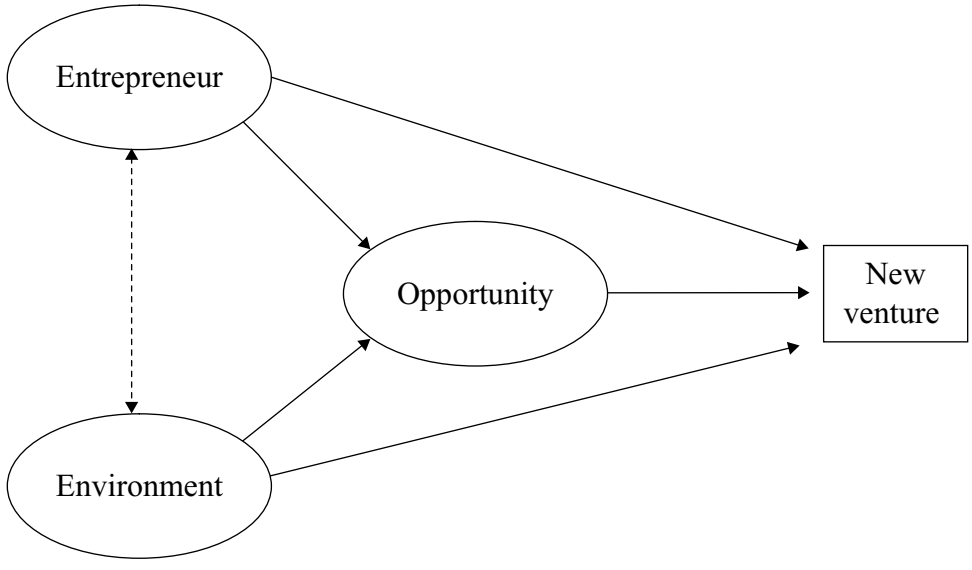
A balance between both extreme views is probably our best option to understand the opportunity recognition phenomenon, as Shaver and Scott (1991) point out, at least until new theoretical and empirical work is developed. In this sense, Alsos and Kaikkonen

(2004) consider that the opportunity-generation process may include both discovering and creating elements. Opportunities may be seen as varying along an axis where pure objective discovery and subjective creation represent the two opposite extremes.

DeTienne and Chandler (2004), even though they consider that opportunities are discovered, see creativity as an essential element in opportunity identification. Likewise, Krueger (2000) understands the pursuing of opportunities as an intentional behaviour and, therefore, suggests that intention models be used to study the opportunity identification process.

From a similar point of view, Hills et al. (1999) see opportunity recognition as a creative process. According to them, the road that goes from preparation (acquiring knowledge, experience, and so on), to incubation (subconscious consideration of a given problem or situation), to insight (finding the way out) and to evaluation (considering how valuable that opportunity is) is essentially a matter of creativity (Kao, 1989; Wallas, 1926). Of course, there would be numerous feedback processes along this road. Finally, once the idea has been accepted and becomes an opportunity, it may be the basis for a new venture. This final stage could be the elaboration of the business plan. For those authors, this elaboration stage would be a different element separated from the opportunity recognition, but as problems and impediments arise, it may be necessary to go back to earlier stages of the creative process and (partially) re-elaborate the opportunity.

In our view, then, the entrepreneurial process as described here, could be considered as made up of three essential elements (see Figure 13.1): individuals having the intention to become an entrepreneur; the environment in which they are embedded; and the opportunity



Source: Elaborated from Singh et al. (1999, Figure 1).

Figure 13.1 The entrepreneurial process

upon which the venture will be based. Only an adequate combination of these three elements may lead to a potentially successful business-creation attempt. Throughout the whole process, the role of entrepreneurship education may be very relevant. Up to now, most training programmes have concentrated on how to increase the proportion of business opportunities that become successful ventures, through the elaboration of a business plan (Honig, 2004). That is, they are acting only on the right-hand side of Figure 13.1 (the 'opportunity/new venture' nexus).

We think, however, that there would be at least three other possible functions of entrepreneurship education initiatives: increasing the number of people intending to be entrepreneurs; raising specific knowledge about the business environment; and achieving a higher number of successful opportunity generation processes. Thus, the main purpose would be raising entrepreneurial intention of participants. The other objectives (specific knowledge, opportunity generation and business planning) would be important as instruments to transform that intention into action.

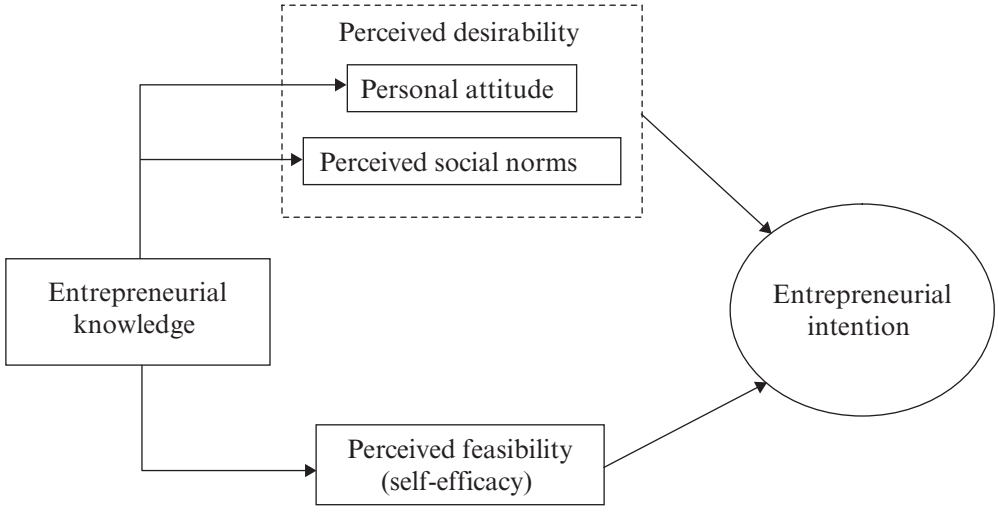
13.3 Conceptualizing entrepreneurship education

In parallel with the increased attention paid to entrepreneurs by academics and policymakers, entrepreneurship education has also experienced a rapid growth all over the world (European Commission, 1999; Loucks, 1988; SBA, 2000). Current theories on economic development and structural adjustment of economies include entrepreneurial promotion as one of their crucial elements (Liñán and Rodríguez, 2004; OECD, 1998). In this sense, there have been numerous attempts to conceptualize this educational form. The simplest one identifies it with training for firm creation. Thus, McIntyre and Roche (1999, p. 33) affirm that it is 'the process of providing individuals with the concepts and skills to recognize opportunities that others have overlooked, and to have the insight and self-esteem to act where others have hesitated. It includes instruction in opportunity recognition, marshalling resources in the face of risk, and initiating a business venture.' This concept, therefore, seems to be inspired in Timmons's (1999) view of entrepreneurship.

On the other hand, wider conceptions are comprised of a number of objectives and of different stages that usually include action during the whole educational system. The view of the Consortium for Entrepreneurship Education would be an example of this. According to them, entrepreneurship education should be considered as a model of lifelong learning. One of its more salient characteristics is the division into five stages, which are formally independent and that would be developed without the need for a tight coordination between them (Ashmore, 1990). Nevertheless, the conjunction of these five stages may have a remarkable effect on the level of entrepreneurial spirit of a society, on firm creation rates, and on their survival and their subsequent dynamism. A similar approach, although not so wide, is supported by the European Commission (2003).

However, as mentioned above, intention models seem to provide a very useful framework for analysis of the entrepreneurial process (Fayolle, 2003; Kolvereid, 1996; Krueger, 2000). In this sense, Krueger et al. (2000) or Liñán (2004) have developed entrepreneurial intention models based on a combination of Shapero and Sokol's (1982) theory of the entrepreneurial event and Ajzen's (1991) theory of planned behaviour. Figure 13.2 represents one such integration.

Knowledge about the entrepreneurial environment helps individuals to form their own perceptions about that career option. These assessments may be grouped in two categories



Source: Elaborated from Liñán (2004, p. 15).

Figure 13.2 Entrepreneurial intention model

(Shapero and Sokol, 1982). Perceived desirability would measure the willingness to create the firm and it would be based on the personal attraction towards it (beliefs about positive and negative consequences of becoming an entrepreneur) and perceived social norms (social and family pressure for or against performing that behaviour).

Perceived feasibility, on the other hand, would refer to the degree to which people consider themselves personally able to carry out a certain behaviour (Shapero and Sokol, 1982). It is, therefore, quite close to the concept of self-efficacy, as defined by Bandura (1997, p. 3): 'the judgments of one's capability to organize and execute the courses of action required to produce given attainments'. Although originally Ajzen's (1991) concept of perceived behavioural control seemed to be quite similar, more recently the differences between them have been stressed. Thus, in more recent work, Ajzen (2002b, p. 16) affirms that 'perceived behavioral control, as commonly assessed, is comprised of two components: self-efficacy (dealing largely with the ease or difficulty of performing a behavior) and controllability (the extent to which performance is up to the actor)'. However, the decision to treat perceived behavioural control as a unitary factor, or to distinguish between self-efficacy and controllability, would depend on the purpose of the investigation (Ajzen, 2002b). Therefore, as this chapter is theoretical in nature, we will not make this distinction explicit, though it should be kept in mind for empirical research.

In our opinion, therefore, as personal intention has been identified in section 13.2 as the first key element in the entrepreneurial process, this entrepreneurial intention model could serve as the basis for an operative definition of entrepreneurship education. Besides, the following conception would be wide enough to embrace those mentioned above: 'the whole set of education and training activities – within the educational system or not – that try to develop in the participants the intention to perform entrepreneurial behaviours, or some of the elements that affect that intention, such as entrepreneurial knowledge, desirability of the entrepreneurial activity, or its feasibility' (Liñán, 2004, p. 17). This includes

the development of knowledge, capacities, attitudes and personal qualities identified with entrepreneurship. Specifically for those of working age, entrepreneurship education would seek the effective creation of enterprises and their subsequent dynamism.

The idea behind this view of entrepreneurship education is that entrepreneurial intention is determined by the whole set of beliefs about entrepreneurship (Ajzen, 1991, p. 189). In this sense, those training elements addressing the environment, the opportunity or the practical steps for firm creation would have an effect on personal intention, through its antecedents: entrepreneurial knowledge, personal attitude or attraction, perceived social norms, and self-efficacy. As Ajzen (2002a) puts it, the intention may be modelled along the whole implementation attempt, as actual confrontation with the behaviour would influence previous perceptions, modifying them.

As indicated in Figure 13.1, there are interrelations between the individual and the environment. This is manifest particularly with respect to two of those antecedents: entrepreneurial knowledge and perceived feasibility (self-efficacy). Regarding the first of these, a better knowledge of the local business environment will help provide better and more abundant role models, access to resources, professional network contacts, and specific knowledge about the industry and competitors. This, in turn, will probably improve the other intention antecedents (Krueger et al., 2000).

Self-efficacy, on the other hand, should be enhanced by providing practical information and experiential learning on how to create and manage a new venture (Bandura, 1997). Elaboration of the business plan would be one of the elements included here to promote perceived feasibility. Similarly, developing opportunity recognition abilities through creativity and other skills would also be promoting both feasibility and a more favourable personal attitude towards entrepreneurship (Hills et al., 1999).

The definition of entrepreneurship education presented here displays a number of features that, in our opinion, make it very useful in practice. When the different existing educational initiatives are studied, this definition could serve as a reference framework for their analysis and classification. These most salient features would be:

- In the first place, it seeks to include all education activities and not only those developed within the educational system.
- Secondly, it includes broader objectives than the diffusion of an entrepreneurial culture or the creation of enterprises. It also tries to increase the degree of dynamism of entrepreneurs; that is to say, the entrepreneurial quality (Guzmán and Santos, 2001).
- Thirdly, the role of educators would be clearly established. Instructors should concentrate on creating and strengthening entrepreneurial intention of participants (Fayolle and Gailly, 2004). Whether this intention turns into action or not depends on very different factors (environment, opportunity, resources, and so on) which lie outside the reach of educators.

Besides, this definition allows a clear distinction between entrepreneurship education and management training. A typical instance of the latter would be university business studies. Management training is not usually concerned with traits, skills, attitudes or intentions of the participant, but mainly with the necessary technical knowledge for business administration. Similarly, management training would not be interested in the creation process of

an independent entrepreneurial project, or its dynamism, but mainly in the organization of firms in operation. Entrepreneurship education, in turn, would be especially concerned with attitudes, intentions and the firm-creation (or entrepreneurial) process.

In principle, any entrepreneurship education initiative could fit within this definition, so it becomes necessary to establish some kind of classification. Thus, McMullan and Gillin (1998) specify six differentiating elements of an entrepreneurship education project: (a) objectives that are pursued; (b) faculty or teaching team who will be imparting it; (c) participant students; (d) content of the course; (e) teaching methods; and (f) specific support activities for the participants to start their ventures.

As Brockhaus (1992) points out, objectives are the fundamental question under which all other elements should be placed. Therefore, in this chapter, we have used those aims as the main classifying criteria. In this sense, Curran and Stanworth (1989) try to define the main types of objectives that can be pursued by entrepreneurship education. Their classification has been widely assumed by Garavan and O'Cinneide (1994a) or Liñán (2004). In our opinion, although the general idea may be valid, some changes have to be included to make it compatible with our conception. Figure 13.3 graphically summarizes the distinct aims of each of the following categories:

1. *Entrepreneurial awareness education*. Its purpose would be to increase the number of people having enough knowledge about small enterprises, self-employment and entrepreneurship, so that they consider that alternative as a rational and viable option. Thus, this educational category would pursue the creation of more potential entrepreneurs, independent of whether they actually create their firm immediately after the training. According to intention models, it would be acting on one or more of its antecedents (entrepreneurial knowledge, desirability or feasibility), and – indirectly – on intention. One example of this type of initiative would be courses imparted at universities. These are usually optional courses within business or engineering degrees.

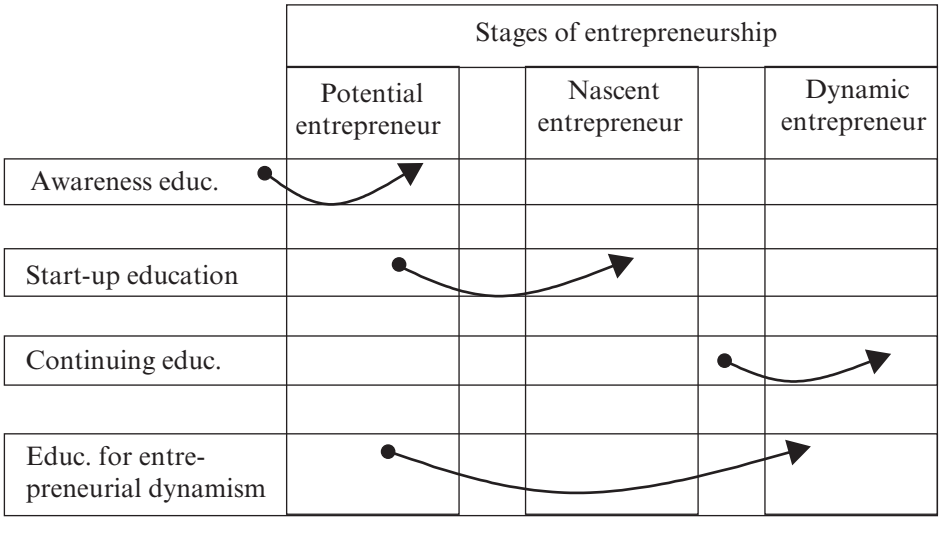


Figure 13.3 Objectives of entrepreneurship education

Instructors do not actually try to transform students into entrepreneurs, but only allow them to make their future professional career choice with a greater perspective (Garavan and O'Cinneide, 1994a).

2. *Education for start-up*. This would consist of the preparation to be the owner of a small conventional business, as are the great majority of all new firms. It would be centred on the specific practical aspects related to the start-up phase: how to obtain financing; legal regulations; taxation; and so on (Curran and Stanworth, 1989). Participants in this type of course are usually highly motivated about the project. So, they tend to show much interest in course contents. Frequently, the selection criteria rely excessively on already having a viable business idea. In this sense, in practice, it is very common for these courses to select persons showing a high previous level of intention – they would already be potential entrepreneurs – and to concentrate on the practical questions for start-up. Participants would ideally become nascent entrepreneurs during or (shortly) after the course.
3. *Continuing education for entrepreneurs*. This would be a specialized version of adult education in general, designed to allow improvement of existing entrepreneurs' abilities (Weinrauch, 1984), thus helping them become dynamic entrepreneurs. In particular, it is difficult to attract active entrepreneurs towards these type of programmes, since they tend to consider these initiatives as too general for the particular needs of their firms. A possible way to overcome this difficulty could be linking this category with the others. In this sense, participation in some start-up or dynamism programme could make entrepreneurs more receptive to continuous training.
4. *Education for entrepreneurial dynamism*. This would try to promote dynamic entrepreneurial behaviours after the start-up phase. Therefore, their objective would not only be to increase the intention of becoming an entrepreneur, but also the intention of developing dynamic behaviours when the enterprise is already in operation. Thus, it would be the most ambitious modality, as it tries to move participants from being potential to dynamic entrepreneurs. However, the conventional forms of education do not allow for the development of entrepreneurial quality (Guzmán and Santos, 2001), thus it would be necessary to use alternative educational models (Garavan and O'Cinneide, 1994a).

These four objectives of entrepreneurship education still need a lot of research to enlarge their knowledge base, to perfect their teaching techniques, to improve their effectiveness and to advance towards the achievement of all their potential (Curran and Stanworth, 1989). In any event, there is some agreement in considering education for entrepreneurial dynamism as the most ambitious category (Garavan and O'Cinneide, 1994a; Liñán, 2004), though the most difficult as well. Similarly, awareness education would be an essential starting point.

13.4 Role of entrepreneurship education

As indicated in section 13.1, it is very common for entrepreneurship education initiatives to concentrate on those participants that already have an entrepreneurial intention and have identified an opportunity. Many of these people may attempt firm creation even if they do not take the course. Yet, they may be lacking detailed knowledge about their closer environment (where the firm would operate) and, most commonly, not know what

specific steps should be taken to create a firm. In this situation, the training could be very useful and significantly increase the number of start-ups effectively attempted. This is what we have identified as 'start-up education', and it usually concentrates on the business-plan elaboration, carrying out visits to entrepreneurs and support bodies, or taking in local relevant guest speakers (Honig, 2004).

In relatively backward regions, however, levels of entrepreneurial activity tend to be lower (Westall et al., 2000), though this is not always the case (Nolan, 2003). Similarly, Audretsch (2002) identified a number of studies finding a relationship between higher entrepreneurial levels and lower unemployment. In backward regions, therefore, it may very well be the case that relatively few people are interested in becoming entrepreneurs. If that is so, traditional entrepreneurship education will only help those few who are interested. But it will have virtually no effect on the great majority of the population, which do not feel inclined towards the entrepreneurial career option. Even if they ever apply to participate in such a training course, they would probably be left out as not meeting entry requirements.

When policy-makers are concerned with substantially increasing the levels of entrepreneurial activity, as is the case in the European Union (European Commission, 2003), a wider approach to entrepreneurship education should be used. The inclusion of some awareness contents within the training would be very important. It might be integrated within the same course, or as a separate one. This latter option has been adopted by some relevant initiatives outside the university, such as the Graduate Enterprise Programme in the United Kingdom (Brown, 1990) or the Entrepreneur-Service in Norway (Kaltenborn, 1998). In both cases, a first phase consisting of 'personal planning' and 'entrepreneurial workshop' is developed independently of the main training course. Participants have the opportunity to find out what being an entrepreneur is like. If they enjoy the experience, they may follow on to the next step.

On the other hand, there is no need to limit the education programme to the start-up phase. It might be possible to develop and implement initiatives that try to develop dynamic behaviours in the participants (Foley and Griffith, 1998). In this sense, Gibb (1987) pointed out the importance of training contents relating not only to the pre-start-up phase, but also to the post-creation stages. With respect to this, Garavan and O'Cinneide (1994b) highlight aspects such as 'managing growth' or 'continuous team building'.

In Figure 13.1 we described the entrepreneurial process that leads to new venture creation. Educational interventions may act upon different elements of that process. Therefore, in Figure 13.4 we try to summarize the different kinds of training activities identified so far, and where they would exert their main effect. Following the classification developed in section 13.3, the role of entrepreneurship education in the entrepreneurial process would be the highest when the two modalities of 'awareness' and 'entrepreneurial dynamism' are integrated together.

According to Figure 13.4, development of the entrepreneurial intention could allegedly be considered as the first element to be addressed. In this sense, Kent (1990) indicated that the general opinion towards entrepreneurs is not very favourable. He was referring to the United States, but this is probably even more true in Europe (European Commission, 2003). Transmitting the important role entrepreneurs play in economic growth and development would help improve participants' valuation of entrepreneurship. Similarly, Fillion (1995) includes in the category of 'foundations of entrepreneurship' a series of courses

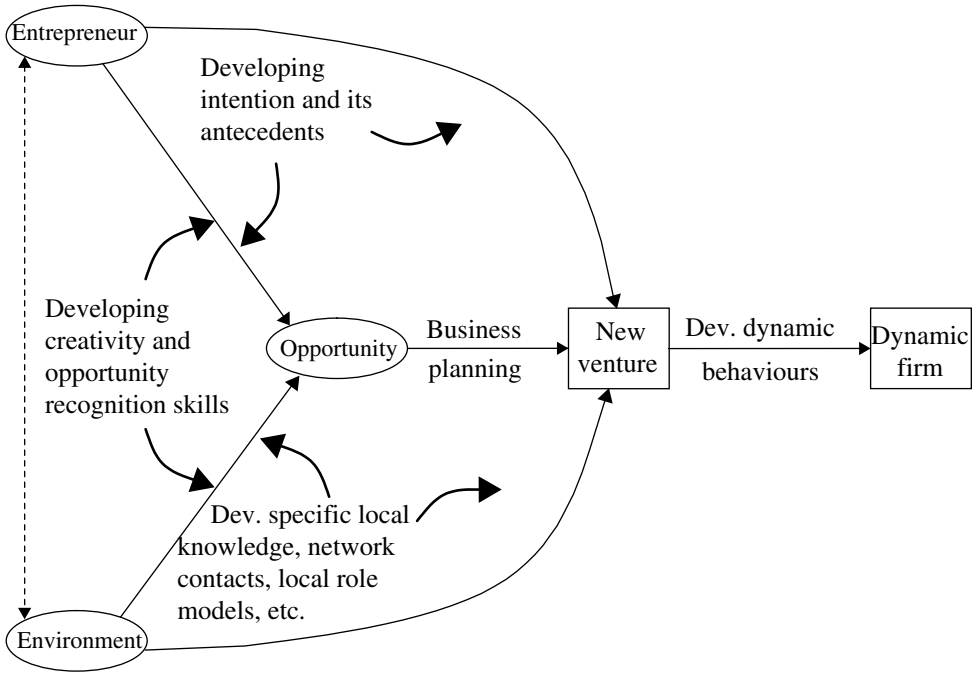


Figure 13.4 Role of entrepreneurship education in the entrepreneurial process

that could be clearly considered as entrepreneurial awareness education. In particular, besides insisting on the importance of the entrepreneur in the economy, the following contents may be highlighted: transmitting the roles and aspects of entrepreneurship, together with the problems usually faced; identifying the abilities used by entrepreneurs, making clear that they may be developed and showing some techniques to do so; and making explicit the successive steps involved in both the start-up and the firm-development processes.

Peterman and Kennedy (2003) found that participants not having much previous experience regarding entrepreneurship – and not especially positive – increased their perceived feasibility and desirability more. There would be a rationale, then, to try to reach all those that do not even consider this option. It may very well be the case that after participating in the programme they change their minds. In this sense, helping participants make their personal objectives explicit in the short and in the long run (their 'mission') and see how it may be compatible with entrepreneurship could be another very interesting exercise, which has already been tried out with good results (Brown, 1990; Fillion, 1995; Folley and Griffith, 1998; Garavan and O'Cinneide, 1994b).

Contents described so far would have their main effect in affecting perceived desirability and, to a lesser extent, feasibility. However, it should be noted that all other possible contents depicted in Figure 13.4 would also affect intentions and their antecedents. The difference, therefore, is in their main purpose. For that reason, these contents, described below, should be considered as primarily pursuing the stated objective, but indirectly helping to increase the entrepreneurial intention.

To develop opportunity recognition abilities, Epstein (1996) identified four skills to enhance creativity. DeTienne and Chandler (2004) have adapted those skills into a training model named as SEEC (securing, expanding, exposing and challenging). They offer a detailed list of activities that could be used in an opportunity-recognition course. When they tested this model, results indicated that this training model led to the identification of more opportunities and more innovative opportunities.

On the lower part of Figure 13.4, over the Environment/Opportunity/New venture area, we have included a set of measures specifically addressed to increase the knowledge of the local business environment, developing network contacts and having the possibility to interact with local successful role models. The importance of developing local network contacts has been highlighted by a number of authors (Johanisson, 1991).

However, it is possible to go further. Hartshorn and Parvin (1999) describe a training programme which includes mentoring of participants by local entrepreneurs. Each student is placed with an entrepreneur/mentor who considers the student as a kind of adviser, letting him/her take part in all business decisions made by the entrepreneur. This would be very important not only to get a closer and more accurate knowledge of what being an entrepreneur is, but also to introduce the prospective entrepreneur into the local business circles (Gibb, 1998).

Similarly, Kent (1990) suggests the utility of using 'socialization' seminars for participants. Local entrepreneurs and relevant business community stakeholders are invited to participate as well. This gives participants the opportunity to know 'who is who' in the local business world, to establish important contacts, to solve specific doubts that they may have, and also to reinforce their motivation.

At the Opportunity/New venture link, business plans are a very well-known and widely used pedagogical methodology (Gorman et al., 1997). They would not only provide an operationalization of the business opportunity (Lechner and Dowling, 1998), but also serve as a legitimization of the entrepreneur. They would produce 'an aura of formality and conviction often required before an individual's creation of a new organization will be taken seriously' (Honig, 2004, p. 260). Besides, it may reasonably be argued that increased specific knowledge and formalization of the business idea would also help increase perceived self-efficacy of the potential entrepreneur.

However, some recent studies (Carrier, 2005) indicate that a course consisting only of the production of a business plan may have a negative effect on desirability. This result, if confirmed, would strengthen the case for a wider entrepreneurship education programme, including some or all of the contents described in this section as a complement to the business planning.

Finally, an additional element that could be included in entrepreneurship education would refer to the development of dynamic behaviours once the firm is in operation. If these contents are integrated, we would be talking of 'education for entrepreneurial dynamism' or entrepreneurial quality. Some examples that could be considered here have been described by Garavan and O'Cinneide (1994b), and they include teaching how to manage growth and its implications for the entrepreneur's time, the firm's structure and functioning, financing requirements, and so on. Similarly, the need for the entrepreneurial team to be continuously re-built to adapt to new situations would also be included, together with motivation of human resources and leadership.

13.5 Conclusions

Parallel to entrepreneurship being increasingly recognized as an essential instrument to promote growth and development of different economies, entrepreneurship education is developing in a widespread manner all over the world. It is hoped that these training activities will help societies to create more and better entrepreneurs and firms. However, there is relatively little empirical evidence which could clearly demonstrate the effectiveness of entrepreneurship education to promote firm-creation and entrepreneurial dynamism. There is, therefore, a growing concern regarding what exactly would be the role of entrepreneurship education in this field.

However, to start with, the concept of entrepreneurship education is far from easy to establish. In fact, determining what exactly it is may be quite difficult. In principle, any training activity that addresses at least one of the elements determining the entrepreneurial process might be considered in this category. Nevertheless, it seems that most of that training is designed and implemented without sufficient careful attention to the underlying process that leads individuals to becoming entrepreneurs.

From a theoretical point of view, we consider it necessary to define what entrepreneurship education is. However, understanding entrepreneurship education requires entrepreneurship itself to be conceptualized. At the moment, there is no consensus definition of entrepreneurship, let alone entrepreneurship education. The view adopted in this chapter has been to concentrate on the fact that the direct or indirect final objective of this kind of education is to increase the number of successful firms being created. Thus, our point of departure should be the process leading to start-up.

For this reason, we started this chapter by analysing the entrepreneurial process. As has been shown, several different approaches exist with respect to the elements comprising the entrepreneurial process. In this contribution, a specific view of the entrepreneurial process has been adopted, based on an integration of the relevant literature. According to this, the personal intention is the previous and most important element to be considered in any firm-creation process. However, for the firm to come effectively into existence, the environment in which the person is embedded and the characteristics of the opportunity to be pursued also have to be taken into account.

Based on this view, an entrepreneurial intention model has been adopted to describe the individual's intention to become an entrepreneur. Only after this decision has been taken, would its combination with the environmental characteristics lead to the opportunity recognition. Finally, if the intention remains, the environment is minimally supporting and the opportunity is viable, a new venture might be created and, eventually, developed.

Some authors, such as Reitan (1997), argue that opportunity recognition may occur prior to developing the entrepreneurial intention. In this case, the decision to start a new venture would be taken after detecting a viable business opportunity, and not before. Even if this situation is met in practice, it would still be true that the personal intention remains a basic element of the process and, without it, no firm would be started.

Once the entrepreneurial process has been characterized, it would be possible to theoretically analyse entrepreneurship education. In consequence with the relevance attached to personal decisions, a view of entrepreneurship education based on the entrepreneurial intention model has been adopted in this chapter. It has also been recognized that different kinds of courses or programmes seeking separate objectives do exist. The most common is 'education for start-up', which is usually based on the elaboration of a business plan.

However, other modalities exist seeking distinct but complementary objectives, such as 'entrepreneurial awareness education' or 'education for entrepreneurial dynamism'.

In practice, the classification of entrepreneurship education initiatives established might be very useful. Most courses and programmes concentrate on the business plan and could then be considered as 'education for start-up'. This category is very useful. It helps those individuals already having a high level of intention, and having identified a viable business opportunity, to take the specific steps to start their venture.

Of course, there will always be some individuals with high entrepreneurial intention, and especially adept at identifying opportunities. For them, start-up courses focusing on business plans are the most valid instrument. If these courses add specific training to develop the business, they could be considered as belonging to the more ambitious category of 'education for entrepreneurial dynamism'.

However, there is a majority of people who have not even considered becoming entrepreneurs. This is especially true in some areas where entrepreneurial activity is lower and entrepreneurship is not a socially valued career option. Some of them may have considered entrepreneurship but, not having detected a viable opportunity, may decide to give up and look for a salaried position. If we want to reach this larger part of the population, entrepreneurship education should integrate substantial 'awareness' contents. Developing intention, creativity and business knowledge would be the most relevant way towards achieving this. Only then would the supply of potential entrepreneurs in a society be significantly increased.

Policy decision-makers should bear these considerations in mind when the objective of promoting or fostering entrepreneurship is addressed. If a more entrepreneurial society is to be developed, as the OECD (1998) or European Commission (1999) suggest, both the general population's intention towards entrepreneurship, and its opportunity recognition abilities would have to be strengthened. According to the position described in this chapter, including awareness education in the different training initiatives would be the best strategy.

Finally, as possible ways for future research, there are at least two feasible lines that we plan to follow. First, entrepreneurship education programmes should be implemented taking into account these theoretical considerations. However, in doing this, the objectives of entrepreneurship education have to be expanded to cover not only start-ups, but also increasing intention and opportunity recognition. Therefore, it may very well be the case that courses thus designed will not exhibit higher firm-creation rates than the more conventional business-plan course. But, if they succeed in raising entrepreneurial intentions, their aims would have been achieved. They would be contributing to a more entrepreneurial society with more potential entrepreneurs.

Secondly, but highly related, evaluation strategies could be developed to test the validity of these results. In this sense, we are already trying to build an entrepreneurial intention questionnaire (EIQ) that may be valid to measure the intention of becoming an entrepreneur. Our purpose is to design a research project using the EIQ to measure the change in intentions after going through different entrepreneurship education programmes. By analysing the contents of each of them, it would be possible to identify which elements in each training initiative have a higher impact on intentions. Some theoretical bases for this project have already been established by Fayolle (2003). Also, a first application to evaluate a one-day seminar in entrepreneurship has been carried out by Fayolle and Gailly (2004).

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14 Evaluating entrepreneurship education and training: implications for programme design

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Introduction

Historically, economists have associated entrepreneurship with profit orientation, capital investment and risk (Cantillon, 1755 [1931]; Say, 1803 [1964]; Schumpeter, 1934), supporting the view that it is responsible for economic expansion (Cole, 1965; Schumpeter, 1965; Weber, 1930). However, in modern society the role of entrepreneurship has become more encompassing, and there is a tendency to regard it as a social panacea. For example, in the Organisation for Economic Co-operation and Development (OECD) Bologna Charter (OECD, 2000), it is proposed that entrepreneurship and a dynamic SME sector are important for restructuring economies and combating poverty by contributing to economic growth, job creation, regional and local development as well as social cohesion. Similarly, at the European level, entrepreneurship is viewed as a major driver of innovation, competitiveness and growth and, again, as a vehicle for social cohesion (EC, 2004).

There is, however, an accompanying anxiety that the EU is not fully exploiting its potential. There appear to be two main aspects to this problem: (1) insufficient entrepreneurs; and (2) insufficient businesses generating significant growth (EC, 2004). Accordingly, the European Action Plan sets out a series of initiatives and interventions aimed at addressing these issues. One proposed means of addressing the issues is through the provision of quality and targeted support, including education, training and mentoring, for aspiring and established entrepreneurs. This reflects a belief (not new) that entrepreneurship can be stimulated by governmental action, so that even the most economically deprived regions can be developed.

In light of this, McMullan et al. (2001) argue that evaluating the effectiveness of such assistance is necessary for several reasons. First, there is an expectation that the net benefits of such programmes should outweigh their costs and risks, especially as such costs are borne by the taxpayer. Second, training programmes can be expensive in terms of money for sponsors and time for participants. Third, in addition to the more obvious costs, there may be hidden ones, such as extra costs borne by guest speakers, mentors and unpaid consultants associated with programme delivery. Fourth, participants may take additional risks if they decide to implement learning and advice derived from entrepreneurship programmes.

This chapter reports on a study of the effectiveness of entrepreneurship training programmes for aspiring entrepreneurs, at the theoretical, methodological and practical levels. The definition of aspiring entrepreneurs adopted is, 'individuals who are considering establishing their own business and who may be at varying stages of the preparation phase' (Henry et al., 2003a). With regard to entrepreneurship training, our definition is informed: first, by Jamieson's (1984) three categories of entrepreneurship education and, in particular, the second one 'education for enterprise', which focuses on the preparation

of aspiring entrepreneurs for self-employment with the specific objective of encouraging participants to set up and run their own businesses; and secondly, by the work of Garavan and O'Cinneide (1994) which identifies a similar category namely, education and training for business ownership. Such provision aims to provide practical support for those seeking to make the transition from employment to self-employment. A framework, derived from both the literature and the findings of empirical research, is presented to inform the structure and evaluation of such training programmes. However, in recognition of differing contexts, the framework is designed to be flexible and adaptable, and not overly prescriptive at the pedagogical level. The chapter is structured as follows. Firstly, as a foundation for the rest of the paper, the value of entrepreneurship training programmes in developing the resource and knowledge base of the entrepreneur is discussed. Secondly, some key issues which are central to evaluating programme effectiveness are explored. Thirdly, the study undertaken is presented. Fourthly, the resulting framework and its theoretical and empirical rationale are considered. Fifthly, the potential value of the proposed framework for policy-makers, entrepreneurship training programme funders, designers and providers is discussed. Finally, the conclusions section highlights the need for further research.

Developing the resource/knowledge base of the entrepreneur

Given that entrepreneurship training and other assistance programmes are increasingly being offered and are expensive in terms of money for sponsors, as well as time and effort for participants (McMullan et al., 2001), there is interest in the value and effectiveness of such support. Its potential value becomes apparent when viewed through the lens of resource-based theory, which emphasizes resources internal to the firm as the principal drivers of profitability and strategic advantage (Kostopoulos et al., 2004). Sustainable competitive advantage may be derived from resources that are valuable (that is, exploit opportunities and/or neutralize threats in the external environment); are rare (among a firm's current and potential competitors); are inimitable, and are non-substitutable (Barney, 1991; Penrose, 1959; Pitelis, 2004). In addition, resources may be classified as tangible (financial or physical), or intangible (employees' experiences and skills; firms' reputation, brand name, procedures, and so on) (Hitt et al., 2001).

In relation to the latter, this has led to the emerging knowledge-based view of the firm which emphasizes knowledge (the 'capacity to act'; Sveiby, 2001) as a strategic resource and as an important determinant of its competitive success. Sveiby argues that a knowledge-based strategy should start with people, whom he terms the 'primary intangible resource', and the competence of those people. This is because all tangible physical products and assets, as well as intangible relationships, are the results of human action and depend ultimately on people for their continued existence. Thus, according to this view the key to value creation lies in the effectiveness of such transfers and conversions (Sveiby, 2001).

Chrisman (1999) suggests that new venture creation may be regarded as a special case of resource-based theory because a new venture has little or no stocks of resources other than the knowledge of the entrepreneur(s). Both entrepreneurs and investors assess the expected returns of a venture according to their perceptions of the entrepreneur's ability to develop unique resources that can be applied to a particular market or markets to create value. This suggests that entrepreneurs themselves are a key resource to the firm in obtaining sustainable competitive advantage. Chrisman also stresses the importance of knowledge as a key resource, whether it is possessed by the entrepreneur or others associated

with the firm. In a similar vein, Carter et al. (1996) indicate that an important factor influencing the entrepreneurial process is the interaction between the entrepreneur and outside advisers. All entrepreneurs, no matter how knowledgeable or experienced, have limitations. Thus, good advisers can act as sounding boards for new ideas; provide a valuable network of contacts, and may provide complementary skills (Chrisman, 1999). In addition, such advisers may act as facilitators, trainers and mentors. Gibb (2000) also stresses the importance of networks and social capital. From this perspective entrepreneurship intervention, in the form of training programmes geared towards new business creation, has the potential to be effective, provided that such programmes:

- facilitate the entrepreneur in identifying the types of resources he/she should be aiming to acquire and develop for the purposes of value creation and competitive advantage
- help the entrepreneur (and his/her firm) to develop appropriate capabilities that will enhance the effectiveness and productivity of the firm's resources so that value is created and appropriate targets are met
- highlight the significance of knowledge as a resource and also of its transfer and conversion, as well as aiding its acquisition
- stress the importance of, and facilitate, networks and networking.

Evaluating effectiveness

In this section of the chapter the problems surrounding the assessment of entrepreneurship training effectiveness, including the difficulties inherent in research design and measurement and the issue of evaluation criteria, are discussed.

Problems of evaluation

In terms of training for new business creation, there is considerable debate over the most appropriate method of measuring effectiveness (Westhead et al., 2001). Indeed, there does not appear to be a standard methodological approach to the evaluation of such interventions, nor does a common set of evaluation criteria for determining effectiveness exist (Henry et al., 2003b; Wan, 1989). Furthermore, despite the enthusiasm expressed by many entrepreneurship programme advocates, there has been little effort devoted to rigorous, objective analysis of impacts in terms of desired outcomes (Oldsman and Hallberg, 2001). It is widely accepted that evaluation of this nature can be problematic. Indeed, after reviewing the research undertaken into the cost–benefit analysis of entrepreneurship training, Gibb (1997) concluded that it was doubtful whether a definitive answer could ever be found to the question of effectiveness in terms of payback. A particular problem identified in this regard concerns the fact that evaluation is not possible unless policy objectives are clearly stated and measurable. Unfortunately, as Storey (2000) points out, at the macro level governments tend to be opaque about such objectives. A consequence of this is that analysts have to infer policy objectives rather than have them clearly defined. McMullan et al. (2001) concur with this view, arguing that the most appropriate methods of programme evaluation are those directly related to programme outcomes and objectives. A complicating factor in relation to policy and evaluation is that governments need to secure votes and policy-makers need to demonstrate the effectiveness of their policies. Thus, there may be a tendency to encourage 'sloppy' analysis, (reinforced by limited budgets), and/or to claim

that the target is anything an intervention happens to hit (Harrison and Leitch, 1996). Clearly such tendencies should be discouraged because misguided/inappropriate interventions are unlikely to produce desirable outcomes, while ineffective policies are perpetuated. Accordingly, Curran (2000) argues that policy evaluations should be carried out by independent researchers, such as academics, on a not-for-profit basis.

Methodological issues

Another set of evaluation problems concerns the related considerations of research design and measurement – for further details see Henry et al. (2004). With regard to the former, Storey (2000) argues that to evaluate the impact of a policy it is necessary to establish what would have happened to entrepreneurs and their businesses in the absence of that policy. Jenssen and Havnes (2002) make a similar point, raising questions such as, whether the businesses would still have been created by the same or other people without such support, and whether the new businesses have displaced existing firms.

In relation to the latter issue, Storey (2000) suggests comparison of a group exposed to the policy (the treatment group) with a non-exposed group matched on a range of appropriate variables with the treatment group. However, it is also necessary to control for confounding variables which could obscure the relationships between the variables of interest, in this case, entrepreneurship training and the performance of aspiring entrepreneurs, as well as any businesses they set up. In this regard, two main confounding variables are motivation and selection. Concerning motivation, it is possible that despite being similar to the non-exposed group (on the matched variables) the treatment group could be different from the non-exposed group in other respects. For example, it may be possible that those who seek training are more dynamic and open to new ideas than those who do not. Thus, if the two groups under investigation differ in motivation, any performance differences may reflect the effect of this rather than the impact of policy.

Similarly, selection bias occurs when programme providers select some applicants and not others in a situation where there are insufficient resources to accommodate all. It is reasonable to assume the selectors will choose what they perceive to be the 'best' cases. In this instance, the performance of the selected group is likely to be better than that of the matched group, even if the policy delivers no benefit at all (Storey, 2000). Control of these confounding variables involves the use of random panels whereby applicants are randomly allocated to the treatment and non-treatment groups thereby nullifying the effects of selection and motivation. Oldsman and Hallberg (2001) have identified five basic evaluation options and acknowledge that experiments with random assignment are the 'gold standard' in evaluation frameworks. However, in practice this condition is difficult to satisfy, not least because programme managers are under a moral and economic obligation to expend resources on projects most likely to benefit from them. An alternative proposed by Oldsman and Hallberg is quasi-experiments with constructed controls in which assignment to the control group is non-random. With this approach it is important to be aware of selection biases (whether self- or administrative-selection biases) and to control for these where possible. Oldsman and Hallberg also offer three additional approaches to evaluation (non-experiments with reflexive controls; participant judgement and expert opinion; and structured case studies) which are less rigorous, accepting that designing and implementing evaluation frameworks often involves trade-offs, i.e. balancing rigorous analysis with budgetary and time constraints.

As far as measurement is concerned, McMullan et al. (2001) suggest that there are three standard measures used to evaluate the effects of entrepreneurship programmes namely: subjective assessments of client satisfaction, clients' attributions of the impact of assistance on their subsequent performance and objective measures, such as the number of businesses and jobs created, as well as increased sales. Their research suggests that programme evaluations which rely solely on participants' satisfaction or subjective judgements of programme effectiveness, can lead to erroneous conclusions about a programme's impact on performance. They conclude from their findings that attribution measures, when used together with objective measures, may well have some value in supporting effectiveness claims. However, it may be that subjective measures of satisfaction which are used some time after completion of a programme (participants having had time in the interim to reflect upon its content and upon their own subsequent performance) can produce useful insights.

Evaluation criteria

Despite the range of difficulties associated with the evaluation of entrepreneurship interventions, policy and evaluation in this context are acquiring increasing importance among policy-makers in OECD countries and, as a result, a combination of evaluation techniques and methodologies is being used to assess both the direct and indirect effects of such interventions (Andersson, 2000, p. 5). However, in relation to these interventions, including structured programmes geared towards new business creation, there is a lack of coherence, with evaluation difficulties and methodological challenges remaining (see, for example, Curran and Storey, 2002; Henry et al., 2003b, as well as the above discussion).

While different countries will have their own economic priorities and, thus, interventions will operate under different conditions, certain key components are strongly recommended in developing evaluation frameworks:

- the use of cost–benefit analysis
- the employment of quantifiable criteria for determining success
- the determination of what would have happened in the absence of a programme or policy, and assessment of whether a control group needs to be employed
- the consideration of the temporal dimension of programmes and their impacts
- combination of evaluation tools and approaches (both quantitative and qualitative)
- contemporaneous design of evaluation and intervention
- user-orientation focusing on the information needs of the different programmes' participants and clients
- dissemination of evaluation results to include policy and decision-makers in order to facilitate an appropriate response (adapted from Andersson, 2000, pp. 6–7).

In relation to the recommendations above, it is worth noting that they are predicated upon a clear set of programme objectives having been established. However, while they provide guidance at a general level, more explicit direction would benefit those with responsibility for programme design and provision. It has also been suggested that there is a need to encourage policy-makers to adopt an 'evaluation culture' which will entail developing a critical attitude towards both evaluative methodologies and the outcomes of evaluations (Andersson, 2000, p. 8). As stated above, this implies objective evaluation

conducted by independent researchers not reliant on policy-makers or providers for their funding (Curran, 2000).

Chrisman and McMullan (2000) argue that the competitive advantage derived from entrepreneurial interventions is achieved through the creation of tacit and explicit knowledge. In consequence, evaluation should comprise both quantitative and qualitative elements. In relation to the latter, the FIELD (Microenterprise Fund for Innovation, Effectiveness, Learning and Dissemination) (Field Best Practice Guide, 2002, p. 47) project suggests five key categories by which the effectiveness of enterprise training programmes should be evaluated: participant characteristics; business proficiencies (the particular business skills critical to business success and the stage at which these are learnt); personal effectiveness (how programme interventions influence core entrepreneurial attitudes and behaviours); participation (how the amount and sequencing of training and technical assistance influences business outcomes); and differences in intervention (how the trainers' skills, experience and style influence participant success in training and in business). Owing to the number of variables that have to be taken into consideration, assessing the effectiveness of entrepreneurship education and training programmes is a complex issue (Westhead et al., 2001). This presents a challenge for programme designers and providers in terms of developing an appropriate and functional evaluation methodology.

The study

Research design

A main aim of this research was to investigate, as rigorously as possible, the effectiveness of training programmes for new business creation by, among other things, assessing both the quantitative and qualitative outcomes of such training based on a combination of objective, subjective and attribution assessments. The quantitative outcomes of interest included the number of new businesses and jobs created, while the qualitative outcomes encompassed participants' perceptions of the training they had received. Also of interest were changes in these variables over time. Thus, effectiveness was assessed from the participants' perspective, as well as in terms of economic outputs from the programmes in question. The specific research questions posed were: 'What do training programmes for new business creation actually achieve, and are there measurable benefits for the participants? Do the participants' perceptions of these benefits change over time?' It was hoped that the answers to these questions would help inform the structuring of such programmes. The research comprised three main elements:

1. Case study analysis of eight successful entrepreneurship programmes (measured by conversion rates of proposals into business start-ups) offered in five different EU countries (Finland, Ireland, the Netherlands, Spain and Sweden) which integrated both quantitative and qualitative data derived from a range of sources including documentary evidence, such as programme literature, press releases, and evaluation reports, as well as in-depth interviews. The cases were selected as typical examples of university-managed programmes which focused on aspiring entrepreneurs. The effectiveness (in terms of structure, duration, content and outputs) of the eight different entrepreneurship programmes was determined. Subsequent to this, specific key programme elements and features were identified as being important to consider

when designing and developing future programmes. In addition, the views of the programme providers and funders; the profiles and opinions of the participants (the aspiring entrepreneurs); their pre-, during and post-programme views, and the overall transfer of learning (paired sample *t*-tests were used), provided further critical insights into both the direct and indirect impacts of structured entrepreneurship programmes of this nature – for further details see Henry et al. (2003a).

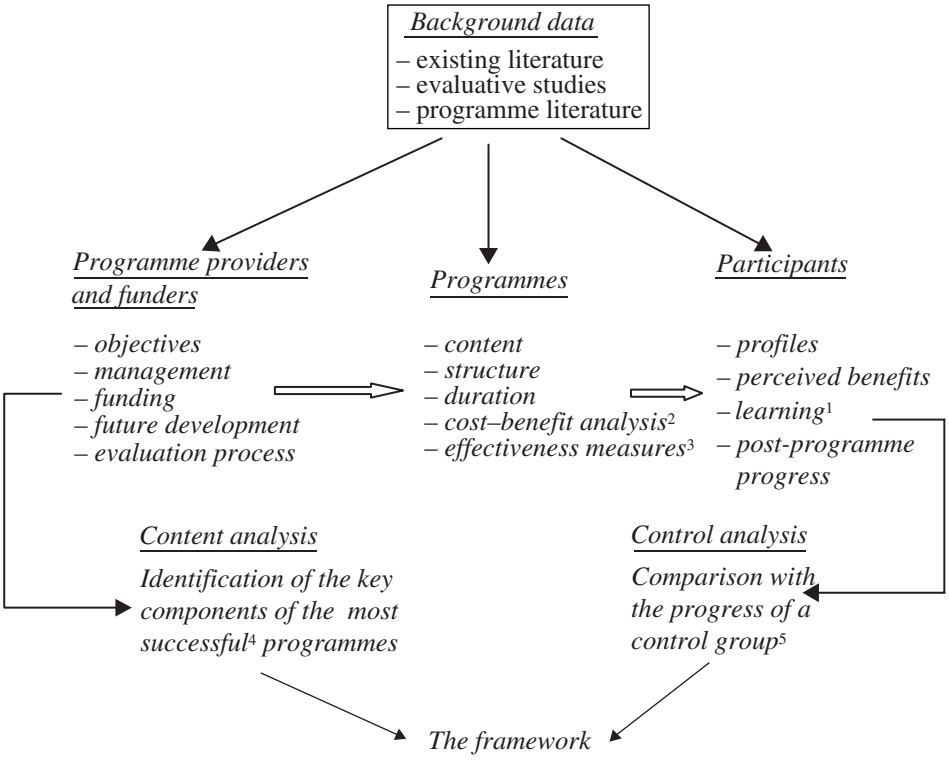
2. A longitudinal study based on a series of five questionnaires administered over a three-year period (on a pre-, during and post-programme basis) to one of the participant groups included in the case studies – hereinafter referred to as the 'treatment group' (n = 35).
3. A comparative study comprising the treatment group and a control group. The control group consisted of 48 aspiring entrepreneurs who had applied to the same training programme as the treatment group but were not accepted, owing to the restricted number of places available. This group was particularly worthy of investigation because of similarities between its members and those of the treatment group, in relation to a number of variables. For example, their personal profiles were broadly similar; like the treatment group, these individuals had a business idea at the pre-training stage; they had all expressed an interest in setting up a business; and, as stated, they had applied to join the same programme. Their progress was assessed three years after their application to join the programme (that is, two years after the start of the programme in which they had not actually participated), and was compared with that of the treatment group at that time. Findings from this part of the research indicated that the aspiring entrepreneurs who participated in the entrepreneurship training programme made significantly better progress with the development of their business idea than those who did not participate – for a more detailed account see Henry et al., 2003a; 2004). The participants in the treatment group started more businesses and created more jobs than those in the control group.

Based on key components of the most effective European programmes in terms of structure, duration, content and outputs; the views of programme funders and providers; and on the findings of the longitudinal study, a flexible and non-prescriptive framework (presented and discussed below) was constructed to inform programme structure with a view to improving effectiveness. Figure 14.1 summarizes the methodology employed for constructing this framework.

Limitations of the methodology

While every effort was made to employ a comprehensive and rigorous methodology in this study, it was constrained by data availability/accessibility, time and budget (Oldsman and Hallberg, 2001). The small size of the treatment group and the falling response rate over the three-year duration of the longitudinal study, make generalizability of the findings difficult. Regarding the case studies, it would have been desirable to interview more individuals associated with each of the entrepreneurship training programmes. However, owing to budgetary constraints, the operation of such programmes, in reality, involves a very small team of people and thus it is normally the programme manager who can provide most of the information required.

As the design of the longitudinal study was quasi-experimental in nature, it was not



Notes:
1. As measured by the achievement of a qualification (NVQ); the completion of a business plan, and self-assessment pre- and post-questionnaires.
2. Measured by cost per programme, per participant, per new business and per job created.
3. Measured by completion rates, fulfilment of programme objectives, no. of new businesses/jobs created, completion of business plans, perceived learning outcomes, perceived benefits.
4. Measured by percentage conversion rates (that is, from proposals into business set-ups).
5. The independent variables used for comparison included: employment status; whether or not the individual continued working on the business idea; whether or not the proposed business had reached set-up; number of jobs created.

Figure 14.1 Methodology employed for constructing the framework

possible to control for administrative selection bias because the selection process employed did not appear to include assessment scores. Thus, statistical techniques to control for selection bias, such as the Heckman two-step adjustment procedure, could not be applied due to the lack of specific numerical selection variables from which to build an appropriate selection equation (Heckman, 1974). However, it is important to note two key points in relation to the selection process: first, due to the focus on aspiring entrepreneurs, a main element in the selection procedure was the outline of a business idea, which was discussed by the selection panel and a consensus reached; and second, the main reason for non-selection, as claimed by the providers, was the limited number of places.

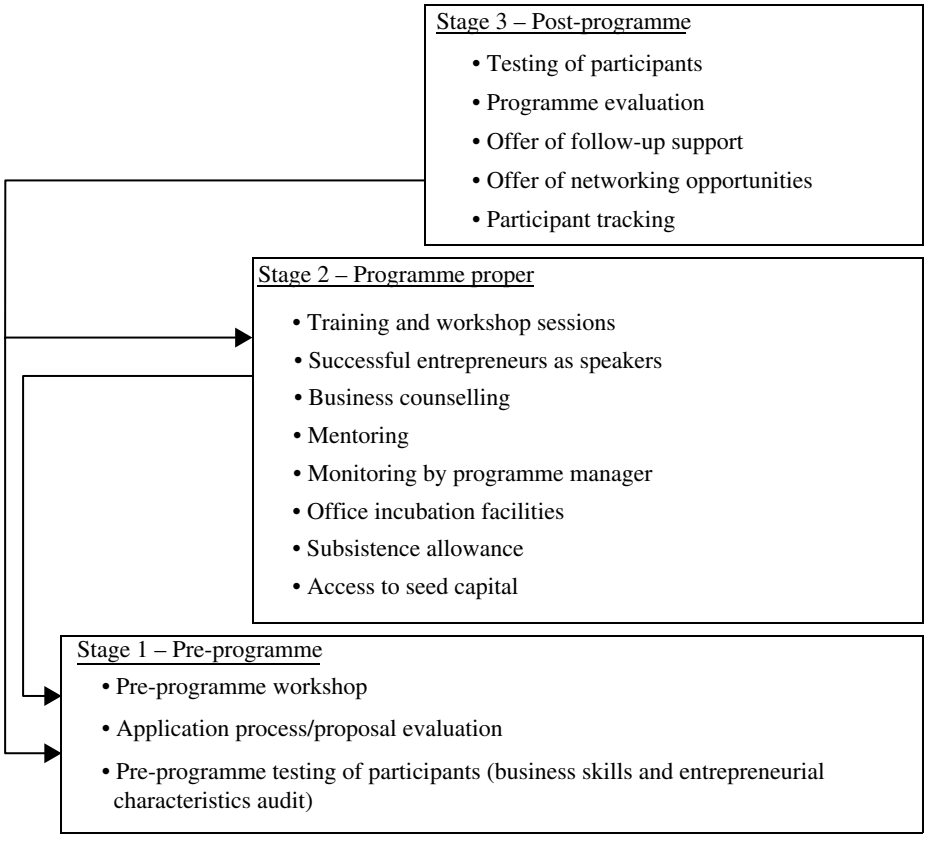
In terms of self-selection bias, since all the participants (in both the treatment and the control groups) had applied to participate in a training programme for new business

creation, it may be assumed that self-selection/motivation was not a major confounding variable in this study.

The framework

The framework proposed comprises three sequential stages. The first is the pre-programme stage which includes an interactive workshop of about a half to one day's duration to raise awareness, encourage participants and explain what is involved in the programme proper. This potentially could be followed by the application process, where the aspiring participants' applications are evaluated by the programme management team, as well as an expert panel, including successful entrepreneurs. Then, once the participants are selected, it is suggested they are asked to take part in a skills audit to determine their specific training needs.

In stage 2 of the framework – the programme proper – the research findings suggest that the elements listed in Figure 14.2 should be included as core components over approximately a 12-month period. Content should, of course, reflect the particular programme objectives. Around 10 days of training and/or workshop sessions throughout the



Source: Henry et al. (2003a, p. 189).

Figure 14.2 A framework for the development of entrepreneurship training programmes

programme would appear to be appropriate. Topics highlighted by programme participants surveyed in this study as being of particular benefit, included business planning, marketing and finance. It would also appear appropriate to involve successful entrepreneurs and past participants as guest speakers, where possible. These individuals potentially could represent valuable role models and mentors for programme participants. While linking the training to a qualification may or may not be beneficial to participants, depending on the nature of the group, linking the programme objectives and learning outcomes to some recognizable set of standards might provide a useful template for providers to follow. Funding and other support agencies, as well as potential investors, could also be introduced to programme participants through the workshops. Throughout the programme, participants should be given the opportunity of testing the feasibility of their business ideas and getting constructive feedback.

During stage 3 – the post-programme stage – it is suggested that a test of participants' business skills and knowledge is conducted in order to determine the immediate impact of the programme. In addition, a thorough evaluation should be conducted, where both the economic outputs and the participants' perceptions and attitudes are assessed. Follow-up support, a missing element in many of the programmes reviewed by the authors, and an element requested by almost all of the participants surveyed, should be offered where possible. This could include extending entrepreneurs' networks by introducing them to potential sources of finance (for example, venture capitalists, business angels) which might facilitate business growth. From the investigation undertaken in this study, it would seem that the absence of follow-up support is due mainly to lack of funding. In an attempt to determine the longitudinal value of the programme it is recommended that participants are tracked over time. This also provides an opportunity to advise participants on other support mechanisms available.

Clearly, programme providers should reflect upon the learning derived at each of the three stages which should inform refinement and evolution of their programmes over time.

Discussion

The framework presented above is intended to improve both the structure and the overall effectiveness of entrepreneurship training programmes which are geared towards new business creation. While there is considerable debate regarding what constitutes good or best practice in relation to such programmes (see, for example, the 'Best Procedure' report of the European Commission, 2002), it is proposed here that such concern is misplaced. Rather, the issue should be, what constitutes *effective* practice. Thus the framework is designed to be flexible and adaptable to differing needs and circumstances and, as such, it is inappropriate to be overly prescriptive about its substantive pedagogical elements. However, as new venture creation may be regarded as a special case of resource-based theory, mainly because a new venture has little or no stocks of resources other than the knowledge of the entrepreneur(s) (Chrisman, 1999), programme designers may derive some guidance in relation to programme content from this perspective. For example, it is important that advisers involved in entrepreneurship programmes perform appropriately in the roles of mentor, trainer and facilitator, and develop a high level of context compatibility between themselves and the participants (Dalley and Hamilton, 2000).

With regard to evaluation, it must be recognized that, since entrepreneurship programmes differ from region to region and from country to country, and consequently

have different aims and objectives, various effectiveness measures need to be employed. Such measures should be developed within the context of particular programmes; relate specific targeted outputs to inputs; consider issues of relevance, validity, reliability and practicality; strive to establish causality; and adopt one or more of the five basic assessment methods as outlined by Oldsman and Hallberg (2001). In addition, evaluation should, where possible, control for selection bias and take account of possible trade-off issues.

It is proposed that the research presented in this chapter is valuable for the following reasons. The framework is an attempt to synthesize guidance provided by existing high-level macro frameworks, issues raised by key commentators in the literature and the findings of primary research, into a practical and flexible template. In addition, it is intended to improve both the structure and the overall effectiveness of those entrepreneurship training programmes geared towards new business creation. Thus, the framework should be of benefit to designers, providers and funders of entrepreneurship training programmes. For example, first-time programme providers could implement this framework in the absence of their own. Furthermore, experienced programme providers could use the framework as a benchmark, comparing it with their existing programme and making amendments where required.

The framework is a comprehensive one which incorporates pre-, during and post-programme elements with built-in programme evaluation. The inclusion of a pre-programme workshop, while unashamedly supporting the practice of 'picking winners' (Bridge et al., 1998; Storey, 2000), will help to improve significantly the quality of applications received by programme providers and will give applicants an indication of how they can expect to benefit from the programme. In addition, the pre-programme testing of participants will not only help to identify specific training needs, but should also facilitate the accurate measurement of learning transfer, provided that re-testing upon programme completion occurs. One of the most novel aspects of the framework is the much needed post-programme follow-up support. While this is often excluded from programmes due to budgetary constraints, such follow-up support need not be overly expensive. Even the provision of networking opportunities, a very necessary and highly cost-effective support activity, would be of benefit to aspiring and start-up entrepreneurs. In light of the above discussion, it is believed that the framework potentially represents a valuable support for policy-makers, entrepreneurship training programme designers, providers and funders.

Conclusions

While the framework, which requires rigorous testing, represents an attempt to inform the structure and evaluation of entrepreneurship training programmes, clearly the need for further research remains. Despite the range of evaluation methodologies available (Andersson, 2000; EC, 2002; OECD, 1991; Oldsman and Hallberg, 2001; Storey, 2000; Westhead et al., 2001), studies employing the most rigorous techniques are lacking (Storey, 2000). This would appear to be due to a combination of data, budgetary and time constraints, and, most importantly, a failure to incorporate an evaluation framework at the programme design stage. More studies investigating effectiveness which use control groups, include longitudinal designs and take account of selection biases are needed so that findings from research such as this can have greater external validity. Research

comparing programme outputs, reported benefits and costs on a larger scale is also required. In addition, issues such as the impact on training effectiveness of different pedagogical methods used to deliver such programmes, as well as the particular entrepreneurial experience of the trainers involved, also need to be investigated.

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15 Archetypes of pedagogical innovation for entrepreneurship in higher education: model and illustrations

Jean-Pierre Béchard and Denis Grégoire

Introduction

In this era of globalization, where local, regional and national economies are becoming deeply interconnected, the teaching of entrepreneurship in colleges, universities and other institutions of higher education is increasingly called upon to help our societies face the challenges of employment and economic development. While impressive, the international interest for introducing entrepreneurship into higher education could lead one to question whether entrepreneurship courses and programs are also growing in quality – the more so as entrepreneurship moves from an intriguing business elective to a central pedagogical focus shared across departments and colleges.

Within this general context, however, we note the relative dearth of research-grounded discussions on the quality of entrepreneurship education initiatives, and more specifically, on what makes pedagogical innovations 'work'. This is not to say that entrepreneurship education scholars have not drawn attention to this concern. For instance, Block and Stumf (1992) called for better understanding the needs of different groups enrolled in entrepreneurship classes and training programs, and for crafting evaluation criteria in light of these needs. Observing that criteria for determining what is high-quality in entrepreneurship education were 'rather fluid and indeterminate', Vesper and Gartner (1997) proposed using the systematic approach developed with the Malcom Baldrige National Quality Award. For their part, Béchard and Toulouse (1998) encouraged scholars to qualify their evaluation of the quality and effectiveness of different entrepreneurship programs by considering the pedagogical objectives they pursued. But, in spite of these repeated calls, there has been little research discussion on the design of sound pedagogical innovations in entrepreneurship education, and little research on the characteristics of successful/less successful pedagogical innovations.

The consequences of this situation are manifold. For instance, innovators are left without practical means to assess the design of their pedagogical initiatives *before* their actual implementation – a problem equally faced by program directors and other authorities. For their part, scholars have little means to formally compare the similarities and differences between various pedagogical innovations, and study the reasons why some innovations might be more germane/efficient in some contexts, or for some particular purposes. Without the means to understand what makes particular innovations work, it also becomes more difficult for educators to build on the successful innovations developed by their colleagues in other institutions. As a result, we argue that without a research-grounded understanding of how the various components of pedagogical innovations relate to one another, progress in entrepreneurship education remains severely impeded.

To address this issue, we draw from the education literature on pedagogical innovation to develop a research-grounded analytical framework that highlights the core characteristics of different types of innovation, and the relationships between these characteristics. We then show that from the diversity of initiatives in entrepreneurship education, one can identify at least four archetypes of innovative practices, each with its own set of characteristics and particularities. We demonstrate the import of the framework with illustrative examples of pedagogical innovations that were developed by prominent entrepreneurship scholars in different institutions of higher education in both North America and Europe. In each case, external reviewers, education experts and/or professional associations have recognized the particularly innovative character of these programs. But at the same time, the intrinsic features of each innovation – and what makes it so well adapted to its particular context – has not always been underlined, especially in light of scholarly knowledge about pedagogical innovation.

By highlighting the coherence relationships between the core characteristics of pedagogical innovations, and in light of relevant theoretical considerations, we seek to provide entrepreneurship educators with concrete tools to reflect upon their own innovative practices, to identify and develop areas where they could innovate, but also to assess the quality of their innovations. More specifically, we aim to formalize scholarly consideration of the coherence between the various dimensions that characterize different pedagogical innovations. In turn, we hope that the framework and illustrations presented here will encourage entrepreneurship educators not only to continue developing new innovations, but also to conduct scholarly research on innovative practices in entrepreneurship education.

Theoretical developments

A framework to highlight the core characteristics of pedagogical innovations

In order to develop an analytical framework that would enable us to understand how the different characteristics of pedagogical innovations in entrepreneurship education can work together to form coherent wholes, we turned to the education research literature on pedagogical innovation. More specifically, we began with an epistemological review of this literature. In this review, Béchard (2006) analysed the convergence (and divergence) between the 63 most-cited works among some 23 715 references cited in 1335 articles published in three education journals over a 25-year period: *Innovative Higher Education* (to capture the contribution of the US education literature), *Res Academica* (to capture the contribution of the French-speaking literature), and *Studies in Higher Education* (to capture the contribution of the Anglo-Saxon literature). An attentive reading of these works revealed that across different research approaches and traditions, pedagogical innovations are often studied in terms of two related dimensions:

1. An understanding of the *teaching and learning underpinnings* of each pedagogical innovation.
2. An understanding of the *contextual factors* participating in the development and implementation of each pedagogical innovation.

Building on this review, we developed the framework synthesized in Table 15.1, which serves to organize different characteristics of pedagogical innovations in terms of the

Table 15.1 Analytical framework

Dimensions of analysis	Analytical foci	Indicator variables
Teaching and learning underpinnings of the innovation *(Teaching model)*	What ontological assumption(s) underpin this innovation? What operational element(s) characterize this innovation?	• Educator's conceptions about teaching • Educators' conceptions about themselves and the students • Educators' assumptions about the knowledge to be taught • Teaching goals • Knowledge emphasized • Pedagogical methods and means • Forms of evaluation
Contextual factors that participate in the development and implementation of an innovation *(Support infrastructure)*	What kind of arrangements support this innovation at the institutional level? What kind of arrangements support this innovation at the education system level?	• Degree of academic autonomy • Particular mission of the institution • Structural mechanisms of coordination • Institutional practices regarding the allocation of resources for developing and sustaining pedagogical initiatives • Degree of institutional autonomy • Degree of centralization of education system • Presence of national policies towards innovation and entrepreneurship

above two dimensions. We describe the analytical foci and relevant indicators for these dimensions in the paragraphs below.

Teaching and learning underpinnings A first dimension of the framework relates to the *teaching and learning underpinnings* implicit in each pedagogical innovation. From an analytical point of view, this dimension comprises two related foci: the ontological assumption(s) that underpin an innovation, and the operational elements that characterize this innovation. The focus on ontological assumptions refers to educator's conceptions about teaching, their conceptions about themselves and the students, and their assumptions about the knowledge to be taught. For its part, the focus on operational elements refers to the teaching goals pursued with an innovation, the kind of knowledge that is emphasized, the pedagogical methods and means that are utilized, as well as the forms of evaluation that are associated with an innovation.

In theory as in practice, however, the two foci of ontological assumptions and operational elements are highly related, and form two sides of a single coin, that is, an educator's *teaching model*. The relevance of teaching models comes from observations that experienced educators generally practice their craft within some overall set of guiding conceptions and principles (cf., Anderson, 1995; Joyce and Weil, 1996; Kember, 1997). In turn, these guiding conceptions and principles form a basis upon which educators articulate their teaching practice – a point that we recently expanded upon in a chapter on teaching models in entrepreneurship education.

> Teaching models form a bridge between educators' knowledge, conceptions and beliefs about teaching, and their teaching behavior per se. On the one hand, teaching models are influenced by individual characteristics from gender to abilities and attitudes to past experiences, by the discipline one is educated in, by the discipline one is teaching, and by a range of departmental and institutional factors (cf., Neumann, 2001; Singer, 1996). On the other hand, teaching models influence lecturing styles (cf., Robertson, 1999; Saroyan & Snell, 1997), which in turn influence students' learning approaches and ultimately, learning outcomes (cf., Kember and Gow, 1994). In practice, these causal considerations suggest the importance of maintaining an optimal degree of coherence between one's conceptions and beliefs about teaching, and one's behavior vis-à-vis a given pedagogical situation (cf., Murray & MacDonald, 1997; but see also Biggs' 1999 notion of 'constructive alignment'). (Béchard and Grégoire, 2005, pp. 107–8)

In the chapter cited above, we noted that entrepreneurship educators could articulate their teaching in terms of various models, including the supply model, the demand model, the competence model, and at least two hybrid possibilities (cf., Béchard and Grégoire, 2005). We further specified how educators' conceptions found relevant echoes in concrete pedagogical elements. In turn, these observations pointed to a number of variables upon which teaching models could be distinguished.

For instance, the *supply model* focuses on the transmission of knowledge, skills and other abilities from the educator to the learner. In this model, teaching is conceived as 'imparting information' (Kember, 1997), or as 'telling a story' (Ramsden, 2003). Teachers are conceived as 'presenters' of information, and students as more or less passive 'recipients' of that information. From a supply model standpoint, the knowledge to be taught is primarily defined by scholarly research in the discipline. At the operational level, the supply model is associated with teaching goals such as 'teaching students facts and principles of the subject matter' and 'providing a role model for students' (Angelo and Cross, 1993). At the same time, the supply model often finds its expression in pedagogical means such as lectures, reading print material, watching/listening audio-visual documents, and so on. Evaluation tends to be summative, that is, focused on assessing the student's retention of the knowledge imparted.

For its part, the *demand model* focuses on answering the learning goals, motives and needs of the students. Within this model, teaching is conceived as the construction of an environment dedicated to the appropriation of the knowledge taught (Kember, 1997), or as 'organizing students' activities' (Ramsden, 2003). Teachers are conceived as 'facilitators' and 'tutors' – while students are seen as active participants in their learning. From a demand model standpoint, the knowledge to be taught is primarily defined by students' needs with respect to a given domain of activity. At the operational level, the demand model is associated with teaching goals such as 'helping students develop basic learning skills' and 'fostering their personal development and growth' (Angelo and Cross, 1993). In practice, the demand model is often associated with pedagogical activities emphasizing exploration, discussion and experimentation (such as library, web and other interactive searches, lab experimentation, field trips, simulations, group discussions, and so on). Evaluation tends to proceed from a formative perspective, whereby students are asked to reflect upon their own learning.

As its name suggests, the *competence model* aims to develop students' competences, that is, their knowledge of how to solve complex problems by mobilizing the relevant knowledge and abilities (cf., Le Boterf, 1998). Within this model, teaching is conceived as an interactive process between teacher and students (Kember, 1997), or as 'making learning possible' (Ramsden, 2003). Teachers are conceived as 'coaches' and 'developers' – while students

are seen as individuals who actively construct their knowledge through their interaction with their educator(s) and peers. From a competence model standpoint, the knowledge to be taught is primarily defined by the complex problems to be solved by competent actors in real-life situations. At the operational level, the competence model is associated with teaching goals such as 'helping students develop higher order thinking skills' and 'preparing students for jobs/careers' (Angelo and Cross, 1993). In turn, the competence model is often associated with activities of communication (for example, seminars, presentations, debates) and knowledge production (for example, essays, animation, modeling, portfolios), generally performed in contexts as closed as possible to practical situations. Accordingly, evaluation generally centers on students' abilities to address complex real-life problems.

In practice, educators may also draw from more than one model, and so hybrid forms between the above three models are also possible (Béchard & Grégoire, 2005, pp. 117–19). That being said, education research on teaching models has shown that the pedagogical practices of educators tend to be anchored on consistent sets of ontological assumptions. It thus follows that discrete forms of pedagogical innovations should also be associated with particular teaching models. Indeed, this proposition forms an inherent part of our analytical framework, and of the empirical analyses reported below. But we also propose that this dimension of teaching model will also work hand-in-hand with the other dimension characterizing a particular innovation.

Contextual anchoring The second dimension of the framework relates to the *context* of the innovation, and more specifically, those contextual factors that anchor an innovation, and influence its development and implementation. From an analytical point of view, this dimension comprises two related foci: the kind of arrangements that support an innovation at the institutional level, and the kind of arrangements that support it at the level of the education system.

At the level of institutional support, scholars have observed that a number of variables could affect the emergence, development and successful implementation of an innovation. For instance, institutions differ in the degree of autonomy that faculty have: in turn, these variations influence the nature, reach and frequency of pedagogical innovations that will be undertaken in different institutions (Boyer, 1990). Likewise, the particular mission of an institution – whether imposed or self-defined – can encourage (or inhibit) pedagogical innovation within its walls (Hannan and Silver, 2000). Different structural mechanisms of coordination will also enable different types of innovations (Fanghanel, 2004; Trowler et al., 2005). To the extent that different departments regularly work together on collaborative projects, for instance, it becomes more likely that innovations will also take place at the campus-wide level. Conversely, innovations will tend to be anchored at the department level in institutions that have less frequent collaborations between departments. In addition, it is relevant to highlight that different institutions have different practices regarding the value given to pedagogical initiatives, and notably in terms of the allocation of resources for developing and sustaining pedagogical initiatives. Naturally, these variations in institutional practices have also been shown to influence the type and occurrence of pedagogical innovations (Donald, 1997; Donnay and Romainville, 1996). As with the other dimension in our framework, we argue that variations between different innovations in terms of the institutional factors that enable it will not occur independently of one another, but will tend to work hand-in-hand around discrete configurations.

The same general argument can be made at the level of the larger education system. For instance, different countries vary in the degree of autonomy they give institutions of higher education when it comes to concrete articulation of their courses, programs, and curriculum (Crespo, 1999). This may be evidenced, among other things, in the occurrence of national policies towards higher education, or in the degree of centralization of decision in a country's education system. Here again, education scholars have shown that the degree of institutional autonomy and centralization of the education system influence the nature, reach and occurrence of pedagogical innovation in higher education (Dearing, 1997). With respect to entrepreneurship education, we also note that the presence of national policies towards innovation and entrepreneurship also seem to play an important role in fostering entrepreneurship education initiative (Wilson and Twaalfhoven, 2005) – the more so when decisions relative to higher education are already centralized (Léger-Jarniou, 2005).

As with the other dimension, our argument is that these contextual factors may not be independent of one another. More importantly, we argue that they work together to foster discrete types of pedagogical innovations in entrepreneurship education.

In search of different archetypes of pedagogical innovation in entrepreneurship education

At a higher level, the two dimensions of teaching and learning underpinnings and contextual anchors point to several variables that may characterize different types of innovation. As we highlighted throughout our description of the framework, however, education research suggests that there should be a high degree of coherence between those characteristics (Fanghanel, 2004; Trowler et al., 2005). In other words, pedagogical innovations may not emerge – and function – as random assemblages of characteristics, but rather may tend to gravitate toward discrete archetypes. Ultimately, these considerations suggest that the degree of coherence between these characteristics could point to the intrinsic *quality* of an innovation, from a design standpoint (cf., Barnett and Coate, 2005; Hannan and Silver, 2000) – an observation to which we will return in the conclusion of our text.

Before discussing such implications, however, we use the framework developed above to highlight the distinguishing characteristics of four different pedagogical innovations in entrepreneurship education. Doing so, we illustrate how the framework can help one make sense of the diversity of pedagogical innovations in entrepreneurship education, and point to the particular relationships of internal and external coherence upon which these innovations are built. In the next section, we briefly present the methodological choices that guided this empirical work.

Research method

To maximize the external relevance of our illustrations, we focused on entrepreneurship programs that have received particular awards, that have been heralded as examples of pedagogical excellence and innovation in their community, and/or that have been successfully transferred to other institutions of higher learning. These external marks of distinctions – often based on peer evaluation – were important to ensure that the pedagogical innovations we focused on were particularly important and significant. At the same time, we also strived to have representative cases from different national education systems, and articulated at different institutional levels. Table 15.2 lists the

Table 15.2 Consulted sources to identify innovative entrepreneurship programs in higher education

Source	Examples
Lists of recipients of pedagogical awards	Academy of Management's Entrepreneurship Division Awards (www.usfca.edu/alev/aom/AwardWinnerList.htm#Teaching) USASBE's entrepreneurship education awards (www.usasbe.org/about/awards/model.asp)
Websites listing best practices	USASBE's innovative practices (www.usasbe.org/knowledge/innovation/index.htm) USASBE's syllabus exchange (www.usasbe.org/knowledge/syllabus/index.htm)
Research databases	ERIC (www.eric.ed.gov/)
Research publications about such programs	*Academy of Management Learning and Education* *International Journal of Entrepreneurship Education* *IntEnt Conference Proceedings*

principal sources we consulted to identify innovative entrepreneurship programs in institutions of higher education.

Having identified a number of innovations, we set out to distinguish them on the basis of the indicators highlighted in our analytical framework (see Table 15.1). To do so, we examined publicly available information from the websites describing each initiative, as well as from secondary data such as articles describing the contexts in which these initiatives took place. We then followed Miles and Huberman's (1994) recommendations, and went back and forth between our examination of the data and our analytical framework. In turn, these iterations allowed us to identify a first set of four archetypes, each exemplified by a particular pedagogical innovation that had been successfully implemented in a particular institution. Interestingly, variations along each dimension of analysis allowed us to contrast different types of innovations taking place in widely different education systems, across different countries in North America and Europe. The four programs thus identified are:

1. The Austin Entrepreneurship Program at Oregon State University's (USA).
2. The Master Management Global Parcours Entrepreneuriat at l'Université Paris-Dauphine (France).
3. The EXIST High Tech Entrepreneurship Postgraduate Program, as implemented at the Universities of Bamberg, Jena and Regensburg (Germany).
4. The Entrepreneurship Program at the University of Victoria (Canada).

To develop our analysis, we created comprehensive descriptions of each of these innovations – an approach typical of standard case analysis (cf., Eisenhardt, 1989; 1991). Table 15.3 lists the source material consulted in order to construct these cases. We both worked together to identify what were the core characteristics of the innovations we considered: seen in this light, the results presented below emerged through an open form of inter-rater agreement.

Table 15.3 Source material for each case

Name of program/institution	Source material
Austin Entrepreneurship Program Oregon State University's (USA)	www.bus.oregonstate.edu/programs/austin_entrep.htm (at 16 September 2005) Primary informant: Dr Justin Craig (Justin.Craig@bus.oregonstate.edu) Relevant background material: Crespo (1999); Katz (2003); Kuratko (2005); Lynch (2005)
Master Management Global Parcours Entrepreneuriat Université Paris-Dauphine (France)	www.dauphine.fr (at 1 December 2005) Primary informant: Dr Catherine Léger-Jarniou (catherine.leger-jarniou@dauphine.fr) Relevant background material: Fayolle (1999; 2000); Klapper (2004); Léger-Jarniou (1999; 2002; 2005); Saporta and Verstraete (2000)
EXIST High Tech Entrepreneurship Postgraduate Program Universities of Bamberg, Jena and Regensburg (Germany)	www.exist.de/ (at 1 April and 16 September 2005) www.exist-hightepp.de (at 1 April and 16 September 2005) Primary informant: Dr Holger Patzelt Relevant background material: Achtenhagen and zu Knyphausen-Aufseβ (2002); Klandt (2003; 2004)
Entrepreneurship Program University of Victoria (Canada)	http//business.uvic.ca (at 3 April and 16 September 2005) Primary informant: Dr Boyd Cohen (bcohen@business.uvic.ca) Relevant background material: AUCC (2001); Beaulieu and Bertrand (1999); Menzies (2004; 2005); Menzies and Gasse (1999); Mitchell (2003); Mitchell and Chesteen (1995); Mitchell et al. (2000)

Once we had generated a first draft of each illustration, we contacted one of the educators who was or had been involved in the innovation. Each of these 'primary informants' read the relevant case, provided additional insights, and validated the final version that we used in our final analysis. Naturally, we want to express all our gratitude to these informants for the help they so generously offered us.

Results and analysis

To illustrate how the analytical framework developed above allows for distinguishing between different types of pedagogical innovation in entrepreneurship education, the following sections describe the characteristics of the four entrepreneurship education programs identified above. Table 15.4 summarizes the particular characteristics of each program in light of the analytical framework we developed above. Given the limited space available in this chapter, however, we report below only the synthesis of our analyses, for each program. A full description of these programs is available free of charge as a Cahier de Recherche from the Rogers-J.A.-Bombardier Chair of Entrepreneurship at HEC Montréal. (http://web.hec.ca/creationdentreprise/CERB/) and/or by contacting one of the authors (Grégoire and Béchard, 2006).

Table 15.4 Four archetypes of pedagogical innovation in entrepreneurship education

Archetype	Sustaining a community of entrepreneurship learners	Developing one's entrepreneurial spirit	Developing an academic expertise in entrepreneurship	Developing one's entrepreneurial competence
Program	Austin Entrepreneurship Program	Master Management Global Parcours Entrepreneuriat	EXIST High Tech Entrepreneurship Postgraduate Program	Entrepreneurship Program
Institution (Country)	Oregon State University (USA)	Université Paris-Dauphine (France)	Universities of Bamberg, Jena and Regensburg (Germany)	University of Victoria (Canada)
Dimensions of analysis				
Teaching and learning underpinnings	*Teaching model: demand* Teaching = to provide environment that enables knowledge appropriation by students/to organize students' activities	*Teaching model: hybrid demand-competence* Teaching = to provide environment that enables knowledge appropriation by students/to organize students' activities	*Teaching model: supply-competence* Teaching = to impart (scholarly) information, but also to make learning possible	*Teaching model: competence* Teaching = to make learning possible
What ontological assumption(s) underpin this innovation?	Teacher = facilitator, tutor Students = participants	Teacher = facilitator, tutor Students = participants	Teacher = presenter, but also adviser (coach) Students = active participants in the development of their knowledge	Teacher = coach, developer Students = active participants in the development of their knowledge
	Content is primarily defined by students' needs vis-à-vis entrepreneurship	Content is primarily defined by students' needs vis-à-vis entrepreneurship, and by problems to be solved by competent actors in real-life situations	Content is primarily defined by scholarly research in the relevant discipline, but by the particular problems faced by science entrepreneurs	Content is primarily defined by the problems to be solved by competent actors in real-life situations
What operational element(s) characterize this innovation?	Teaching goals: Helping students develop basic learning skills/fostering students development	Teaching goals 1: Helping students develop basic learning skills/fostering students development and	Teaching goals 1: Teaching students facts and principles of the subject matter/providing a role	Teaching goals: Helping students develop higher order thinking skills/preparing

Table 15.4 (continued)

	and personal growth	personal growth	model for students	students for jobs/ careers
	Pedagogical means emphasizing individual exploration	Teaching goals 2: Helping students develop higher order thinking skills/ preparing students for jobs/careers	Teaching goals 2: Helping students develop higher order thinking skills/ preparing students for jobs/ careers	Pedagogical means emphasizing discussion, and production of knowledge
	Omnipresence of activities of communication and discussion	Pedagogical means emphasizing communication and knowledge production	Pedagogical means emphasizing the transmission and reproduction of knowledge, but also creation of new knowledge	Evaluation emphasizes. performance in authentic situations
	Formative means of evaluation	Summative and formative forms of evaluation		
Contextual anchors	High degree of faculty autonomy	Average degree of faculty autonomy	Average degree of faculty autonomy	High degree of faculty autonomy. Close-knit team of entrepreneurship scholars who worked together to develop and implement innovation
What kind of arrangements support this innovation at the institutional level?	Integration with network of supporting department and services allows for a campus-wide initiative Consistent with comprehensive mission of university Built on traditions of fraternity and sorority residences on US campuses	Emphasis on cross-functionality, teamwork, use of business professionals and integration with business community all consistent with university's orientations	Existing ties between universities and businesses	
What kind of arrangements support this innovation at the education system level	Benefited from high level of institutional autonomy/decentralized system of education	Relative to other institutions in French system, historically benefited from a higher degree of autonomy Supported by recent policies towards innovation and entrepreneurship as means to foster economic development	Supported by recent policies towards innovation and entrepreneurship as means to foster economic development, and particularly with respect to science-based entrepreneurship Inter-university collaboration strongly encouraged at the governmental level	Exhaustive approach benefited from organizational culture that emphasized and supported this kind of innovation (e.g., coop programs) Innovation is in line with UVIC's differentiation advantage relative to other Canadian universities

Type 1: The Austin Entrepreneurship Program at Oregon State University (USA)
Beginning in the Fall of 2004, the College of Business and College of Engineering at Oregon State University (OSU) combined their efforts with University Housing and Dining Services (UHDS) to launch the Austin Entrepreneurship Program (AEP). One of the distinguishing features of this program is that instead of focusing solely on discrete courses and electives, it is physically embedded in a student residence – the Weatherford Hall – which is specifically tailored for those students with an interest in entrepreneurship. Through this anchoring on a distinct physical space, the Austin Entrepreneurship Program effectively aims to *sustain a community of entrepreneurship learners.*

From the perspective of our analytical framework, OSU's Austin Entrepreneurship Program proceeds primarily from a 'demand' model of teaching (Béchard and Grégoire, 2005). In this model, educators conceive teaching essentially in terms of developing and supporting an environment that enables the appropriation of relevant knowledge by the students (Kember, 1997), or as 'organizing students' activities' (Ramsden, 2003). Such conceptions are particularly manifest in statements about the Weatherford residential college being designed as a physical arena where learning is taking place 24/7, both inside and outside the classroom. By extension, the presence of a faculty-in-residence and of professional visitors suggests that educators conceive of their role as that of 'facilitators and tutors' (Kember, 1997). More importantly, the programs' overall design and learning activities demand that educators pay attention not so much on transmitting formal academic knowledge, but on how they can best help each and every student develop their particular potential with respect to entrepreneurship. This is particularly explicit in the four areas of competencies that Austin Program's informal curriculum emphasizes (that is, Teamwork, Individual development, Community building, and Entrepreneurial knowledge). Here again, this conception of the knowledge to be taught in terms of students' personal needs with vis-à-vis entrepreneurship is in line with ontological conceptions associated with the demand model.

Building on the ontological conceptions described above, the OSU program places a particular emphasis on learning outcomes of social and personal development (cf., Groebe, 1994; Pontecorvo, 2003), or of 'fostering students' personal development and growth' (Angelo and Cross, 1993). In line with these teaching objectives, the entire program is meant to encourage as many interactions as possible, not only between a variety of 'educators' and students, but also between the students themselves. In the same spirit, the program relies on pedagogical means emphasizing individual exploration (for example, portfolio of individual reflections) and in the omnipresence of activities of communication and discussion (for example, roundtables, fireside chats, individual exchanges with mentors, and so on). One also notes the use of formative means of evaluation (for example, portfolio, mentoring) – again a staple of the 'demand' model. Through it all, OSU's program relies on learning environments of communications. It is through all these interactions that students are expected to develop their entrepreneurship-relevant skills and knowledge.

As a campus-wide initiative meant to foster entrepreneurship, technology transfer and economic development for the State of Oregon, the program is well integrated within its supporting networks, both internally, that is, between the schools, colleges, administrative and support units (for example, the Housing and Dining Services), and externally, for example, with the implications of local entrepreneurs, alumni, and so on (cf., Grégoire and Béchard, 2006). At the same time, the program's targeting of students across all

disciplines appears in line with the OSU's comprehensive mission. The program also benefits from the decision latitude, which in the US decentralized system of education as well as in the American culture, allows for such local initiatives to emerge and strive. It is also striking that as a campus residence, the Austin Program builds on a long established tradition of fraternities and sororities – the ubiquitous 'Greek' system of students associations found on most American campuses.

In the end, what transpires from this case is a pedagogical innovation where the ontological and operational underpinnings of the program are not only coherent with one another, but also with the particularities of the context in which the innovation is taking place. It makes sense that OSU's Austin Entrepreneurship Program took the form it did. At the same time, the framework we develop here suggests that the success of the OSU program lies not only in its particular characteristics, but also in how these various characteristics form a coherent whole.

Type 2: The Parcours Entrepreneuriat at l'Université Paris-Dauphine (France)

L'Université Paris-Dauphine has been the very first institution of higher education in France to offer a program in entrepreneurship – as early as in 1989 (Léger-Jarniou, 2005, p. 341). In 2005, however, it is an external change that brought a new wave of innovation at Paris-Dauphine: the need to adapt the university's programs to the European Credit Transfer System (ECTS). Now known as the Master Management Global Parcours Entrepreneuriat, the new program has kept the overarching goal of the old program, which was not so much to lead to the creation of new ventures as *to develop students' entrepreneurial spirit*. In addition to a series of formal courses, the program also includes two more demanding activities. In the first, students work in teams of three to develop, complete and defend a business plan for a 'real-life' entrepreneur. The second activity consists of a six-month entrepreneurship internship, to be realized under supervision in France or abroad. In both cases, the aims remain to develop students' general attitude towards entrepreneurship and entrepreneurship-related careers.

From the perspective of our analytical framework, the new Parcours Entrepreneuriat at l'Université Paris-Dauphine proceeds primarily from a hybrid form incorporating elements from both the 'demand' and 'competence' models of teaching (Béchard and Grégoire, 2005).

On the one hand, the program espouses a number of conceptions associated with the competence model. This is particularly evident in the general orientation of the program (cf., www.dep.dauphine.fr/pages/ece/plaquette%20Master.pdf): to the extent that entrepreneurial ventures in small or large firms imply a 'cross-functional mode of project management', it becomes important that students develop the knowledge, abilities and general attitude associated with such mode – including 'a well-developed entrepreneurial spirit', but also their 'autonomy' and 'accountability'. Seen in this light, the content of the program is in large part defined by the complex problems to be solved by competent actors in real-life situations. On the other hand, educators in the program are called upon to highlight the parallels between the different disciplines and the practical demands of entrepreneurship – a conception of teaching that is perhaps closer to that of the 'facilitator' and 'coach' associated with the demand model of teaching (Kember, 1997). This is notable, for instance, in the consulting work that both precedes and supports the two-month long business plan project. Through their tutoring

work, educators in the program effectively organize students' learning activities (Ramsden, 2003).

The same merging of the demand and competence model can be observed at the level of the operational characteristics of the program. Through its stated objective of developing the students' 'entrepreneurial spirit' – that is, their general attitude towards entrepreneurship-related careers and activities, the new Parcours Entrepreneuriat at l'Université Paris-Dauphine places a particular emphasis on learning outcomes of personal development (Groebe, 1994). The program also fosters the development of students' communication skills, notably through the emphasis of teamwork and the oral defense of business plans in front of a panel of experts. While the difference is subtle, the program is closer to teaching goals like 'helping students develop basic learning skills' and 'fostering their personal development and growth' – two teaching goals clearly associated with the demand model (Angelo and Cross, 1993) – than to a goal like 'helping students develop higher order thinking skills' – which is more squarely articulated in terms of the competence model. At the same time, the program makes use of a conjunction of pedagogical means, some associated with the 'demand' model (for example, teamwork; internship), but others more closely associated with the 'competence' model. This is notably the case for the business plan seminar, which is anchored on real-life, authentic projects – even if in this particular case, the projects do not originate from the students themselves. While summative exams remain used in most of the programs' formal courses, the reliance on personal portfolio adds a formative dimension. The focus on authentic problems faced by real-life entrepreneurs also adds a dimension that is closer to the competence model. We thus observe that the hybrid conceptions that underpin the program also find coherent expressions in the operational characteristics of the program.

At the institutional level, one remarks that the emphasis on cross-functionality and teamwork, the use of business professionals as active participants in the program, and integration with the business community are all consistent with the general orientations explicitly stipulated in the university's mission (www.dauphine.fr/, cf., *Dauphine en bref*, *Il était une fois Dauphine*). As we documented elsewhere (cf., Grégoire and Béchard, 2006), it is also relevant to note that relative to other institutions in the French system, the university and its faculty have historically benefited from a higher degree of autonomy – a fact that has allowed them to be among the pioneers of entrepreneurship education in their country. At the same time, however, one observes that these efforts have also been supported by recent governmental policies towards innovation and entrepreneurship as a means to foster economic development (cf., Klapper, 2005, p. 190; Léger-Jarniou, 2005, p. 337).

Here again, what transpires from this case is a pedagogical innovation squarely meant to develop one's entrepreneurial spirit. More importantly, our analysis shows how the teaching and learning underpinnings of the innovation are highly coherent with the particularities of the context in which the innovation is taking place. For instance, there are subtle but important differences between the programs at Oregon State and Paris-Dauphine – even if both build on assumptions and practices generally associated with the 'demand' model. If the former emphasizes first and foremost the development of social and communication skills (with some aspects of personal development), the latter is more squarely focused on personal development, notably in terms of attitudes towards entrepreneurship. If communications skills are also important, they nonetheless come in second place. In turn, however, these subtle differences are supported by a different set of

pedagogical means and methods. Yet, we also observe that this emphasis on developing the students' entrepreneurship spirit is directly in line with current perspectives on entrepreneurship and innovation in France. From an analytical standpoint, the framework developed above helps to bring forth these subtle yet important differences.

Type 3: The EXIST High Tech Entrepreneurship Postgraduate Program in Germany
Recognizing the low levels of entrepreneurial drive associated with very bureaucratic support infrastructures for existing and potential entrepreneurs, the German Bundesministerium für Bildung und Forschung (Federal Ministry of Education and Research) introduced in the late 1990s/early 2000s a series of policy measures, and notably to address '(the) deficit in research and education of entrepreneurship (that) can still be observed at German universities' (Achtenhagen and zu Knyphausen-Aufseβ, 2002, p. 300). Among these measures, the EXIST High Tech Entrepreneurship Postgraduate Program (TEPP) aimed to *develop academic expertise in entrepreneurship* through a new generation of PhD-educated faculty qualified to conduct research on entrepreneurship, and teach courses focused on entrepreneurship. Interestingly, the program emerged from the collaboration of academics from three different universities in Bamberg, Jena, and Regensburg. But what truly distinguishes the three-year High TEPP initiative is its interdisciplinary nature, where postgraduates from management sciences and business economics work side by side with postgraduates from the computer, natural and life sciences. Indeed, one key activity of the program is to place business, economics and computers graduates in 'bootcamp' internships lasting several weeks at a time, directly in the labs of seed-stage science-based and technology-orientated companies. For their part, science-trained graduates must attend economic and business management training programs.

From the perspective of our analytical framework, Germany's High TEPP initiative proceeds from a hybrid form incorporating elements from both the 'supply' and 'competence' models of teaching (Béchard and Grégoire, 2005). On the one hand, the program's emphasis on graduate seminars to develop high-level knowledge about entrepreneurship research is closest to the 'supply' model, where emphasis is placed on the transmission of abstract knowledge from expert-scholars to their apprentices. In this context, teachers are the 'presenter' who 'impart information' to students who are the 'recipients' of that knowledge. More importantly, the knowledge being taught is formal and abstract – as opposed to being taught 'in context'. Furthermore, this knowledge is primarily defined not by the personal needs of students vis-à-vis entrepreneurship, but by scholarly research on the topic. But this is hardly surprising – as the program is meant to develop academic expertise on the topic.

On the other hand, it is interesting to observe that at the operational level, the program's cross-disciplinary internships and business-plan exercises are more squarely aligned with a competence model, in that students are directly confronted with the real-life problems of science-based entrepreneurship, as these are taking shape in real-life businesses. This is evidenced in the cross-disciplinary internship. In line with the ontological assumptions of the competence model, students are seen as active participants in the construction of their knowledge (Piaget, 1952): this is most notable in the following quote, expressed by one of the program's initiators.

> (An) important factor (in the program) is the degree to which students are involved into the seminar – in this case they do not passively consume lectured information, but they are

> encouraged to learn through interaction with the professor and coaches, and thus go through a practice-oriented training process. The learning process is further enhanced by attributing an important role to the students in identifying the relevant problems, their analysis and solution, instead of giving pre-set and structured problems to the students. (Achtenhagen and zu Knyphausen-Aufseβ, 2002, pp. 308–9)

Accordingly, teachers work as coaches that contribute to 'make learning possible' (Ramsden, 2003). More importantly, students' knowledge is developed *in situ* (Brown et al., 1989), through one's interaction with real-life constraints and influences (Vygotsky, 1962 [1996]). In the end, it is through the integration of theoretical knowledge relevant to academic research and practical experience of entrepreneurship that the High TEPP post-graduates at the Universities of Bamberg, Jena and Regensburg are expected to develop the kind of scholarly expertise in entrepreneurship that the program is meant to foster.

Given the ultimate objectives of the High TEPP initiative (that is, to develop academic expertise on entrepreneurship as a means to foster economic development), as well as the role historically played by the central government in Germany's centralized system of education, it is no surprise that this particular innovation took place in the context of a government program. As we documented elsewhere (cf., Grégoire and Béchard, 2006), this public-policy impetus also favored (and supported) the articulation of the program as a multi-institution effort. Within the universities themselves, this high-level support may have played a role in encouraging some measure of collaboration between departments/disciplines that could have had little contacts otherwise. Likewise, it may have contributed to send powerful signals in academic circles to the effect that entrepreneurship research and education was legitimate. Given the institutional, cultural and socio-economic antecedents to the innovation, this level of government engagement may have been necessary to jumpstart the program. Yet, it is important to highlight that the proposal itself originated from specific faculty who were directly aware of the particular challenges of entrepreneurship education in the German context.

As with the other cases, what transpires from this illustration is that the various characteristics of this pedagogical innovation tend to gravitate towards logically consistent arrangements of teaching and learning underpinnings, development aims and demands, and contextual drivers. In other words, the High TEPP initiative can be seen as a coherent whole, where the different components of the innovation work together – and can be understood as such. As we discuss below, these consistencies may have important implications for the overall quality of pedagogical designs, and their ultimate effectiveness.

Type 4: The Entrepreneurship Program at the University of Victoria (Canada)

Firmly grounded in research on entrepreneurial cognition (for example, Mitchell, 2003; Mitchell et al., 2000) and sustainable development (for example, Cohen, 2006; Cohen and Winn, 2007), the undergraduate and graduate concentrations in entrepreneurship offered at the University of Victoria's College of Business (UVIC) focus specifically on *developing their students' entrepreneurship competence.* Through a series of six undergraduate courses and three graduate modules, all taught as a single highly-integrated effort spanning the last semester of each program, UVIC's educators aim to go beyond traditional activities (such as the realization of a business plan), and focus instead on ensuring that students be able to transfer their learning to other situations, and particularly situations of change that may call for entrepreneurial initiatives. To do so, UVIC's program

explicitly emphasizes its reliance on activities of 'meaningful experiential learning' – where students experience what it is to *be* an entrepreneur, as opposed to being taught *about* other entrepreneurs.

From the perspective of our analytical framework, UVIC's Entrepreneurship Program proceeds primarily from a 'competence' model of teaching (Béchard and Grégoire, 2005). This model builds on the idea that students are active participants in the co-construction of their knowledge, skills, and other abilities (Piaget, 1952). Accordingly, learning is most efficient when students must address meaningful real-life problems and situations (Brown et al., 1989; Vygotsky, 1962 [1996]). In such a model, educators essentially conceive teaching as an effort to *make learning possible*, and that in ways that emphasize the entire system of interactions between context and content, teacher and student. Such a conception is manifest in UVIC's integrative approach, where the program's different elements are taught as one overarching course. It is also manifest in UVIC's efforts to articulate the program's content in terms of entrepreneurship-relevant practices, issues and other models that were scientifically documented. At the same time though, this scientifically documented knowledge to be taught is not defined in an abstract de-contextualized way (as it would be in a formal lecture on the topic). Rather, this knowledge to be taught is conceived in light of the concrete problems and challenges that real-life entrepreneurs must face.

Building on the ontological conceptions described above, the UVIC program places a particular emphasis on learning outcomes of cognitive development. These include the mastery of both declarative and procedural knowledge. Declarative knowledge is notably emphasized via surveys of relevant research findings. Likewise, the development of procedural knowledge is organized via the development of students' entrepreneurial cognitions (*sic*) – defined as sets of rules, routines, heuristics and other mental models about relevant aspects of entrepreneurship. Ultimately, the program aims to help students develop higher order thinking skills that could prove useful in their professional life – a goal that is directly in line with a competence model (Angelo and Cross, 1993). In much the same spirit, the program relies on pedagogical means emphasizing experimentation and knowledge production. This includes for instance the Innovation Project™ – 'an experiential immersion activity where students, in teams of four or five, have 10 days to create as much economic profit or socio-environmental value as possible through an entrepreneurial activity of their choice, risking only $5 of start-up capital' (http://business.uvic.ca/008_BComHome/ 4669_InnovationPro.html). One also notes the use of performance and attainment-based forms of evaluation – again a staple of the 'competence' model. In such forms of evaluation, emphasis is placed not so much on the retention of formal knowledge or on the acquisition of particular skills or abilities, but on the mastery/internalization of a hierarchy of progressively more and more complex learning outcomes. In this case, this hierarchy includes the mastery: (a) first order thinking (that is, creating value in lieu of profit maximization); (b) triple bottom line value creation (that is, social, environmental and economic); (c) personal effectiveness; (d) knowledge-based leadership; and ultimately, the potential to be an entrepreneur within five years of graduation. In the end, it is through the solving of meaningful real-life problems that students are expected to develop their competencies at mobilizing the learning resources (for example, knowledge, skills, abilities, networks, and so on) necessary to face these problems.

As a highly integrated research-grounded initiative, UVIC's program is primarily supported by a close-knit team of entrepreneurship scholars who worked together to develop the different components of the program, and to implement them successfully (cf., Grégoire and Béchard, 2006). At the same time, this exhaustive approach benefited from an organizational culture which both at the university and college-level, readily emphasized (and supported) this kind of innovation. On the one hand, it allowed the school to differentiate its curriculum offerings with respect to larger schools on the mainland. Indeed, the innovation appeared well in line with the university's existing efforts in cooperative education. On the other hand, the innovation's integration of the sustainable development issue was also in line with some of the issues that were salient not only in the socio-economic context of Vancouver Island and British Columbia, but also all along the West Coast.

Here again, what transpires from the case is a pedagogical innovation where the teaching and learning underpinnings of the innovation are highly coherent with the aims and demands of the program, and with the particularities of the context in which the innovation is taking place.

Discussion

At the basis of this chapter was the observation that in spite of the emerging thread of works proposing new means and approaches to the teaching of entrepreneurship in higher education, little had been done in entrepreneurship education to draw from the extensive research literature on pedagogical innovation, and that to better understand how different characteristics of pedagogical innovation 'work' together to form coherent wholes. As a result, few formal means were available to make sense of the various characteristics and influencing factors that distinguish different pedagogical innovations – let alone to assess the quality of these innovations from a design standpoint.

With that respect, our research shows that between the pressure for the standardization of education practices and the apparent diversity of pedagogical initiatives, one can identify discrete archetypes of pedagogical innovations in entrepreneurship education. More importantly, the analytical framework developed and illustrated above highlights that pedagogical innovations do not emerge – and function – as random assemblages of characteristics. Instead, they tend to gravitate toward discrete configurations of characteristics with high levels of internal coherence.

In our empirical work, we identified four such archetypes in four different institutions of higher education from four different countries:

- a program focused on sustaining a community of entrepreneurship learners – the Austin Entrepreneurship Program at Oregon State University (USA)
- a program focused on developing one's entrepreneurial spirit – the Master in Global Management's Parcours Entrepreneuriat from l'Université Paris Dauphine (France)
- a program focused on developing one's academic expertise in entrepreneurship – the EXIST High Tech Entrepreneurship Postgraduate Program from the universities of Bamberg, Jena and Regensburg (Germany)
- a program focused on developing students' entrepreneurship competence – the Entrepreneurship Program from the University of Victoria's College of Business (Canada).

More importantly, however, the analytical framework we developed in this chapter allowed us to show that across all four archetypes, the teaching and learning underpinnings of an innovation were not only coherent with themselves, but they were also in line with the organizational arrangements that supported the innovations – as well as with larger institutional and contextual dynamics.

For instance, the Austin Entrepreneurship Program's fostering of a community of entrepreneurship learners is anchored on a series of assumptions associated with a demand model, where teaching is meant to facilitate the appropriation of knowledge, skills and abilities that are primarily defined in light of students' personal and social development needs with respect to entrepreneurship. At the same time, these assumptions find concrete echoes in the program's reliance on pedagogical means that emphasize personal exploration, discussion and experimentation. But more importantly, we observed that these pedagogical characteristics of the OSU innovation are well supported by the relatively high degree of autonomy enjoyed by US academics and universities, by the traditions of student residences on US campuses, but also by the program's integration within an institutional network of Department, schools, supporting services, and local entrepreneurs.

In similar fashion, Master in Global Management Parcours Entrepreneuriat's focus on developing students' entrepreneurial spirit rests on assumptions from both the demand and competence model. For instance, the knowledge-to-be-taught is defined in light of both the students' personal needs with respect to entrepreneurship (in this case, their general attitudes towards entrepreneurship-related careers and occupations), as well as in light of the cross-disciplinary nature of the real-life problems faced by entrepreneurs. In turn, the program relies on pedagogical means of personal exploration and experimentation that are typical of the demand model, but that also approach the performance-in-real-life-situations that are more typical of the competence model. At the same time, we noted that Paris Dauphine's focus on developing students' entrepreneurial spirit also emphasized cross-functionality, teamwork, the use of business professionals and the integration with the business community – elements that are directly consistent with the university's explicitly stated orientations. Moreover, we observed that if Paris Dauphine has historically benefited from a relatively high degree of institutional autonomy (at least within the French system of higher education), the entrepreneurship program benefited from recent government policies towards innovation and entrepreneurship.

In the same vein, the High Tech Entrepreneurship Postgraduate Program's focus on developing academic expertise in entrepreneurship is anchored in ontological assumptions and pedagogical means that draw from both the supply and competence model of teaching. In turn, this approach encouraged students to integrate highly abstract knowledge defined by scholarly research on entrepreneurship, with an interdisciplinary understanding of the real-life challenges faced by high-tech entrepreneurs. But as with the other programs we reviewed, we saw that the German innovation's focus on developing academic expertise in entrepreneurship well anchored in a series of contextual dynamics and structures. For instance, it proceeded from a series of government initiatives – an observation that is in line with the relatively centralized nature of the German system of higher education. At the same time, the interdisciplinary nature of the program was directly coherent with the government's focus on science-based entrepreneurship – just as the inter-university structure of the program was encouraged by government authorities.

And consistent with its objectives of developing its students' entrepreneurship competence, the Entrepreneurship Program at the University of Victoria was built on a conception of teaching and where the knowledge to be taught is primarily defined by the problems and challenges faced by entrepreneurs, and where teaching is seen as 'making learning possible'. In turn, the program mobilized pedagogical means and methods that made students experiment with these problems and challenges in situations that are as close as possible to those of real-life entrepreneurs. But, more importantly, we noted the extent to which the University of Victoria's focus on developing the entrepreneurship competence of its student benefits from the support of a tightly knit team of entrepreneurship scholars – a fact that allows them to structure the program as a highly integrated effort. At the same time, this exhaustive approach appeared directly coherent with an organizational culture which, both at the university and college-level, readily emphasized (and supported) this kind of innovation.

Through it all, the framework we developed in this chapter – and the results we discussed above – suggest that pedagogical innovations in entrepreneurship education imply at least three axes of coherence:

- a first axis of coherence between the ontological assumptions that underpin an innovation and the innovation's operational elements (that is, a coherence within the teaching model(s) that underpins an innovation)
- a second axis of coherence between the kind of arrangements that support the innovation at the institutional and education system levels
- a third axis of general coherence between the teaching model(s) underpinning an innovation, and the kind of arrangements that support it at the institutional and education system levels.

Theoretical significance

Research in higher education has long underlined the importance (and effectiveness) of coherence in pedagogical innovation. For instance, the works of Biggs (1999) and Ramsden (2003) have demonstrated the importance of aligning one's evaluation of students' learning and achievement with the pedagogical objectives pursued within a program. More specifically, they emphasized how this 'constructive alignment' maximized students' engagement and perseverance vis-à-vis the material, and increased the likelihood of long-term durable learning.

In parallel, several education scholars have emphasized how successful innovations tended to be supported by a host of contextual factors. For instance, Fanghanel and colleagues focused on the role of academic departments in encouraging pedagogical innovations (Fanghanel, 2004; Trowler et al., 2005). They observed that as they occupy a meso-level position between the educators and the university as a whole, the heads of academic departments exert a critical role in fostering (or in inhibiting) pedagogical innovations. In the same vein, a large survey conducted by Hannan and Silver (2000) with 225 pedagogical innovators in 15 British institutions of higher education showed how an institutional culture that encourages pedagogical innovation and provides the necessary resources and rewards to their initiators could be highly important. At the same time, these authors highlighted that different types of innovations – whether they are isolated, guided or directed – need support infrastructures that are also different. For his part, Donald (1997) conducted

several interviews with deans and presidents in US universities, and confirmed the importance of organizational decisions to encourage the development of successful pedagogical innovations, that is, innovations that improve students' learning.

Our research contributes to these two streams of research by emphasizing the coherence between the first levels of coherence. More specifically, we explored the extent to which successful initiatives in entrepreneurship education rest on a high-level coherence between the teaching and learning underpinning these innovations (their so-called pedagogical characteristics), the organizational structures and arrangements that support these innovations, and the large institutional and social context – such as the education system – in which these initiatives are taking place. Seen in light of this coherence, education research on the characteristics of successful pedagogical innovations implies two fundamental points. First, determining the *quality* of a program remains a question of evaluating the quality of students' learning outcomes. Yet, education research suggests that the more programs are conceived and implemented in coherent fashion, the more durable tend to be the students' learning (Barnett and Coate, 2005). Second, the quality of programs demands that this question of coherence be approached not only in terms of teaching and learning underpinnings taken in isolation, or in terms of contextual factors alone, but in terms of how the two dimensions feed one another. In this sense, the general coherence we sought to highlight in this chapter points not only to the *quality* of an innovation from a design standpoint: it ultimately points to the quality of students' learning outcomes.

Interestingly, similar calls for considering issues of coherence can also be found in the entrepreneurship education literature. Among others, Block and Stumpf (1992) encouraged entrepreneurship educators to pay attention to the needs of their students. For their part, Gorman and colleagues (1997) drew attention to aligning entrepreneurship education efforts with the particular markets these efforts are meant to serve (for example, formal education students, out-of-school individuals, existing business owners/managers, and so on). More formally, Béchard and Toulouse (1998) highlighted the necessary links between the general objectives of a program, and its pedagogical constituents. At the level of support infrastructure, recent edited books by Kyrö and Carrier (2005) and Schmitt (2005) attest the attention given by entrepreneurship education scholars for the coherence between pedagogical innovations in entrepreneurship and its organizational, institutional and contextual anchors.

What the present work adds to this literature is a more extensive, research-grounded framework to consider these issues of coherence within particular innovations in entrepreneurship education. In turn, this framework provides concrete means to 'think about' the various components of pedagogical innovations. At a first level, we must recognize that the archetypes described above may not always and necessarily be observable in pure forms. In practice, some innovations may be more typical than others. By extension, there could be hybrid innovations with characteristics from two or more archetypes. Nevertheless, we contend that the framework developed above remains a useful tool to efficiently identify key characteristics of particular pedagogical innovations, and in ways that are theoretically consistent with the research literature on innovation in education.

In turn, these theoretically consistent considerations offer bases to define evaluation criteria that takes into account the parallels between an innovation's teaching and learning underpinnings, the learning aims it pursues, the demands it places on the educators,

and the contextual factors and dynamics that are antecedent to the innovation. As a result, it is perhaps more advisable to develop innovations that are coherent with one's particular context than to try copying innovations that have been successful elsewhere without at least questioning their applicability. Indeed, the research literature on higher education demonstrates that in spite of the globalization of markets and economies, national systems of higher education remain highly differentiated, as they each retain particular political, economic, cultural and other institutional characteristics (Borrero Cabal, 1995).

Limitations and avenues for future research

Naturally, the above developments, analyses and findings are not exempt from some limitations. At a methodological level, for instance, we did not strive to conduct an exhaustive analysis of a representative sample of innovation programs, but rather concentrated on illustrative examples of particular archetypes. As a result, it is likely that other archetypes of pedagogical innovation in entrepreneurship education could be identified.

Because our aim was more exploratory than demonstrative, we did not try to establish the reliability of our analyses by using multiple coding procedures with blind/independent coders and inter-judge measures of reliability. In the same vein, the study's indicators for each dimension of analysis were theoretically consistent, but only loosely defined. That being said, our work always proceeded by iterative consensus, first between ourselves as we went back and forth between the theory, our framework, and the illustrations, and second, as we worked with key informants to develop the illustrations. As a result, the work reported above still meets preliminary tests of face validity.

Seen in light of these observations, interesting opportunities for future research would include validation studies of the analytical framework (particularly with more articulate indicators and more elaborate analysis procedures). Furthermore, interesting opportunities for future research would lie in more exhaustive repertories of the various types of innovation that are currently being championed, along with the distribution of different types within and between particular cultural, institutional and national contexts. In practice, such research efforts could build on published comparative research in education focusing on international differences (for example, Clark, 1998; 2004).

Conclusion

What are the core characteristics of pedagogical innovations in entrepreneurship education? And, more importantly, what makes a pedagogical innovation in higher education 'work'? In this chapter, we highlighted that the degree of coherence between an innovation's teaching and learning underpinning on the one hand, and its organizational, institutional and contextual anchors on the other, may ultimately point to the quality of that innovation, from a design standpoint. Doing so, our work contributes to ongoing academic conversations about the intrinsic quality of programs and innovations in entrepreneurship for higher education. On that basis, we offer the view that as entrepreneurship moves from an intriguing business elective to a central pedagogical focus shared across departments and colleges, the challenge faced by entrepreneurship educators is less and less one of legitimacy, and more and more one of quality. Seen in this light, drawing attention to the multi-level coherence between the core characteristics of pedagogical innovations provides a practical means to address this issue of quality.

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16 Learning risk-taking competences

Paula Kyrö and Annukka Tapani

Introduction

One of the core features of learning to be an entrepreneur is the acceptance of risk-taking. We are used to thinking that financial and economic risk characterizes entrepreneurial behaviour. Thus, in order to teach risk-taking, students are often exposed to situations and contexts that involve assumed financial risks. On the other hand, uncertainty and risk are often treated as almost synonymous concepts, and most risk studies consider risk as an environment- or demand-orientated phenomenon. This narrow, knowledge-orientated, cognitive approach excludes insecurity due to the psychological and social aspects of learning and individual risk-behaviour, which we suggest are key factors in learning risk-taking competences.

Thus this study suggests that we should extend our approach to the concept of risk-taking in order to organize learning interventions that support our students in learning entrepreneurial and enterprising behaviour. This also assumes that we know more about the dynamics of risk-taking from a learning and teaching perspective, which has been a neglected area in entrepreneurship education research.

We approach these suggestions first by elaborating upon what we know about learning and teaching risk-taking, and then by focusing on the concepts of uncertainty and insecurity. These two sections provide loose assumptions of our current knowledge on learning risk-taking competence. This leads us to employ Straussian grounded theory for investigating risk-taking competences in two different authentic contexts; first in the international Small Business Management course in the Jönköping International Business School and then in Finnish entrepreneurship education courses at the University of Tampere. Straussian grounded theory deduces its theories by inductive reasoning and thus gives a leading role to the data. We focus on this first by arguing for this methodological choice and then by explicating how the method was used. This is followed by reporting the results according to the three coding phases – open, axial and selective – typical to this method. Finally, we evaluate the results and their implications to the risk-taking research and teaching and learning practices.

Can risk-taking competence be learned and taught?

One of the essential features of entrepreneurial characteristics and consequently of entrepreneurial education is risk-taking (for example, Lumpkin and Dess, 1996). Risk has been considered as being involved in the phenomenon of entrepreneurial behaviour, and even to lie at its core, ever since early studies into its nature (Goel, 1998.) Richard Cantillon, for example, understood *risk as an uncertainty of knowledge* between purchasing and selling prices, while Nicolas Baudeau had a more extended approach to it. He divided economic activities into those that man can control and those he cannot. When it comes to controllable factors, man's success was dependent on his knowledge and competences.[1] Risk was involved in uncontrollable factors (Barreto, 1989; Herbert and Link, 1988).

These early contributors understood risk from two perspectives: that of a lack of knowledge and as a personal factor that distinguishes employees from the self-employed (for example, Lumpkin and Dess, 1996).

However, we can also find a somewhat different interpretation of risk in the epistemological writings of Ludwig von Mises (1966) and Buchanan (1982). Mises tried to understand the method of the old subjectivists. He argued that economic science could not be verified or refuted through the analysis of observable data, but by deriving all definitions of terms from the fundamental proposition that human beings act. To the extent that this can be done, the terms will be useful; to the extent it cannot, they should be discarded or replaced. This methodological apriorism assumed that entrepreneurship always involves human action and interaction (Gunning, 1996). It refers to how actors anticipate, react, and adjust to each others' wants, abilities, knowledge and plans. In economic theory, uncertainty means *intersubjective uncertainty*. This is the uncertainty that individuals have about each others' wants, abilities and knowledge (that is, about their distinctively human actions). As subjectivists, Mises argues, we are only secondarily interested in 'uncertainty' about the physical world, or risk. Risk becomes important only when we proceed to apply the theory.

Applying this to learning and teaching leads to two things: first, that learning is an action-bound phenomenon and, second, that learning risk has something to do with other learners' and stakeholders' or participants' wants, abilities, knowledge and plans. Thus, besides its individual aspect, it also has a social dimension.

From these early, and in some respects contradictory, ideas of risk, the term descended through McClelland's and his colleagues' theory of achievement motivation into entrepreneurship trait studies (for example, Atkinson and Feather, 1966). A theory of achievement motivation 'asserts that a person's motive to achieve, his motive to avoid failure, and his expectations of success in some venture strongly influence the character of his motivation as it is expressed in level of aspiration, preference for risk, willingness to put forth effort and to persist in an activity' (Atkinson and Feather, 1966, preface). The fear of failure was hardly mentioned before 1953, but since then the avoidance motivation in an achievement situation has emerged as a programme of research in its own right (Birney et al., 1969). On the other hand, studies in entrepreneurship shrank from assuming that we could identify those biological features that differentiate entrepreneurs from non-entrepreneurs.

However, as early as the 1960s and 1970s McClelland and his colleagues conducted a series of studies to see if training could help people to develop a stronger need to achieve. More specifically, they studied the financial and social impact of achievement motivation training upon small businesses in nine programmes, and five countries during the period 1963–74. The results indicated that achievement motivation training did indeed have an impact on business success (McClelland, 1984, pp. 367–92).

Also Elliot and Thrash argue quite convincingly that the fear of failure is passed down from generation to generation, and is deleterious to the learning situation and to outcomes (Elliot and Thrash, 2004). Thus learning risk-taking also relates to decreasing those situations that cause a fear of failure. It is, however, hard to find evidence that decreasing the fear of failure increases the competences for risk-taking. *Thus we may assume that even though the fear of failure and risk-taking have some mutual dimensions, they are not two extremes of the same phenomenon.*

What we would like to believe is that *risk-taking is a competence* that can be both taught and learned, even though the dynamics of risk-taking from a learning and teaching perspective has not much attracted scientists in the field of entrepreneurship education.

The concepts of uncertainty and insecurity in the risk-learning process

The research of uncertainty in both knowledge management and entrepreneurship refers in some respect to knowledge. In knowledge management it is defined as a lack of information, choices between different alternatives (Anderson et al., 1981), lacking confidence in one's own cognitive structure describing the situation (Nyström, 1974) or, as Brunsson has described it, a lack of confidence in existing information. Yates (1992) introduces different roles for uncertainty, depending on how uncertainty affects the risk. According to him, risk is sometimes the same as uncertainty, if the outcomes of an action are not assured. Also potential outcomes or risks involved with both action and outcomes might not be apparent.

Taking some examples from the presentations to the Conference of the Academy of Management (2005), uncertainty and risk are studied from a similar perspective. How to behave under uncertainty or how to reduce uncertainty that basically refers to a knowledge of different contexts is the focus. It may refer to environmental, economic or political or market conditions (Alvarez, 2005; Guler and Guillen, 2005; Tang, 2005; Wadhwa et al., 2005; Wu and Knott, 2005).

The joint problem of these studies of uncertainty relates to knowledge. They have an a priori assumption that knowing more reduces risk. They also assume that students have been able to define their goals and expectations for success as well as being able to find the means to attain those goals. These assumptions refer to the cognitive aspects of learning.

However, even Mises assumed that uncertainty is more complex and also refers to insecurity that relates to human action and interaction. Thus besides knowledge and/or information per se, insecurity relates to unknown, complex, new situations and the learner's ability to face these previously inexperienced situations. Following further Mises's ideas, the way to learn risk and handle it is action. *Thus risks and learning risk-taking are a social process that relates to both insecurity and uncertainty, and the approach to learning it and from it is action.*

Concerning the nature of this action, we can learn from Lumpkin and Dess's (1996) ideas. They refer to entrepreneurial action as proactiveness, and name it as a fourth characteristic of entrepreneurship. For them it is 'a forward-looking perspective that is accompanied by innovative or new-venturing activity' (Lumpkin and Dess, 1996, p. 146). This difference is supported by Samuelsson's study (2005) that makes a distinction between a process under risk and a process under uncertainty.

On the other hand, we are used to thinking that financial and economic risk characterizes entrepreneurial behaviour. Thus in order to teach risk-taking, students are, for example, exposed to situations and contexts that involve real or assumed financial risks. This was also an original idea in the courses studied by Pia-Lena Leskinen (1999). The results turned out to be quite the contrary, however, indicating that the psychological risk increased during the courses and led to a negative attitude towards entrepreneurship. Thus the outcome of the education was quite opposite to its original goal. This extends

an approach to risk-taking in learning processes that is in some respects familiar to entrepreneurship studies. For example, Gasse (1982) approaches risk as a personal, social and psychological phenomenon.

Leskinen suggests that risk is indeed at the core of entrepreneurship studies. She introduces us to the concept of a 'risk-field' *as a context-bound process* in four dimensions: a vision relating to opportunity recognition, action, autonomy and interaction. The risk field refers to the field of action where failures and successes are experienced. The conflicts between these dimensions expand the risk field. *Thus action is a basis for learning risk-taking*. This original aspect of entrepreneurial behaviour was partly lost in the trait theory approach, but has re-emerged in contemporary discussions (Fayolle et al., 2005; Gartner, 1988; Sarasvathy, 2001).

An individualistic approach to entrepreneurship neglects the social dimensions of learning. Even though Mises introduces us to the idea of interaction, he still has a subjectively orientated approach to the process of reducing risk. The idea that learning risk might be approached by sharing experiences of insecurity, and by supporting collaboration between learners seems to be a new aspect in entrepreneurial learning. However, the latest social networking studies of women entrepreneurs and small-business owners indicate that *peer learning might improve the performance as well as the self-confidence of entrepreneurs*. When it comes to risk, the early studies within that field indicate that groups accept greater risks than individuals (Yates, 1992). Even though later studies show contrary results, the group seems to have an impact on risk-taking.

These fragmented findings of teaching and learning risk-taking can be summarized in a few basic assumptions:

1. Risk and learning risk-taking are an action-orientated social process that relates to both insecurity and uncertainty.
2. The fear of failure relates to the risk-taking process but rather by reducing the possible outcomes than actually increasing a competences for risk-taking.
3. Learning risk-taking is a psychological and social rather than a financial phenomenon.
4. Learning and teaching risk-taking is a context-bound process that forces one to consider the conditions for learning as an essential dimension of the process.

How to investigate risk-learning processes

These assumptions position learning risk-taking into a complex individual and social process, of which we have so far learned only a little in the fields of both entrepreneurship and of education. Investigating the learning of risk-behaviour as this kind of process, involves facing the problems of research designs. Either we have single descriptive cases and polemic articles (Alvarez, 2005; Guler and Guillen, 2005; Tang, 2005; Wadhwa et al., 2005; Wu and Knott, 2005), or else studies that give hypothetical situations (for example, Brockhaus, 1980) or predefine the dimensions of risky behaviour as, for example, most of the 'need for achievement' studies do. The problem is that these kinds of research designs do not allow emergencies and an analysis of the complexity of the process itself.

Thus even though the concepts of risk-taking, action, uncertainty and insecurity seem to be valid in entrepreneurship education and the pedagogy relating to it, students' feelings and perceptions about them are rarely studied in entrepreneurship research.

Actually we know very little about the dynamics of risk-taking processes, not to mention how to teach and learn risk-taking. Therefore it seems to be reasonable to start by planning a research design that is based on the learner's experiences and perceptions of learning in situations in which they are exposed to risk. The design should allow them to freely explain and reflect generally on their experiences of learning, not specifically those of risk. Thus it is important to create a context in which individuals and groups are supposed to themselves define the goals and ways of learning, both alone and together.

The assumption that risk-taking can be taught additionally presupposes that individuals and groups are supported in their processes. Since there are two different approaches, one being that of a more individual, knowledge-orientated approach and the other a social, more extensive and collaboration-orientated approach, we thought it might be beneficial to compare experiments in two different settings.

We assumed that the cultural differences between these two groups would have an effect on how students experienced their learning. For example, in the recent study by Mitsis and Foley (2005) of business students' cultural values as antecedents to student and teacher-driven learning styles, it was discovered that confusion and uncertainty avoidance explained the variation in the student-driven and the teacher-driven learning style preferences. The authors suggest that a number of commonly held assumptions about the differences between domestic and international students' learning style preferences might be better understood as reflections of cultural values. The degree to which students hold cultural beliefs in collectivism helps to explain the extent to which they will favour a teacher-driven learning environment.

Finally, we assumed that individual differences should be taken into account in learning arrangements, allowing students to follow their individual learning orientations. For example Moustafa et al. (2005), in their study of a model of individual differences in students' uncertainty versus certainty orientation, suggest that individual differences in students are a key factor in determining the effectiveness of management education.

Taking the above points into account, we planned two different exploratory courses for learning and teaching risk-taking, *one focusing more on individual, knowledge-orientated uncertainty factors* and *the other on more collaborative and peer learning process*. Both offered help in handling unknown situations, having a complexity involving not only the psychological aspect, but with the first including more individual and the latter also social risk-taking processes. Both of these courses, however, had similar assignments like a concept-mapping examination, real-life cases and group work. All these assignments assumed that students define their own goals and decide how to act in order to gain them, and that they also make choices as to what kind of knowledge is needed to achieve those goals.

Methodologically we needed an approach that allows students' own experiences to guide the investigation process and thus we turned to grounded theory. Since, however, we also wanted to consider those fragmented theoretical findings of risk learning as guiding the analysis process, we chose the Straussian approach to grounded theory.

We will now first describe how we used the Straussian grounded theory and after that we will show how the two different learning interventions took place and how we gathered students' reflections. Finally, after reporting the results of the coding process, we will evaluate this study and its implications.

Straussian grounded theory

The leading role of data

Grounded theory perceives 'theory as a process; that is, theory as an ever developing entity, not as a perfected product' (Glaser and Strauss, 1967, p. 32). Instead of giving the leading role to scientific debate, it turns over the leading role to the empirical data.

Sociologists Barney Glaser and Anselm Strauss developed grounded theory in the 1960s. Since then it has been applied mainly in sociology and education, and only recently in new fields such as nursery and information technology. In entrepreneurship research we discovered only one example of it using the extensive integrated entrepreneurship database in the Jönköping International Business School. This article dealt with its usefulness as an anthropological research method in entrepreneurship studies (Stewart, 1991). Just recently these suggestions have produced some results in the studies of Douglas (2004) and Fernández (2004). Both of them have applied and further developed the Glaserian approach to entrepreneurship. Fernández's (2004) study of emerging business practices provided as a by-product a thorough analysis of the Glaserian coding process, and Douglas elaborates the key elements of evaluating the success of grounded theory in entrepreneurship research. It is a pity that these valuable studies have not been published in entrepreneurship journals, but in the *Electronic Journal of Business Research Methods*.

The method of grounded theory has been recommended for those fields with little established theories and lacking sufficient knowledge or concepts, or when new perspectives are of special interest. Actually it is suitable for this study from all these three perspectives, since we know very little about the dynamics of learning and teaching risk-taking, and there is most certainly a need to search for a new perspective to it.

Influenced by pragmatism and social interactionism, Glaser and Strauss suggested that there was a need, on the one hand, to respect and reveal how the actors perceive phenomena and, on the other hand, to develop suitable methodological tools (Glaser and Strauss, 1967). The researcher needs to understand behaviour as the participants understand it, learn about their world, learn their interpretation of self in the interaction, and share their definitions (Chenitz and Swanson, 1986). Thus the target of grounded theory has been the social practices of human actors.

The dynamic, data-orientated approach has remained as the core of this method regardless of its different contributors. Glaser and Strauss claimed that it is possible and even desirable to construct theories through inductive reasoning from empirical observations (Strauss and Corbin, 1990). Later, however, their opinions diverged with respect to the role of theories and the related reasoning. Glaser represents strictly inductive reasoning and denies the role of existing scientific theories. Strauss together with Corbin claims that both are needed, leading to a mixture of deductive and inductive reasoning. According to Strauss and Corbin, existing theories are present in scientific research, whether they are wanted or not. Thus, consciously or unconsciously, Strauss and Corbin lay the foundations of assumptions for the discovery of new knowledge. Glaser criticizes their view, claiming that it is not grounded theory, but rather a method of generating a forced conceptual description based on assumptions. Siitonen (1999) suggests, however, that these two lines of thought represent different schools within grounded theory.

It is easy to share Strauss's ideas, since the theories and findings concerning risk-taking have been the origin and inspiration to study this phenomenon. Also Strauss and Corbin

assume that the analysis should involve 'theoretical sensitivity'. They anchor the expression in the researcher's personal qualities, such as professional and scientific experience, as well as in the analytical process. This process involves, for example, making hypotheses and 'developing small theoretical frameworks, (miniframeworks) about concepts and their relationships' (Strauss and Corbin, 1990, p. 43). In our case, the experiences of the researchers represent professional and scientific insight into the risk-learning process. One planned and conducted the learning interventions, while the other participated in the latter learning process in both roles, as a doctoral student and as a researcher. The hypotheses, or as we prefer to name them, assumptions, are here defined based on previous scientific definitions and studies.

The coding process

In grounded theory, analysis has been referred to as the coding procedures including the 'operations by which data are broken down, conceptualised, and put back together in new ways' (Strauss and Corbin, 1990, p. 57). Thus grounded theory is interested in discovering regularities, carrying out the identification and categorization of elements and exploring their connections (Tesch, 1990). Strauss and Corbin differentiate between theory and description in two senses: theory uses concepts and concepts are related by means of statements about relationships. They further argue that analytical procedures are defined to 'provide grounding, build the density, and develop the sensitivity and integration needed to generate a rich, tightly woven, explanatory theory that closely approximates the reality it represents' (Strauss and Corbin, 1990, p. 57). Even though these elements are present in this study, the elevated status of 'theory' is felt to be too demanding to achieve. Therefore this analysis process attempts to produce a description rather than a theory as Strauss defines it.

Strauss and Corbin (1990) present the coding procedure as one consisting of three phases: open, axial and selective coding.

1. *Open coding* is that part of the analysis that pertains specifically to the naming and categorizing of the phenomenon through close examination of the data. 'By taking down and conceptualising we mean taking apart an observation, event etc. something that stands for or represents a phenomenon' (Strauss and Corbin, 1990, p. 63).
2. *Axial coding* focuses on specifying a category (phenomenon) in terms of the conditions that give rise to it, the context in which it is embedded, the action/interactional strategies by which it is handled, managed and carried out, as well as the consequences of those strategies. These specifying features of a category might also be called subcategories. Strauss and Corbin recommend the use of mini-frameworks for keeping track of one's analysis (Strauss and Corbin, 1990, p. 115).
3. *Selective coding* integrates categories to form a grounded theory. 'Integration is not much different than axial coding. It is just done at a higher more abstract level of analysing' (Strauss and Corbin, 1990, p. 117).

Coding took place in two stages. The manual coding took place in 2004, and the preliminary results were presented in the IntEnt Conference in 2004. This process identified the core phases of the learning process and presented some axial and selective coding ideas. The second stage was carried out using the NVivo programme, first as a peer coding

of the preliminary results in 2004 and then as a re-coding process of the total data by deepening the results. In the second coding process, the axial coding followed the learning process of each individual student and identified the categories in each phase of the learning process.

The NVivo programme is an instrument of qualitative research designed for situations in which there is a need to work with complex data and to combine subtle coding with qualitative linking, shaping, searching and modelling (DataSense, 2005; Rantala, 1999). Thus it serves as an excellent tool for carrying out the aims of the grounded theory. Peer coding and the use of NVivo together increase the reliability of the interpretation process as much as possible, even though it should be kept in mind that the interpretation is always open to criticism.

Learning interventions

In planning the learning interventions we have first to position risk-learning in enterprising and/or entrepreneurial learning process. This also clarifies how we approach the concept of entrepreneurship in learning context. For that purpose we can apply the idea presented by Scott et al. (1998), though with a slightly different meaning. They divided research on entrepreneurship education into education about, through and for enterprise. Learning 'about' refers to gaining knowledge concerning entrepreneurship. By learning 'through' we refer to learning entrepreneurially. Learning 'for' refers to either intentions to start or run one's own business, or to behaving entrepreneurially/enterprisingly in another organization or in working life in general. Thus the definition of the entrepreneurship itself contains different forms of entrepreneurship and so represents a broad approach to it. But as we argued at the beginning, risk-taking is an essential feature of entrepreneurial characteristics regardless of its form. Thus the entrepreneurial/enterprising learning with an extensive competence concept assumes that learning about or for is not enough as such, but takes place through entrepreneurial processes. Accordingly, learning risk-taking competences assumes that the way to learn it contains risk. These issues should be taken into account throughout the interventions.

The first learning intervention concerned the Small Business Management (SBM) course (seven ECTS[2]) with international students that took place in the Jönköping International Business School in Sweden in 2001. This group contained data from 34 participants out of 36. The second intervention took place in 2003–2004 in the Tampere University Entrepreneurship Education course of 25 ECTS with 24 Finnish participants. Three cases, two international and one Finnish, were excluded due to insufficient data. The international students were studying business degrees. The Finnish students had a multi-disciplinary background from different universities in Finland, but they had already taken a course in the field of vocational and professional education. The differences in backgrounds also concerned the students' life-cycle situations, since many of the Finnish students were already working, mainly in different educational institutions, while the international participants were full-time students.

The SBM course lasted one academic semester, focused on a special theme and was conducted by several expert lectures. It was knowledge orientated and the experiment concentrated on employing new concept-mapping techniques in examinations. The focus was on individual learning. The examination consisted of compiling a concept map of how the learner perceived the phenomenon of small business management. The assignment

was given to the students during the first lecture, in order to help them in defining their process throughout the course. The students could also choose part of the material for their perceptions freely from scientific publications.

The other experimental field, the Entrepreneurship Education course, consisted of three modules and lasted for the whole academic year 2003–2004. It focused on different forms of entrepreneurship, individual, self-orientated entrepreneurship, small-business management and ownership, and finally on intrapreneurship/organizational entrepreneurship. The course was process orientated and virtually supported, and included three days' face-to-face interventions per module. Here the focus was on collaborative peer learning.

The tools for supporting learning were also different, as the first offered a concept-mapping technique, previously unknown to the learners, for studying the complex concept of small business management, while the second used collaborative peer learning for studying the more complex concept of entrepreneurship education. However, in both cases the responsibility for learning and the freedom to do so was left to the students. In both courses the students were encouraged to create proactively their own concepts and ideas about phenomena. Both courses also shared the same emphasis in encouraging students to start working immediately both individually and collaboratively.

In spite of their differences, both courses had similar assignments that actively supported students' own knowledge creation, action and interaction with surrounding firms and organizations. As well as employing concept-mapping and similar reflective tools, the assignments of the Small Business Management course consisted of a real-life case and its peer evaluation and presentation, as well as two cases based on the literature. Each module of the Entrepreneurship Education course contained a real-life case with peer evaluation, either as an analysing assignment or concept-mapping.

Thus the circumstances for our first assumption, that risk and learning risk-taking is an action-orientated social process that relates to both insecurity and uncertainty, involved both interventions. Additionally, the students in both cases were exposed to learning risk-taking as a psychological and social phenomenon. They were thus exposed to individual and social failures and successes, as our second assumption requires. Finally, the learning process, including the assignments in both interventions, was extremely context-bound with respect to its cultural, individual and social aspects, due to the use of real-life cases and subjective choices.

Data gathering

Even though the conditions and aims of these experimental cases were different, the instructions for gathering the students' reflections on their experiences were the same for both courses. The data consisted of these reflections. The reflection format (Table 16.1) was based on action research studies and critical theory (Table 16.2) modified from Ulla Suojanen's (1998) thoughts on action research and empowerment in learning interventions. The reflection format was compiled as a guide for the students.

Results

Open coding

The open coding identified three phases of learning in both experiments: that of the confusion, action and increasing competence in learning risk-taking.

Table 16.1 Reflection format

The level of reflection	Individual	Group	Course participants	Organization	Society
1. Technical					
2. Practical/interpretive					
3. Critical					

Source: Modified from Suojanen (1998) and Zuber-Skerrit (1992).

Table 16.2 Levels of learning deduced from the critical theory

Orientation	Objective	Role of learner/teacher	Relation between teacher and other participants
Technical learning WHAT	• Increase substance and technical skills	Outside observer or object	• Independence/ objectifying • 'Them'
Practical learning/reflection HOW	In addition • Learners' and teacher's self-understanding • New awareness	• Supporter of learners' participation and reflection on her/his learning	• Co-operation • 'You'
Critical learning/ WHY AND FOR WHAT emancipatory empowering	In addition • Liberation from old thinking modes • Critical attitude towards bureaucratic models and own learning habits	• Change agent • Co-ordinator of collaboration • Distributor of responsibility	• Joint responsibility • 'Us'

Source: Modified from Suojanen (1998) and Zuber-Skerrit (1992).

In this phase we excluded one international student owing to the fact that he actually did not report any experience of confusion at all. However, regardless of culture, all the other students reported experiencing three similar phases. In Table 16.3 we have gathered some examples of these, reporting quotations from the two different student groups.

The open coding phase thus provided the core categories, as it is assumed to do, and indicated that there are actually no cultural differences between these two groups in experiencing the existence of these phases.

Axial coding

In the axial coding we followed each student separately. This provided categories that specified each phase of the learning process comprising a set of subcategories. As axial

Table 16.3 The results of the open coding: three core categories in the learning process

1. Open coding – the process of breaking down, examining, comparing, conceptualizing and categorizing data (Strauss and Corbin, 1990, p. 57)

The process of learning: three core categories		
Confusion and frustration about the need to take responsibility for and define own goals and the means to gain them	Action learning by doing	Increasing competence in defining own goals and learning needs
International group • It is right to say that at the beginning of the course I was very confused with this technique of concept-mapping • Personally I felt really troubled in how to perform a good concept map on the exam • I know that I, my team and the whole course do not feel confident in using the technique • After the introduction, I was still confused • Kind of a shock for the students that are not used to that learning method • Sometimes rather frustrating to have different views as it kind of creates dissonance and discontinuity • I do not see how I shall apply this knowledge	• We split up the group and worked in couples before we put the parts together • Everybody had to get in contact and get to know participants that you hadn't talked to before • To start working, thinking and analysing • It takes time to get to know new group members, and everyone works differently (different methods etc). • After analysing a case, speaking with the course participants and sharing our ideas • After lots of discussion, it always worked out in the end • . . . acquired through the lectures, the reading and the cases was not easy to synthesize in our mind, there are so many concepts linked together • . . . we have had open discussions and lots of freethinking • We had some problems in the beginning, but after solving these problems things worked out perfectly • Working together in a group made me realize	• The conceptual map, I'm just beginning to understand. It seems like it is a good thing . . . getting a holistic picture of how everything is related to each other • The scientific tools learned like concept map and reflection, provided me with new methods that helped me to understand a complex subject, like small business • The concept map technique was a good tool in helping to have an open mind about looking how the small business works and to understand and find a personal position about this kind of business • Concept-mapping can surely be a good way of stimulating awareness, and it definitely forces us to think about the different parts of SBM and the surrounding reality • I started to understand how useful and practically applicable this concept is, especially for individual studying and learning • Learned to collaborate, to coordinate, and to search and choose literature in a better way and to take responsibility even if no one else does • By choosing the group and subjects by your own, you have to corporate more and learn to define your own problems to solve without having given starting points • At first I was critical, but towards the end I learned

Table 16.3 (continued)

1. Open coding – the process of breaking down, examining, comparing, conceptualizing and categorizing data (Strauss and Corbin, 1990, p. 57)

The process of learning: three core categories		
Confusion and frustration about the need to take responsibility for and define own goals and the means to gain them	Action learning by doing	Increasing competence in defining own goals and learning needs
	• We got the chance to try to do a concept map over entrepreneurial learning • . . . concrete way to put the theory in practice	
Finnish group		
• The way of working made me confused first. It was contradictory to my expectations about what the teaching in the university is • Do I have to find out about all by myself? • I was outside like a bird table • Working in the group made me confused in the beginning. Who are the others in the group? • Because the learning of the entrepreneurship did not start the way I am used to I was confused and I kept on asking myself what I should do next in order to get my studies done • The first feeling was like a mess. What, when, why? • When we came to the first meeting it was like stepping into an unknown area	• When we worked as a group we noticed . . . • I studied Ålberg, searched in Internet the word concept map, asked the colleagues and read books • One paper after another were crushed into the waste paper basket when I tried to draw the concept map • Four working people try to construct a joint understanding . . . • . . . time goes for searching • . . . texts started to speed from person to person . . . • Thoughts went around in my head . . . I found myself at three o'clock in the morning drafting a new outline . . .	• If I compare the situation now with the situation in the first meeting it is like talking about the day and night • For me the group work was an effective way to work • Afterwards I can say that the used method was very good and justified. I do not criticize it anymore, even in my thoughts • After all it is only up to me what doors to open and shut • Learning method has pushed us to test our own thoughts and opinions • It is interesting to have a chance to practice entrepreneurial behaviour without personal risk • I have had a feeling to be an adventurer, who looks after entrepreneurship and still not getting enough . . . • It is obvious that no one else can give me knowledge, since I know what I need • At the end I cannot imagine more meaningful way to learn • I am about to realize something new . . . • New ideas for implementing . . . • I think I have understood . . .

coding assumes, we put data back together in new ways by making connections between categories using theories as a mini-framework.

The confusion phase consisted of four different subcategories according to the targets of confusion:

1. *Course arrangements*. On this basic level, a student's experiences of confusion relate to course arrangements. She or he felt that insufficient knowledge about the course arrangements causes confusion. If only the arrangements had followed his/her expectations, she or he could control the situation.
2. *Content*. On the second level a student looks for the reason for her/his confusion from content issues: the content does not meet his/her expectations. On this level the student is still driven by outside forces; she/he does not notice the opportunities, but waits for someone else to teach and indicate how and what to learn. The idea is that if she or he could only get the knowledge she or he expects, confusion could be avoided.
3. *Grading*. This instrumental confusion orientation concerns a student's ambition to gain high credits. She or he is confused if she/he does not know what is expected for attaining credits. The idea is that getting more information about the grading criteria would reduce confusion.
4. *Pedagogy*. This level of confusion concerns learning methods contradictory to the student's previous learning experiences. The student explicates the source of confusion as an insecurity, which is a more extensive concept than knowledge. However, it should be noted that this category could, and often did, also contain experiences of uncertainty.

Thus the first three categories manifest risk as a knowledge-related phenomenon, that is, uncertainty, while the fourth category accepts risk as the larger concept of insecurity.

The action phase was divided into two different subcategories depending on how the student described his/her working and learning orientation:

1. individual orientation
2. collaborative orientation.

Finally, regarding the way students learn to treat or handle insecurity or uncertainty, we identified five different overall learning orientations as an outcome of the learning process. Again we applied Scott et al.'s (1998) three categories 'about', 'through' and 'for' enterprise.

In learning 'about' we differentiated between those with a pure knowledge orientation and those who emphasized transforming knowledge from theory to practice.

Learning 'through' involves a student's intentional reflections on how and why he/she or the group and course learned, not only for transfer knowledge into practice, but also relating to how to learn in order to be able to create new practices.

In the category of 'for' we differentiated those with intentions to start or run own business and those with intentions to behave entrepreneurially/enterprisingly as employed in order to see if there were differences between these categories throughout the process. The difference between this and the category of learning 'through' is that questions of why and how were

not explicitly reflected upon, but rather the intentions expressed. The order of these categories represents the level of learning, which means that the highest level is learning to learn. This means that the outcome in this category might, and often did, contain other learning orientations. Similarly, category 2 might contain the orientations of categories 3 to 5, and so on. Thus we determined five sub-categories of learning outcome in this order:

1. Learning to learn orientation – learning 'through'
2. Working life orientation (small business management) – learning 'for'
3. Working life orientation – learning 'for'
4. Knowledge transfer orientation – learning 'about'
5. Knowledge orientation – learning 'about'.

Examples from each category are gathered in Appendix 16.1 at the end of this chapter. Table 16.4 describes each individual learning path by identifying what kind of confusion it concerned, what kind of action orientation took place and what kind of outcome it led to.

We have gathered the overall findings of each phase in Tables 16.5, 16.6 and 16.7 in order to interpret the overall impression of both groups and the conditions we tried to provide for the students.

Table 16.4 The individual risk-taking learning paths

Number of students		Confusion	Action	Learning orientation
International	*Finnish*			
5	8	Pedagogy	Collaborative	Learning to learn
3	2	Pedagogy	Individual	Learning to learn
2	5	Content	Collaborative	Learning to learn
1	0	Content	Individual	Learning to learn
2	0	Course arrangements	Collaborative	Learning to learn
0	2	Grading	Collaborative	Learning to learn
1		Grading	Individual	Learning to learn
Total 14	17			
2		Pedagogy	Individual	Working life SBM
1		Pedagogy	Collaborative	Working life
1		Content	Collaborative	Working life
1	1	Content	Individual	Working life
1		Course arrangements	Collaborative	Working life
Total 6	1			
1		Pedagogy	Collaborative	Knowledge transfer
2	3	Pedagogy	Individual	Knowledge transfer
1		Grading	Individual	Knowledge transfer
2		Course arrangements	Individual	Knowledge transfer
3	2	Content	Individual	Knowledge transfer
Total 9	5			
1		Grading	Collaborative	Knowledge
1	1	Content	Collaborative	Knowledge
Total 2	1			
Total 31	24			

Table 16.5 Summary of the sources of confusion

The source of confusion	Number of students					
	International		Finnish		All	
	Number	%	Number	%	Number	%
Course arrangements	5	16	0	0	5	9
Content	9 } 17	29 } 55	9 } 11	38 } 46	18 } 28	33 } 51
Grading	3	10	2	8	5	9
Pedagogy	14	45	13	54	27	49
Total	31	100	24	100	55	100

Table 16.6 Summary of action orientation

Action phase	International		Finnish		Total	
	No	%	No	%	No	%
Collaborative	14	45	16	67	30	55
Individual	17	55	8	33	25	45
Total	31	100	24	100	55	100

Table 16.7 Summary of learning orientation

Learning orientation	Number of students					
	International		Finnish		All	
	No	%	No	%	No	%
Learning to learn	14	45	17	71	31	56.5
Working life SBM	2	6.5 } 19.5	1	0 } 4	3	5.5 } 12.5
Working life	4	13		4	4	7
Knowledge transfer	9	29 } 35.5	5	21 } 25	14	25.5 } 31
Knowledge	2	6.5	1	4	3	5.5
Total	31	100	24	100	55	100

There are slight differences in the sources of confusion between the international and the Finnish group. Pedagogy and thus insecurity was 9 per cent higher among Finnish students. In both groups, however, the sources of confusion were clearly divided between insecurity and uncertainty, in fact, almost equally so. As assumed at the beginning, both uncertainty and insecurity are concepts essential to risk.

Action orientation was higher among the Finnish students than among the international students. This indicates that supporting collaborative or individual learning has actually had some impact on action. This encourages intentionally explicating the learning methods and developing them.

In order to get an idea of the learning orientations, we combined the working life categories and knowledge with the knowledge transfer categories. The learning orientation of

Table 16.8 Combined individual risk learning paths

Number of students								
International		Finnish		All				
Number	%	Number	%	Number	%	Confusion	Action	Learning orientation
5	29	8	63	13	43	Insecurity	Collaborative	Learning to learn
4		7		11		Uncertainty	Collaborative	Learning to learn
3	16	2	8	5	13	Insecurity	Individual	Learning to learn
2		0		2		Uncertainty	Individual	Learning to learn
Total 14	45	17	71	31	56			
1	9.5		0	1	6	Insecurity	Collaborative	Working life
2				2		Uncertainty	Collaborative	Working life
(SBM) 2	9.5		4	2	7	Insecurity	Individual	Working life
1		(SBM)1		2		Uncertainty	Individual	Working life
Total 6	19	1	4	7	13			
1	10		4	1	7	Insecurity	Collaborative	Knowledge transfer
2		1		3		Uncertainty	Collaborative	Knowledge
2	26	3	21	5	24	Insecurity	Individual	Knowledge transfer
6		2		8		Uncertainty	Individual	Knowledge transfer
Total 11	36	6	25	17	31			
Total 31	100	24	100	55	100			

the international and Finnish groups was different. The learning to learn orientation was 26 per cent higher in the Finnish group. The Finnish group was also polarized between knowledge and learning to learn, while the international group was more equally divided between three groups.

These findings indicate that collaborative support actually produces a more learning to learn orientation and thus might be more efficient in improving students' risk-taking competences.

If, however, we look more carefully at the individual learning paths, this conclusion is not so simple and one-sided. For that purpose we combined the confusion categories into two, that of knowledge-related uncertainty and insecurity-related pedagogy, and then combined the categories of learning outcomes into three, that of knowledge-oriented (knowledge + knowledge transfer categories) and the two working-life categories (Table 16.8).

Considering the aims and nature of these two experiments, we could assume that in the international group, focusing more on supporting learning risk with an individual knowledge-orientated tool, the result would be a more individual-orientated action and competences-related uncertainty. Correspondingly, strongly supporting collaborative learning and focusing more on the broader insecurity concept might be assumed to provide learning to learn risk competences.

In some respect the results supported this, while in some respects they did not, since collaborative learning in the Finnish group quite effectively provided learning to learn outcomes from both the uncertainty and insecurity confusion categories. Sixty-two per cent

gained learning to learn risk competences. In the international group, too, 29 per cent gained learning to learn risk competences. The average was 43 per cent. However, individual action orientation also provided the same competences in 16 per cent of the international and 8 per cent of the Finnish group. This means that individual differences in action orientation seem to influence the process.

However, consideration of both categories of knowledge orientation indicates that gaining the level of learning to learn risk competences is better achieved through a collaborative action orientation.

This means that, in order to support the transformation process towards learning to learn risk competences, collaborative support strategy might be better. An interesting detail is that all three students who showed an increased intention to work as a small business owner/manager used individual action orientation.

Thus, even though we do have some indications here that support the success of collaborative support, there are contradictory findings, as individual learning paths indicate.

Selective coding

To proceed forward into selective coding, we put data back in a new way by selecting the core categories, systematically relating them to other categories, validating those relationships, and filling in categories that need further refinement and development. As Strauss and Corbin encourage, this integration is not much different to axial coding. It is just done at a higher, more abstract level of analysis (Strauss and Corbin, 1990, p. 117).

It was easy for us to select the core categories, since the axial coding confirmed that three phases in learning risk-taking competencies seem to be essential: confusion, action and increased competences as the learning outcome. To some extent we related these phases through subcategories in the axial coding phase, but we still need to finally summarize those findings that might be the seed for understanding the dynamics of the risk-learning process, which was our goal (Table 16.9).

Conclusions, evaluation and implications

To complete this study we still have to evaluate the whole research process and then return to the assumptions made at the beginning in order to evaluate the study implications.

First, to differentiate a theory and a description, we think this study turned out to be something between the two. It might be called a model of learning risk-taking competences that in future might provide seeds for theories. As Strauss and Corbin described this difference: theory uses concepts and concepts are related by means of statements of relationships. They further argue that analytical procedures are defined to 'provide grounding, build the density, and develop the sensitivity and integration needed to generate a rich, tightly woven, explanatory theory that closely approximates the reality it represents' (Strauss and Corbin, 1990, p. 57).

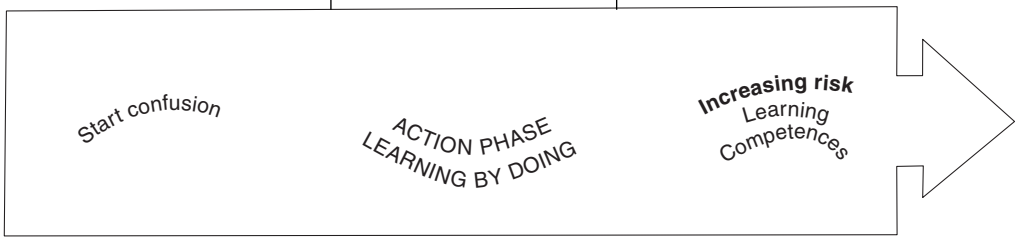
Considering the criteria for our study, we believe that the phases of the risk-learning process are a grounding and a tightly enough woven model that approximates reality. In this respect we feel we have met the aim of this study.

For evaluating this, Strauss and Corbin give criteria, which concern the sample, categories, indicators pointing to the categories, representativeness of the categories, discrepancies emerging with respect to the hypotheses and the motives for selecting the core category. In short, in this type of research, we think that all of these criteria concern how

Table 16.9 Summary of the results and coding phases

1. *Open coding* – the process of breaking down, examining, comparing, conceptualizing and categorizing data (Strauss and Corbin, 1990, p. 57)

	The process of learning: three core categories	



2. *Axial coding* – a set of procedures whereby data are put back together in new ways after open coding, by making connections between categories supported by a coding paradigm (Strauss and Corbin, 1990, p. 96)

Identified the sources of confusion as uncertainty and insecurity-related phenomena	Identified two action orientations: individual and collaborative	Identified three basic learning categories in learning outcomes: learning to learn, working-life and knowledge orientated
Identified individual risk learning paths for each student and their relationship to uncertainty and insecurity		

3. *Selective coding* – the process of selecting the core category, systematically relating it to other categories, validating those relationships, and filling in categories that need further refinement and development (Strauss and Corbin, 1990, pp. 116–42) 'put the data back in new ways'

Risk consists of uncertainty and insecurity	Collaborative support and action seem to provide risk learning competencies more effectively	Intentional support for increasing risk taking competences providing positive learning outcomes be they confusion uncertainty or insecurity-related and the action individual or collaborative

explicitly and credibly the researcher has succeeded in arguing for his/her choices. For this purpose we have tried to report carefully how the conditions for the experiments were created and how the data gathering took place, how the processes were supported and how the data were analysed.

Considering the analysis process, the continuous peer evaluation took place using the NVivo coding process. This was essential, since explicating the inductive reasoning

embedded in forming the categories requires not only very thorough coding processes, but also peer coding in order to validate categories. It was additionally needed for keeping track in our mini-framework. As Strauss and Corbin recommend, mini-frameworks were designed for that purpose. We actually experienced that it is easy to get lost with such rich data as we had, especially when the NVivo software allows one easily to use lots of quotations and still keep the analysis process intact. This means that using the Straussian approach to grounded theory turned out to be essential for us. Using the Claserian approach we might have got totally lost. This supports the suggestion that the Straussian approach has its advantages and differences in the field of grounded theory.

On the other hand, formulating the core categories was not difficult and their groundings seemed to become firmer in the different coding phases. Additionally, the basic hypotheses comprising the mini-framework got support during the coding process.

We end this evaluation by returning to the assumptions we made at the beginning.

The first assumption was that risk and learning risk-taking is an action-orientated social process that relates to both insecurity and uncertainty. This has turned out to be the case in both experiments.

The second assumption concerned the fear of failure that was assumed to relate to the risk-taking process, but as reducing the possible outcomes rather than increasing the competences of risk-taking. This was not something found as an essential aspect in this data. Actually, very little was discovered about it. We could interpret, though, that the confusion about the grading expectations might refer to this. However, these cases were rare and all of them turned out to disappear as the process proceeded. This means that throughout this study the fear of failure was only a minor aspect in learning the risk-taking process.

The third assumption, that learning risk-taking is rather a psychological and social than a financial phenomenon, was quite obviously true in these data.

Finally, the fourth assumption, that learning and teaching is a context-bound process that forces one to consider the conditions for learning as an essential dimension of this process, turned out to be quite obvious in these data. The context in which learning took place seemed to be more important than, for example, individual cultural factors. Also, that collaborative action is always context-bound turned out to be important for most of the transformation processes, and also some findings indicated that supporting the formation of a collaborative context seemed to provide results more effectively. Both these findings support the assumption that the learning conditions are an essential dimension in the process.

In spite of the concept of risk and the action orientation, we can say that in all cases students learned risk-taking competences to some extent. This means that risk-taking competences can indeed be learned and also taught.

The implications of these results concern the need for further refinement and development of the risk-learning process and competences. Thus the implications of the research are threefold.

First, conceptually understanding the difference between uncertainty and insecurity seems to be a key element in learning and teaching risk-taking competences. Thus investigating further the differences between these two concepts and their relationship is important for developing models and pedagogy for entrepreneurial/enterprising learning.

Second, the validity of the identified risk-learning process and its implications for learning and teaching practices relates to Strauss and Corbin's concept of theory.

The theory should be flexible enough to allow applying and developing it in practice. It should help the teacher better to plan and conduct teaching interventions and give enough guidance to change behaviour and the plan when needed. Even though our model is in its very initial phase, we believe that following the above-mentioned seven criteria for evaluating the research, explicates what has been done, and why, clearly enough for those who are interested in applying our model.

It is obvious that learning risk should be studied in authentic settings in order to further develop its conceptualization. The results also indicate that we should explicate the conditions clearly in order to see how they affect learning. We think the importance of this might be regarded as one of the results of this study. It also indicates that the learning conditions play an important role in teaching risk-taking competences.

Considering the concept of entrepreneurship education, this investigation indicates that risk-taking competences offer a fruitful direction to develop entrepreneurial and enterprising pedagogy. This challenges educators and teachers to improve their teaching methods, especially in higher education – facing growing demand for entrepreneurial and enterprising teachers but with a history of knowledge-orientated teaching methods.

There is no doubt that theoretically we need more thorough studies on what risk-taking is all about and this study indicates how important it is to employ knowledge from other fields of science, especially education and psychology.

For us it is obvious that, even though we gained some ideas for understanding and perhaps modelling the dynamics of the risk-learning process, these are still preliminary findings. Even so, these findings encourage us to proceed with our studies. It is important to gather a larger data bank for further studies, since it is important to get longitudinal data over the single learning experiments. This work has actually been started.

Even though we are satisfied with the core phases of the risk-learning process, we feel that each phase should be studied further in order to understand more about the dynamics of individual learning processes. In particular, this data tempted us to delve deeper into the different outcomes.

Finally, we encourage other researchers compiling different experiments to study these dynamics in authentic, intentionally planned experiments, since these findings indicate that learning conditions and support strategies materially affect the results. In short, following Srauss and Corbin's concept of the theory, theory develops from practice, thus it only exists if it is applied. Therefore, to develop a theory from a model requires application.

Notes

1. To avoid the confusion around the concept of competence and its different meanings, we apply a general and extensive approach to it by referring to its two elements defined by Drexel (2003, p. 6). These elements are 'In contrast to the qualification concept that is oriented towards societally organized and regulated learning processes, the competence-concept is output-oriented. That means: It is focussing on the results of any possible learning process, learning being defined in a very broad or even unlimited sense . . . As a consequence of this dissociation of qualification, the competence-concept asks for procedures for identifying and assessing the results of learning processes that can make them visible.'
2. The European Credit Transfer and Accumulation System, also referred to as the European Credit Transfer System.

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Appendix 16.1: Qualifications of axial coding categories of individual learning paths

Confusion	Action	Learning orientation
1. Course arrangement *International group* ● I did not really know who was responsible for the course if I had a question ● The first lectures gave me an impression of not a very well thought out plan of action ● I believe that we should have gathered more information about the expectations of the lecturers ● Different and sometimes conflicting opinions were given to us *Finnish group* None *2. Content* *International group* ● I didn't like the lectures in the beginning because I thought they focused on irrelevant issues in relation to the subject of small business management ● Some of their lectures, however, were sometimes quite unrelated to the major topic of the course ● I do not see how I shall apply this knowledge ● So the student does not get stuck in a course that does not	*1. Individual orientation* *International group* ● During the course I have practised and trained my patience and my argumentation. I know that it is an essential skill to have in the society and in real life ● . . . it has truly changed my thinking of how to organize, plan and develop a system that was previously abstract or without structure of any kind ● The readings and own literature research was motivated by many cases and one big project ● I did not realize that I learned so much until I started preparing myself for the exam *Finnish group* ● When I studied the references it became clearer to me what the term of entrepreneurship education means ● Getting acquainted with literature and other material I got a more clear picture about . . . ● During this course I have experienced one of my most meaningful development jumps in my life: first-born child . . . and Venture cup bronze . . . expecting the international ranking next week . . . ● By reading my knowledge increased . . . by peer evaluation I got . . . ● In my opinion I have learned . . . I still have to . . . my thoughts went	*1. Learning orientation* *International group* ● In the course we had free hands and I find this method hard. But even if I find the method hard I think that it is useful to practise different learning methods. Sometimes learning should be hard ● I did not get what I had originally expected from the course, but I did learn . . . how different people approach cases, which helped me better understand small business management ● At first I was critical, but towards the end I learned to accept the benefits of such a concept mapping technique ● . . . a very good way of learning to collaborate, to compromise and also to take responsibility ● The conceptual map, I'm just beginning to understand. It seems like it is a good thing to connect different parts of a subject and getting a holistic picture of how everything is related to each other ● I liked the idea of empowerment applied to the course . . . Since the basic principle of the course is empowerment, it is likely that the results of the learning process can differ very much . . . ● . . . we, as students, have been empowered during the course. I agree that we were encouraged in some way by taking a more active role in making the decisions about our own choices ● I sometimes felt a bit lost but I think this was a good thing because in a way it forced me to think a bit deeper and try to come up with my own opinion instead of automatically accepting the one given by the teacher ● The course gave me a lot of different perspectives . . . to understand that there is not any single right answer and that there are many different aspects of small business management

Appendix 16.1 (continued)

Confusion	Action	Learning orientation
handle the issues it is supposed to *Finnish group* • I noticed quite soon, that my knowledge of business plan was superficial • During the first day I could identify frustration among the students, since defining the concept is so challenging • Other participants seemed to share the same thought about what is this entrepreneurship education • I was waiting for the knowledge about my business, which I felt I did not get *3. Pedagogy* *International group* • The way of learning was quite new for me, for example the discussions we had in the lectures • Kind of shock the students that are not used to that learning method • . . . it was totally free for each student to choose . . . • The confusion, especially for the international students who are not used to this freedom, I think the learning arrangements by letting the students decide how and what to learn created uncertainty	around in my head . . . I found myself at three o'clock in the morning drafting a new outline . . . *Collaborative orientation* *International group* • After analysing a case, speaking with the course participants and sharing our ideas, many things were uncovered concerning problem-solving in small business management. After lots of discussion, it always worked out in the end • It is always nice to work with international students • Case gave me a chance to exchange ideas with other groups and come up with one refined solution to a problem • As a group member, to work in collaboration with a real small business *Finnish group* • After the difficulties in the first module our group started to work very intensively and we finally made a good team. Our group work was broadened and widened because of the active role of every single member of our group. How will we together define what we should take as our theme? What is the 'conclusion' that we should reach? These things were discussed often	*Finnish group* • In the end, it is only up to me what doors I open or close from myself. With my own entrepreneurial behaviour I can make the right doors open for me • My experiences got a conceptual representation. I noticed how society drives and affects individuals and the individuals do not even always notice it • It is obvious that no one else can give me knowledge, since I know what I need • Comparing the situation between the first day and now, the difference is like day and night, now I am able to . . . • As a whole the course was rewarding, but demanded entrepreneurial behaviour from the students . . . we only got the opportunities • As a learner I am best . . . creative, free and trustful/ confidential atmosphere *2. Working life orientation (small business management)* *International group* • Maybe when I come home, I will start my own firm together with a friend. We talked about this before, but I was never sure, wanted to work in a big and convenient surrounding • As forthcoming entrepreneurs or owners of companies the awareness of the complexity will hopefully lead to less failure. Even if nobody should be afraid of starting a business, the course might result in some reflection before take off. The benefit is obvious *Finnish group* • Feeling certain about and understanding entrepreneurship as well as at a personal level investing in it in the future is what I learned . . . I have an agreement of . . . *3. Working life orientation* *International group* • . . . gave me a holistic view of the company and how the

Finnish group

- The working method confused me at first. It was contradictory to what I expected the university teaching to be
- I experienced a different and a new way of learning . . . that also caused a sort of anxiety . . .
- It was sometimes unclear what the learner is expected to learn. This bothered me until I understood that the most important are my own learning aims
- First day left me in insecurity . . . I didn't quite understand the meaning . . . perhaps the organizers tried to get us to understand what is the life of an entrepreneur with insecurity and stress

4. Grading (learning for credit)
International group

- Furthermore, the written exam is worth half the course, but, in my opinion, there has been a lack of information about the exam
- The stress put on concept mapping is, in my opinion, a little too much. After one lecture on concept mapping 50% of our grade is based on our concept map
- There has been a lack of information about the exam
- . . . didn't know what was the level of importance that those contents have for the grading theories can be used in reality
- Further, we the students will in the future be employed by companies so they have indirectly learned something, or will learn something
- By taking this approach, I learned a lot about how it would feel to be responsible for making decisions for a company. This made me realize a lot about myself and how I might positively manage a firm

Finnish group
None

4. Knowledge transfer orientation
International group

- . . . concrete way to put the theory in practice
- . . . the knowledge given by the books . . . dealt with the matter in a perspective in which they showed the techniques more or less in a kind of recipe style of how to run a small business, fact that was quite different
- The concept mapping technique proved to be useful and I will continually use it as a good technique for pinpointing flaws and fully thinking out procedures. Further, the technique is useful for any business process
- Showed my group that literature is not always right and that it is not always necessary to follow predetermined steps . . . the theory became more applicable to the small business field

Finnish group

- The subject (entrepreneurial education) is interesting and it gives me a lot to think about in my own working context and it gives a lot to the themes I am working (with in incubators)
- I feel I can gain more knowledge for my master theses and professional competences
- This course has opened my eyes to think on things by using the entrepreneurial perspective

5. Knowledge orientation
International group

- . . . this course allowed me to learn a lot about the concept of Small Business Management, because I did not know

Appendix 16.1 (continued)

Confusion	Action	Learning orientation
that is a major concern for the students overall *Finnish group* • The evaluation bothers me: what is the amount that we should know to get 3 on the report? • The instructions of the exam are quite a mess. What are the grading criteria, to avoid confusion again?		anything before about this subject • . . . what I have learned during this class made me conscious of all the knowledge I acquired . . . has given us a picture of what is Small Business Management in our society • . . . gives you a broader view *Finnish group* • Can say I have learned about intrapreneurship and noticed how diverse it can be. The concept map helped me to understand how the intrapreneurship is located in relation to the other things we have learned

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