

Some Research Perspectives on Entrepreneurship Education, Enterprise Education and Education for Small Business Management: A Ten-year Literature Review

Gary Gorman, Dennis Hanlon and Wayne King

FOR SOME TIME THERE HAS BEEN widespread recognition that entrepreneurship is the engine that drives the economy of most nations. This has led to an increasing interest in the development of education programs to encourage and enhance entrepreneurship, and a recognition that much research needs to be carried out into what makes an entrepreneur and how these characteristics may best be imparted. Dainow (1986) conducted a survey of the entrepreneurship education literature for a ten-year-period, up to 1984. His goal was “to assess the current state of the art, based on published articles, with a view to identifying the strengths and weaknesses that can guide future efforts” (p10). Among his

conclusions he identified “a need for more systematic collection and analysis of data, and more varied methodologies to build a stronger empirical base” (p18). While this article does not replicate Dainow’s work, it is a survey of the literature from 1985–1994 to assess the progress that has been made over that period and to offer some recommendations for further efforts.

In preparing this survey, articles were first categorised as being empirical or descriptive. They were then further grouped by target market (students enrolled in the formal education system, out-of-school potential entrepreneurs, existing business owners, and others), and by content (entrepreneurial propensity, pre-startup, post-startup, and

articles about educational process and structure). Our underlying assumption for using audience segmentation was that educational objectives, subject matter and pedagogical approach might be expected to vary depending on the nature of the target audience. Further support for this assumption can be found in Gibb (1994) and Block and Stumpf (1992). Similarly, it can be assumed that stage of development (Gibb, 1994) would have an impact on the nature of entrepreneurial education. Propensity or inclination towards entrepreneurship and small business is commonly associated with several personal characteristics that might be expected to be influenced by a formal program of education. These include values and attitudes, personal goals, creativity, risk-taking propensity and locus of control. Education also can serve a preparatory function in relation to new venture initiation or startup, whereby the transfer of knowledge and the acquisition and development of relevant skills would be expected to increase the self-efficacy (Bandura, 1986) and effectiveness of the potential entrepreneur. In addition, this preparatory role can be extended to include preparation for small business management of existing owner/managers, as well as potential entrepreneurs. Educational process and structure also should be important variables for inquiry. For instance, we might expect the entrepreneurial learning process to be enhanced through the provision of role models, the expansion and strengthening of personal networks, and through temporary apprenticeship placements.

Methodology

Papers selected for inclusion in this

review were restricted to those published in leading academic journals specialising in entrepreneurship and small business. Seven periodicals were ultimately chosen; they are: *Frontiers of Entrepreneurship Research*, *Journal of Small Business and Entrepreneurship*, *Entrepreneurship Theory and Practice* (*American Journal of Small Business*), *Journal of Small Business Management*, *Journal of Entrepreneurship and Regional Development*, *International Small Business Journal* and *Journal of Business Venturing*.

This review does not attempt to replicate Dainow's (1986) methodology (for instance, there are some notable differences in the publications chosen for the review), but his review did serve as a convenient and useful benchmark. Because Dainow's review dealt with articles up to and including 1984, it was decided that this review would include papers published during the 10-year period 1985 to 1994 inclusive. The *Frontiers of Entrepreneurship Research* (FER) publication was an exception, however. In the case of FER, the period surveyed covers the 10-year period from 1983 to 1992. Dainow had not included the 1983/84 editions of FER in his review and, due to the timing of the publication, the 1993/94 editions of FER were unavailable for inclusion in our review. (This might also explain Dainow's decision to exclude the 1983/84 editions.)

A census-type sampling procedure was employed. A panel of three reviewers (i.e. the authors) was employed to select and classify the articles. Three levels of decision-making were utilised to first select and subsequently classify articles according to focus and content/market. First, each journal issue was examined

independently by two reviewers in order to select articles for inclusion in the study. Early in the process it became apparent that several research notes and editorials also discussed useful research frameworks or described the results of a particular study. It was therefore decided that research notes and editorials would be eligible for inclusion in addition to refereed articles. In the case of FER, published summaries of research were also included. In instances of disagreement between reviewers, the decision of the third author was used to break the tie.

The collection of 92 selected articles was subsequently divided approximately equally and distributed among the three reviewers. Each reviewer then read the assigned articles independently and wrote a summary abstract of each. These abstracts served as the basis for the classification process which followed. Articles were catalogued, first according to focus (theoretical versus empirical) and subsequently according to content and target market. Although articles were classified as either theoretical or empirical, categories occurring within each of these perspectives were not considered mutually exclusive; it was

therefore possible for one article to be assigned to multiple categories. The classification process was carried out with all three reviewers present and a consensus-based decision approach was adopted; discussion concerning the appropriate classification of each article typically lasted for five to 15 minutes. The distribution and classification of theoretical and empirical articles appear below.

Review of Theoretical Articles

The preliminary review identified 29 articles with a conceptual or theoretical focus on entrepreneurship education, enterprise education or education for small business management. The following discussion is organised and presented according to the four content categories.

Propensity

Seven papers deal with aspects of entrepreneurial propensity and all but the one by Stumpf, Dunbar and Mullen (1991) are directed toward the formal education sector. Gibb's (1987) approach, perhaps the broadest, is to establish an enterprise culture in the educational process. To do so, he argues,

Table 1
Content and Market Classification of Articles Reviewed¹

<i>Market</i> / <i>Content</i>	<i>Formal Education</i>	<i>Out-of-school</i>	<i>Existing Business</i>	<i>Other</i>	<i>All</i>	<i>Total</i>
Propensity	6T, 5E	2E			1T, 1E	7T, 8E
Pre-startup	4T, 3E	6E			1E	4T, 10E
Post-startup	2E		5T, 9E	2E	1E	5T, 14E
Educational Process	12T, 22E	1T, 11E	4E		4T, 6E	17T, 43E
Total	22T, 32E	1T, 19E	5T, 13E	2E	5T, 9E	33T, 75E

¹ T=Theoretical E=Empirical (some articles appear in more than one cell)

requires educators to clearly distinguish among entrepreneurship, enterprising behaviour and small business management. He defines the entrepreneur and the enterprising person in terms of attributes and defines the small-business person in terms of tasks. This distinction, Gibb maintains, should be the basis for developing education and training programs for enterprise as opposed to training for small business. He concludes that the role for small business in enterprise education is to enhance enterprise generation by managing the entrepreneurial attributes of young people. SMEs, he suggests, can support this process by providing role models, exposure, networks and insight into the independent business process.

Ulrich and Cole (1987) argue for the importance of learning style preferences in enhancing the learning experience and entrepreneurial propensity. Utilising Kolb's (1978) four-stage learning model and research on the personality characteristics of the entrepreneur, Ulrich and Cole conclude that entrepreneurial learning style preferences tend toward active experimentation with some balance between concrete experience and abstract conceptualisation. Utilising learning style preferences not only can enhance entrepreneurial propensity but also has implications for the educational process (to be discussed later). In a similar vein, Stumpf, Dunbar and Mullen (1991) argue for the applicability of behavioural simulations to teaching entrepreneurship. While their research was not designed specifically to test hypotheses, they conclude that educational objectives in relation to entrepreneurship, based on the work of

Hills (1988), can be met substantially through student participation in a behavioural simulation.

The four remaining papers in this area share the view that the culture of the existing education system needs to change. However, they provide very divergent viewpoints as to how this change is best accomplished. Chamard (1989) discusses the nature of the public education system and its impact on the personalities of students. He concludes that the formal education system is not particularly supportive of entrepreneurship and possibly even suppresses the more important entrepreneurial characteristics. In his view, very little can be done in the regular primary and secondary school system to encourage entrepreneurship. Remedial work at the post-secondary level is his suggested strategy. Singh (1990) makes a similar argument in the case of the developing countries, suggesting that education may actually inhibit entrepreneurship and indicating the need for a reorientation of the school systems to emphasise and value entrepreneurship if we are to cultivate an enterprise culture.

Gasse (1985) argues for the importance of identifying and evaluating entrepreneurial potential at the secondary school level. He suggests that we will be more successful in enhancing entrepreneurial propensity in the development stage when individual career options are still open. To achieve this goal, he outlines a strategy consistent with ". . . the accent on identifying potential entrepreneurs from the moment they are made aware of that possibility as a viable career option" (p555). In a similar argument, Filion (1994) suggests that "high school is the

most determinant level in the development of young people's entrepreneurial potential" (p68). He goes on to introduce the concept of 'pre-entrepreneur' and outlines a process of entrepreneurial teaching at the high school level that is designed to foster development of an entrepreneurial attitude among students.

Pre-startup

Four papers deal with aspects of preparation for startup or venture initiation; however, three of these do so only secondarily. A paper by Knight (1991) is the only one to deal primarily with content. This article proposes a framework and methodology for teaching entrepreneurship that includes the following elements: opportunity identification, strategy development, resource acquisition and implementation. Knight suggests that these elements of entrepreneurship apply at the group, organisation, industry and society levels, as well as at the individual level, and that a framework for teaching entrepreneurship should be extended to include these dimensions. To complete the framework, Knight further suggests the inclusion of functional exposure and startup strategies. The paper concludes with an illustration of the proposed course based on an existing course taught at the University of Western Ontario.

McMullan and Long (1987), Vesper and McMullan (1988) and Plaschka and Welsch (1990), in discussing curriculum, emphasise that curricula of entrepreneurship programs have to be differentiated from traditional management education programs. For McMullan and Long (1987), stage of venture development should form the basis for this distinction. In addition, they

argue that entrepreneurship education should include skill-building courses such as negotiation, leadership and creative thinking and exposure to technological innovation and new product development. In discussing the preconditions for a proposed degree in entrepreneurship, Vesper and McMullan (1988) also argue for skill-building courses in addition to knowledge-based courses pertaining to entrepreneurship. However, they also identify two key differences between the entrepreneurship program and the traditional management program: the ability to detect and exploit business opportunities more quickly and the ability to plan in greater detail and project farther into the future. Plaschka and Welsch (1990) provide additional support for differentiation based on stage of development by emphasising what they refer to as transition stages in their proposed framework of entrepreneurship education. They also argue for programs that are ". . . geared toward creativity, multi-disciplinary and process-oriented approaches, and theory-based practical applications" (p61).

Post-startup

Five articles focused specifically on aspects of post-startup or preparation for managing a small business and all dealt with existing small business owner/managers. The first, a paper by Fairfield-Sonn (1987), argues for the importance of training and development in SMEs to gain competitive advantage. This article outlines a ". . . three-stage, decision-based, strategic process model to help managers in small and mid-size firms decide whether or not training and development can benefit their firms, and if so, how to organise their effort" (p17).

A second paper by Tait (1990) also looks at management education from the decision-maker's perspective. A decision-making process framework is developed and described in detail and then applied to the decision to engage in management education. Finally, the model is tested against cases drawn from an earlier empirical study completed by the author. It is concluded that perception of need is of vital importance and that a number of factors contribute to the lack of perceived need for education on the part of many small business owners.

A third paper by Banks, Bures and Champion (1987) also explores the training and development (T&D) decision-making processes in small businesses to determine whether or not they differ from those in large businesses. The authors conclude ". . . that small and large businesses are not very different in the factors they use in making T&D decisions. For example, both place considerable emphasis on the judgement of superiors, subject matter, cost, and time. Though the level at which T&D decisions are made differs, there is remarkable overlap in other aspects of decision-making" (p25). The fourth paper by Skipton (1989) describes a framework for classifying customers, markets and skills-development service offerings. This article outlines the context for business and management skills development for owner/managers of small and medium-sized enterprises in rural and remote areas of Newfoundland and Labrador and proposes a strategy to develop and deliver necessary training. The proposed framework may be useful to those involved in the development, design and delivery of education and training programs to geographically dispersed clients.

The final paper in this area by Wright (1994) argues that most training programs for small business focus on the personal needs of the participants rather than on organisational performance. Using results from two training programs and a meta-analysis of the needs analysis literature, Wright proposes a model that is designed to provide a more holistic approach to meeting the performance needs of the organisation rather than the training needs of individuals. Key elements of the model include an emphasis on identifying organisation-specific performance needs and recognition of both internal and external performance variables. The approach should be of interest to those responsible for developing public policy and to those designing appropriate small business intervention models.

Educational Process and Structure

The vast majority (17) of the theoretical papers addressed various aspects of educational process and structure with a primary focus on the post-secondary level. This focus is not surprising given the bias associated with the journals included in this review. Nonetheless, there is considerable diversity in the content of these papers, including such topics as educational orientation, teaching strategies, learning styles, curricula design and entrepreneurship structures.

Béchar and Toulouse (1991) draw on a framework from the educational sciences to contrast four educative orientations. Three of these, conformist, adaptive and transformative, are pedagogical approaches which focus on course content. The alternative orientation, as an androgogical approach, emphasises process. The

authors suggest that, unfortunately, the pedagogical model is the dominant model in entrepreneurship courses and recommend a transition to the alternative orientation since “. . . it best integrates recent theories on adult education, learning and entrepreneurship” (p3). Although this article deals primarily with post-secondary students, it also has implications for the broader population of adult learners.

Closely related to educational orientation is the issue of learning style. Two papers utilise Kolb's learning model to argue the case for adopting an interactive style in teaching to potential entrepreneurs. The article by Ulrich and Cole (1987) emphasises the importance of successful learning experiences in generating and increasing interest in entrepreneurship. Dana's paper (1987) also suggests that entrepreneurial learning style preferences are consistent with active participation and that increased opportunities to participate in the classroom would increase student awareness and enhance the ability to learn from experience. Dana further argues that the emphasis should be on improving entrepreneurial skill development and on the importance of learning the skill to learn as an ongoing process rather than on traditional management course content.

The final group of theoretical papers, focusing on the post-secondary level, deal with entrepreneurship curricula and structure, in particular at the university level. Leclerc (1985) outlines the experience at the University of Ottawa, highlighting not only the interest in small business courses but also the associated benefits to be derived from developing links between the universities and the small business community. His

conclusion is that business schools should rethink their mission and refocus their efforts on business by perhaps splitting programs between business and management. Vesper, McMullan and Ray (1989) discuss the limitations of the present business school model in fostering and developing entrepreneurship. In their view an entirely new paradigm is required that includes functional differentiation, rationalisation, flexibility and customisation, practice and participation, technological receptivity and internationalisation. In a similar vein, Kao (1994) outlines the shortcomings associated with the general-management model as it applies to teaching entrepreneurship and argues for the creation of entrepreneurship education as an independent academic discipline.

Ivancevich (1991), Ronstadt (1987), McMullan and Long (1987), McMullan (1988) and Plaschka and Welsh (1990) discuss the emergence of entrepreneurship as an academic discipline and its role within the traditional business school structure. Each highlights the growing body of entrepreneurship literature and systematic theories necessary for recognition as an established discipline. Each also emphasises a particular aspect of the role of entrepreneurship education. Ivancevich (1991) argues for entrepreneurship as a mechanism to enhance entrepreneurial behaviours and to bridge the gaps between the functional areas. McMullan and Long (1987) and McMullan (1988) emphasise the importance of entrepreneurship education to economic development and view entrepreneurship education as a component of the community support infrastructure. Ronstadt (1987) describes

the components of this new school of entrepreneurship, including entrepreneurship as a career process, as a multiple venture process, as a process of multiple concept configurations and as a process with limited time for venture investigation. Based on these elements, he outlines the objectives, course structure and content of an entrepreneurship course and argues for the need to develop programs of entrepreneurship. This latter argument is made even more forcefully in an article by Vesper and McMullan (1988), who not only support the concept of offering degree programs in entrepreneurship but also outline the elements of a proposed masters degree in entrepreneurship.

Finally, Plaschka and Welsch (1990) posit two frameworks of entrepreneurship programs. The first combines the dimensions of number of entrepreneurship courses and degree of integration. The second combines the dimensions of number of disciplines and transition stages in a firm. The value of the models lies in their usefulness, individually or in combination, in studying and designing entrepreneurship programs.

Exceptions to the focus on post-secondary education were two papers by Gibb, one dealing specifically with the primary and secondary school system (1993) and a related paper positing a broader "Entrepreneurial Approach to Learning" framework (1994), an article by Curran and Stanworth (1989) that proposes a broad framework for entrepreneurship and small business education, a paper by Harrison and Leitch (1994) that explores the relationship between entrepreneurship education and leadership research and

an article by Hood and Young (1993) suggesting four primary areas in which successful entrepreneurs must be developed.

The two articles by Gibb (1993 and 1994) are follow-ups to his paper discussed previously in relation to entrepreneurial propensity. The distinction introduced among entrepreneurship, enterprise and small business is utilised as a basis to develop a model of enterprise education appropriate to the primary and secondary school curricula. Key components of the model include incorporating the essence of enterprise into the classroom environment, a project management task structure for learning under conditions of uncertainty and an enterprising teaching mode. Gibb argues that the combination of these elements will stimulate enterprising behaviour and associated skills and attributes not only in students but also in entrepreneurs.

Curran and Stanworth (1989) posit a framework for small business education that consists of four types: entrepreneurial education, education for small business and self-employment, continuing small business education and small business awareness education. Each of these forms is discussed in research terms along the dimensions of knowledge base, teaching strategies, effectiveness and potential. The paper concludes that ". . . the major weaknesses of any discussion of small business education is the lack of research on its character, availability and effectiveness" (p18).

The article by Harrison and Leitch (1994) argues for the need to utilise recent developments in the field of leadership research when studying entrepreneurship. The authors suggest

that leadership and organisational transformation and continuous learning are themes that reflect the new paradigm associated with entrepreneurship education. A final paper by Hood and Young (1993) develops a theoretical framework consisting of four primary areas where successful entrepreneurs must be developed. The areas are content, skills and behaviour, mentality, and personality. Results from a survey of 100 chief executives in entrepreneurial firms indicate that marketing is the most important content area, leadership is the most critical skill and creativity is the most important of the mentality areas. In addition, respondents believed that while personality traits are difficult to influence, the vast majority of knowledge required by entrepreneurs can be taught. These results provide a basis for designing entrepreneurship courses and programs.

Review of Empirical Articles

The preliminary review identified 63 articles with an empirical focus on entrepreneurship education, enterprise education or education for small business management. The following discussion is organised and presented according to the four content categories and includes a brief discussion of research designs and methodologies.

Propensity

Within the category of propensity-related variables, the impact of education on attitudes has received relatively frequent attention. Garnier, Gasse and Raynal (1991) concluded that a Quebec-based televised training program favourably influenced participants' attitudes toward entrepreneurship. It should be noted, however, that less than

half of the respondents actually rated the course as having a relatively high to very high positive influence on their attitudes. Methodological limitations precluded Garnier and Gasse (1990) from assessing the direct effects of an entrepreneurship training program on interest and insight, but the authors did conclude that the course encouraged development in entrepreneurship. The findings of Gupta (1992), however, suggest that formal education has a minimal impact on attitudes. Based on the results of 120 interviews with prominent New Delhi business owners, Gupta argued that cultural conditioning and family conditioning were much more important than formal education in shaping entrepreneurial attitudes, and that the primary benefit of formal education was to increase self-confidence. Several studies (e.g. Donckels, 1991; Kantor, 1988) have examined people's perceptions or beliefs as to whether education could promote entrepreneurial attitudes. Overall, the question of whether or not education can influence the formation and development of entrepreneurial attitudes appears to require further research before substantive conclusions can be drawn.

Pre-startup

Perhaps the most central theme in research on content in entrepreneurship education concerns the extent to which formal education programs can contribute to entrepreneurship. At the post-secondary level several studies have examined the issue of content-related objectives. Donckels (1991) and Kantor (1988) both utilised opinion surveys to address this question. From the results of a large-scale survey of six Belgian

stakeholder groups, Donckels concluded that the primary role of entrepreneurship education should be to increase awareness of entrepreneurship as a career option (suggesting that this would indirectly lead to changes in attitudes toward entrepreneurship), although both secondary schools and universities also should introduce students to the knowledge and skills required by entrepreneurs. In a survey of 408 university students, students were found to believe that both the traits and abilities needed by entrepreneurs could be taught, with abilities perceived as more readily influenced (Kantor, 1988).

Some research has been based on the premise that education for entrepreneurship needs to emphasise multiple dimensions. Johannisson (1991) posited four cornerstones of entrepreneurship: an ability to impact one's personal environment, a high degree of self-confidence, an ability to create support networks, and an ability to create a linkage from vision to action. He then conducted a survey of Swedish universities to determine the emphasis placed on each of these dimensions. He concluded that most university programs emphasise the teaching of technical skills, and, in fact, may actually discourage the potential entrepreneur. He identifies several challenges for entrepreneurial training: to assist potential entrepreneurs to identify and implement competence strategy, to assist them in acquiring business skills, to become more involved in retraining small business owners and other business school alumni in entrepreneurship, and to develop the role of the university as an energiser for local and regional development. Scott and Twomey (1988) also provide evidence that education for

entrepreneurship should be targeted at multiple objectives. Based on a study of 436 undergraduate students in the US, England and Ireland, they conclude that predisposing (background/personality/perceptions) factors, triggering (situational) factors and 'having a business idea' act both independently and in concert to shape career aspirations.

Another line of research questioning has tried to determine the impact of entrepreneurship education on the decision to start a new venture. Garnier and Gasse (1990) report that 14 per cent of respondents who had taken a 16-week training program delivered through newspapers had started a business within 18 months of completing the course. In an evaluation of a televised 13-unit training program, Garnier, Gasse and Raynal (1991) report that 12 per cent of respondents launched a new venture within one year of taking the course. Due to the methodological limitations which characterise these type of studies, it is difficult to draw any firm conclusions here. Clouse (1990), on the other hand, in a controlled study on whether an introductory entrepreneurship course influenced how students make simulated decisions concerning the starting of a new venture, found that students changed their behaviour on several decision criteria after exposure to the course. Results of a qualitative study by Fitzgerald, Murphy and O'Connor (1984) suggest that training, together with mediating factors such as incubators, can help develop indigenous high-technology firms.

In addition to affecting the decision to start a venture, education for entrepreneurship might be expected to improve an entrepreneur's likelihood of

success. Price and Monroe (1992) found that a 'Fast Trac' training program for women and minority entrepreneurs in Colorado tended to positively impact venture growth and development. Beyond the post-secondary level, a qualitative study by Albert, Fournier and Marion (1991) suggests that highly positive relationships can be developed between business school know-how and the needs of scientists/engineers, although the teaching materials must be tailored to fit.

Post-startup

Most of the studies on education for small business management have dealt with the issue of the role of and potential for small business education/training. Overall, the results show a striking consistency across a diverse range of populations and appear to form a substantial knowledge base upon which further research can build. The research to date indicates that a large proportion of small business owners possess negative attitudes toward formal education and training. In a longitudinal study of manufacturing and business service firms located in England, Stanworth and Gray (1992) conclude that attitudes toward training have changed little over the past 20 years, with most small businesses still prejudiced against participating in formal training. Kailer (1990) found that small Austrian firms associated the terms 'learning' and 'education' with attending lectures and theory that cannot be put into practice.

Two studies, on the other hand, provided contrasting results which suggest the existence of a high level of interest in training programs for small business. Marlow (1992) found that minority group entrepreneurs and white

owners of small firms in the West Midlands, UK, had considerable interest in formal training. Importantly, however, the authors noted that this interest was not reflected in take-up of available services. Interestingly, controlling for ethnicity, size and the presence of existing schemes did not influence interest. A survey by Linowes and Dixon (1992) of New Zealand small business owners participating in University-sponsored management workshops also found very strong interest in a wide range of courses. Nevertheless, it is quite possible that these results were biased by the sample selection, as one might expect voluntary participants in training programs to have a higher level of interest than the general population. A study by O'Neil (1990) focused on the content of training courses. He found that post-startups in Ireland expressed greater interest in courses on finance, marketing, management and human resources. Surprisingly, there was no interest in production-related courses.

Kailer's study (mentioned above) indicated that attitudes toward training were determined by several factors, including the innovativeness of the firm/branch, the specificity of vision and length of planning horizon, the profile and qualifications of employees, and the age of the employer and his own past experience with education. Stanworth and Gray note industry effects and size effects in responsiveness to training, with very small firms (i.e. self-employed) being least interested. These size effects may be partly attributable to practical and financial considerations. For example, Kirby (1990) and Kailer's study both report an inability to free up staff as an important obstacle. In addition, both Kirby (1990) and Reid (1987) found cost

to be a critical factor, with firms willing to pay only a very low price for training. From results of a study of 20 UK firms in a diverse range of industries, Hendry, Jones and Arthur (1991) suggest that a wide range of factors, including the competitive environment, technology, internal labour market, sector, infrastructure for training and pay, government intervention, size, ownership and stage of growth, influence the training and development strategies of SMEs.

Stanworth and Gray (1992) note that it is a mistake to assume all small firms want to grow or wish to improve their management skills, and that the management needs of growth firms may differ from self-employed and non-growth firms. Their results showed that growing businesses have a substantially stronger need for skills in organising people. In order for education programs to be perceived as useful by small business owners, it likely will be necessary to tailor the programs to the specific needs of groups of similar firms. Reid's 1987 study of New Brunswick service firms found that programs which were targeted toward a common industry group were highly preferred. Kirby (1990) concluded that "training packages need to be . . . tailored more closely to the specific needs of the client group, their problems, and the issues of most direct relevance to their organisation" (p86). It is therefore somewhat surprising that we were unable to identify any studies which have examined education needs at the level of the individual industry. Only one paper dealt with the issue of training for franchises. Justin and Chan (1991) surveyed 108 US franchisers and found that 97 per cent of those surveyed required their franchisees to

attend their training programs. While 75 per cent of franchisers also invited managers to attend, only a few programs have expanded to include assistant managers and employees.

Educational Process and Structure

Empirical studies focusing on educational process and structure tend to fall into two categories. The first category, which includes most of the empirical literature in this area, examines the implications of teaching strategies, learning styles, and delivery modes, primarily at post-secondary institutions. The second category consists of program descriptions and surveys that present the current state of entrepreneurship education.

Process. Articles dealing with educational process focus on approaches to teaching entrepreneurship. Three papers dealt specifically with alternative teaching strategies, in particular the use of cases and projects. McMullan and Boberg (1991) compare the project method of teaching entrepreneurship with the case method by evaluating the opinions of a sample of past and present MBA students at the University of Calgary. The results indicated that students generally favoured project-based courses for development of skills related to knowledge, comprehension, and evaluation; whereas the case method was perceived as more effective in developing skills of analysis and synthesis. Preshing (1991) describes the project method of teaching at the University of Alberta and discusses the advantages of this method. He also summarises student and client evaluations of this process. It is concluded that project-based learning is best-suited to teaching entrepreneurship.

Gartner and Vesper (1994) present a summary of one component of a survey designed to assess the state of entrepreneurship education generally, which deals with experimental approaches to education. Among the processes deemed failures were those requiring students to engage in introspective or reflective activities or to develop 'case-lets'. On the other hand, programs requiring development of business plans for products (as opposed to services) tended to be successful. Mixed experience was reported with regard to the use of case and text materials, and with the use of group projects, where groups larger than three tended to be unsuccessful.

The issue of learning style was the focus of two articles. Bailey (1986) conducted a series of in-depth interviews with 136 Australian entrepreneurs. He concluded that high performing entrepreneurs tend to be more scientific and systematic in their learning than has previously been supposed, leading to an opinion that entrepreneurship can be encouraged by educational programs which impart these skills. Sexton and Bowman Upton (1987) began their investigation with an assessment of entrepreneurial characteristics gathered through a comparison of entrepreneurship and business students. They then developed a teaching method to enhance these characteristics. Next the class was surveyed to determine the effectiveness of the approach. The results indicated that a majority of the students felt that the course was relevant and improved their understanding of the business environment.

Three papers related directly to alternative delivery modes. Garnier and Gasse (1987, 1990) completed an

evaluation of a newspaper program 'Become an Entrepreneur', which was run in Quebec City, Canada. They concluded that, while the impact of the course on entrepreneurial attitudes was difficult to assess, a large number of new businesses were started as a result of the programme, and on that basis it was considered a success. In a similar vein, Garnier, Gasse and Raynal (1991) surveyed participants in a televised education program, 'Owning a Business', concluding that this was a good alternative to traditional teaching methods in certain circumstances.

Several papers broadened the scope of their inquiries to include more than one institution. Schuman, Seeger and Teebagy (1987) surveyed over 3,000 recipients of either graduate or undergraduate degrees from four American universities to gather data on five entrepreneurial dimensions: demographic factors, entrepreneurial type, entrepreneurial role, previous experience, and time commitment. It was concluded that the effect of all of these factors varied, depending on the particular university. It was not clear, however, why this was so. Hills (1988) takes a somewhat different approach. He conducted an in-depth survey of expert opinion, based on the beliefs and experiences of 15 respected entrepreneurial educators. His findings indicate that the most important educational objective of these programs is to increase the awareness of the processes involved in the creation of a new business. Other important objectives include increasing the awareness of entrepreneurship as a career option, identification of the characteristics of entrepreneurs, and providing an understanding of functional inter-relationships.

Structure. Many of the empirical papers consisted of program descriptions and evaluations. McMullan, Long and Wilson (1985) measured the venture-creation activity of students taking three or more new venture development courses at the MBA level at the University of Calgary. There was little evidence of disappointment with the program, and a relatively high startup rate was indicated. McMullan *et al* (1988) followed up this article with a comprehensive description of how these programs have been extended outside the usual university setting to meet the needs of potential entrepreneurs. Brown, Christy and Banowetz (1987) conducted an assessment of a program called 'Your Future in Business'. This program was designed to address the education needs of potential or existing entrepreneurs who are not regular students at post-secondary institutions. The evaluation attempted to determine whether a significant number of new ventures were created by graduates of the program. It was concluded that this type of program can encourage potential entrepreneurs. Albert, Fournier, and Marion (1991) discuss programs offered by Groupe ESC Lyon. These programs include a seminar series directed toward professors, researchers and doctoral students at the area's scientific universities, a new venture program directed toward science students, and a program offered to entrepreneurs launching innovative companies. An analysis of the results of this program indicated that highly positive relationships can be developed between business school know-how and scientists' and engineers' needs within the field of entrepreneurship. On a larger scale, Brown (1990) conducted an evaluation of a British program, the

'Graduate Enterprise Program'. He concluded that the main impact of the program was on the timing of the business startup, whereby the program provided an enabling social support system which encouraged potential entrepreneurs to start their businesses sooner rather than later. Evaluations and descriptions have also been completed of programs offered in Malaysia (Lim, 1985), Britain's New Enterprise Program (Birley, 1985), and Australia (Wan, 1989), among others. In each case, results have been deemed positive; however, suggestions for improvement are also included.

Eight of the articles presented the current state of entrepreneurship education, particularly at the post-secondary level. Ball and Gilligan (1985) briefly present the results of a survey of 64 British universities and polytechnics. Ryans, Ryans, and Pearson (1987) conducted a survey of 250 faculty members teaching in the small business area. Not surprisingly, most indicated that the field received inadequate attention at most universities. Chusimir (1988) undertook a calendar review of MBA programs at 163 AACSB-accredited schools and colleges of business. Only two required a course in entrepreneurship, and fewer than half even offered an elective course. Vesper (1988), in a survey of 253 post-secondary institutions, found that most schools offer a standard entrepreneurship course. Beyond that, however, there was little consistency among the programs offered, with some schools offering speciality courses (e.g. Venture Marketing) and others offering survey courses. The survey further found that a variety of teaching approaches were incorporated into various programs, and that various

class compositions (e.g. full-time versus part-time students) were used. Other findings noted the increase of entrepreneurship clubs and an increase in research in the field. Zeithaml and Rice (1987) surveyed 100 US business schools to assess their entrepreneurship education programs, making some interesting observations concerning future directions for university involvement in education, research and service. Similar surveys of Canadian business schools by Robinson and Long (1992) and Australian universities by Giffin (1991) contribute recommendations for future directions in the entrepreneurship field (Wyckham, 1989) conducted a comparison of the programs of four Canadian and four Latin American universities, revealing considerable diversity of objectives, philosophy, content, pedagogy, and outcomes. It was indicated, however, that entrepreneurship education has an impact on the entrepreneurial process.

A common theme which emerged from the program surveys is that although there has certainly been an increase in entrepreneurship education programs, there is little uniformity in the programs offered, especially if one considers the relative similarity of other business programs. There would appear to be a need for a more in-depth assessment of the matching process between what are perceived to be entrepreneurial characteristics and the attempts of educational institutions to enhance them.

Not surprisingly, most of the empirical studies surveyed indicated that entrepreneurship can be taught, or at least encouraged, by entrepreneurship education. Further, a variety of teaching methods have been successfully used. As a general conclusion, it appears that the

more 'hands-on' the teaching method is, the greater its chance of success. A note of caution should be injected at this point. Most of the empirical studies reviewed were of alumni of some type of entrepreneurship program; presumably, these participants would have some predisposition toward entrepreneurship prior to their participation. As a result, it might be expected that they would feel well disposed toward these programs.

Research Designs and Methodologies

Despite a considerable range in the quality of studies surveyed, it is clear that the empirical research on education for entrepreneurship is still in the exploratory stage. The vast majority of studies utilised cross-sectional survey designs and measurement of key variables based largely on self-reports; research designs incorporating such basic controls as pre- and post-testing (see, for example, the study by Clouse, 1990) tended to be the exception rather than the rule. As might be expected in a research discipline still in the early stages of development, few of the studies had preconceived hypotheses and even fewer drew on existing theory to derive their hypotheses. As noted by Block and Stumpf (1992), it is important to make a distinction between the "empirically examined case study" and hypothesis-testing research. Most of the studies in our review, aimed at assessing the impact of educational content or process, tended to be based on one particular course at one particular institution, making generalisation difficult at best. The absence of theoretically-derived sampling populations also poses a serious barrier to replication.

A further important area for improvement is that of description.

Descriptions of the research sample were frequently sketchy, making it difficult to ascertain the nature of the course program and whether sample characteristics such as prior experience, age, etc. were comparable across studies. In some cases it was even impossible to determine whether a course was delivered to undergraduate, MBA or continuing education students. Similarly, a frequent lack of information on course content and teaching methodology made it unclear whether aspects of content (for example, the preparation of a business plan) or process (for example, the personal characteristics of the instructor) may have contributed to the results.

Conclusions, Limitations and Suggestions for Future Research

A considerable number and variety of topics, approaches and directions are reflected in the conceptual papers reviewed for this article. However, there are a number of consistent themes that emerge from the various authors. Of particular note is the need to distinguish among entrepreneurship, enterprise and small business management education and to differentiate each of these from traditional approaches to management education. This theme permeates the literature but is reflected most especially in articles dealing with suggested teaching strategies and proposed curricula. More specifically, the components of the ideal structure include the following: a focus on attributes and skills as well as tasks, an element of concrete experience derived from active participation through projects and the like, and content directed to stage of venture development and emphasising functional integration. Notwithstanding the apparent consensus

on the prescriptions for educational directions in this field, there is a noticeable lack of a multidisciplinary approach reflected in the underlying theories (only three of the 29 theoretical articles drew on fields other than Business).

In contrast to Dainow's (1986) findings, there appears to have been a marked increase in the empirical research, particularly in the area of educational process and structure. Results indicate considerable consensus that entrepreneurship can be taught and that teaching methods can be enhanced through active participation. In addition, there is a clear indication of considerable growth in entrepreneurship courses and programs, although there is very little consistency in approach. There is also preliminary evidence that entrepreneurial attributes can be positively influenced by educational programs and that many entrepreneurship programs and courses are able to build awareness of entrepreneurship as a career option and to encourage favourable attitudes toward entrepreneurship. Nonetheless, there is also strong evidence of resistance by small business owner/managers to education and training. Overcoming this barrier will require recognition of the need to develop programs tailored to the specific needs of target markets.

Several limitations have to be kept in mind when considering the findings and conclusions of this paper. While it is felt that the sample of publications is representative of the literature over the past decade, there may be some bias associated with the narrow focus of the journals under review. As indicated previously, the review included only journals in the areas of entrepreneurship

and small business. Journals from other business disciplines and related disciplines such as education were not considered.

Suggestions for future research efforts are in part a function of the methodological limitations identified in the articles under review, as well as those related to the present study, and in part a function of the knowledge gaps identified in the literature. Overall, it appears that a greater effort to draw on existing theory from other disciplines, the utilisation of basic quasi-experimental controls and more careful descriptions of the programs and the research samples would result in substantial progress in the field, as would a more comprehensive and systematic analysis of the literature. In addition to the suggestions to enhance the research designs and methodologies employed in future studies, the present review also identified content areas and target markets that offer significant potential for future research. Most empirical work regarding propensity, especially attitudes towards entrepreneurship, involved measuring the impact of a single course. Yet, as our review of surveys of entrepreneurship education indicates, many institutions and education systems have developed broad-based programs to encourage entrepreneurship, sometimes extending into the secondary schools. Since the cumulative impact of repeated exposure to education for entrepreneurship should be expected to have a much greater impact on attitudes and propensity, a difficult but important challenge for researchers will be to measure the overall effectiveness of these programs.

A second area for investigation, and one that appears to have received limited attention in the past, is the issue of

whether and how both content and process should vary according to stage of firm development and target market. To date, the emphasis on entrepreneurship education appears to have been directed almost exclusively to the post-secondary level, suggesting the need for more attention to the primary and secondary school markets and to existing business owners. Thus far there has been only limited recognition in the entrepreneurship education literature of the need and the potential for entrepreneurship within established organisations. Further, the needs of the broader support network for entrepreneurship education, including educators, financial intermediaries and counsellors and advisors, appear to have been overlooked completely. Overall, it is interesting to note that Dainow's (1986) call for a stronger empirical focus, more careful profiling of target audiences, greater reliance on the educational sciences and more emphasis on the high school level still appears relevant today.

References²

Papers reviewed:

- Albert, P., Fournier, R., and Marion, S. (1991), 'Developing Entrepreneurial Attitudes and Management Competence Among Scientists: The Groupe ESC Lyon's Experience', *JERD*, 3(4), pp349–362.
- Anderson, D. G., Elbert, D. J., and Floyd, J. R. (1985), 'Training of SCORE/ACE Counsellors: Attitudes and Needs', *JSBM*, 23(3), pp31–36.
- Bailey, J. E. (1986), 'Learning Styles of Successful Entrepreneurs', *FER*, Babson College: Wellesley, MA, pp199–210.
- Ball, M., and Gilligan, C. (1985), 'Small Business Teaching in Higher

- Education Qualification Courses', *ISBJ*, 3(3), pp63–65.
- Banks, M. C., Bures, A. L., and Champion, D. L. (1987), 'Decision Making Factors in Small Business: Training and Development', *JSBM*, 25(1), pp19–25.
- Bécharde, J. P., and Toulouse, J. M. (1991), 'Entrepreneurship and Education: Viewpoint from Education', *JSBE*, 9(1), pp3–13.
- Birley, S., Moss, C., and Saunders, P. (1987), 'Do Women Entrepreneurs Require Different Training?', *AJSB*, 12(1), pp27–35.
- Boberg, A. L., and Kiecker, P. (1988), 'Changing Patterns of Demand: Entrepreneurship Education for Entrepreneurs', *FER*, Babson College: Wellesley, MA, pp660–661.
- Brown, I. E., Christy, R. L., and Banowitz, A. F. (1987), 'Perceptions of Success in Business Start-up and the Impact of Entrepreneurial Education', *FER*, Babson College: Wellesley, MA, pp600–602.
- Brown, R. (1990), 'Encouraging Enterprise: Britain's Graduate Enterprise Program', *JSBM*, 28(4), pp71–77.
- Chamard, J. (1989), 'Public Education: Its Effect on Entrepreneurial Characteristics', *JSBE*, 6(2), pp23–30.
- Chusimir, L. H. (1988), 'Entrepreneurship and MBA Degrees: How Well Do They Know Each Other?', *JSBM*, 26(3), pp71–74.
- Chwee-Huat, T. (1987), 'Education and Training for Modernising Small Business', *JSBM*, 25(1), pp79–82.
- Curran, J., and Stanworth, J. (1989), 'Education and Training for Enterprise: Some Problems of Classification, Evaluation, Policy and Research', *ISBJ*, 7(2), pp11–22.
- Dana, L. P. (1987), 'Towards a Skills Model for Entrepreneurs', *JSBE*, 5(1), pp27–31.
- Donckels, R. (1991), 'Education and Entrepreneurship Experiences from Secondary and University Education in Belgium', *JSBE*, 9(1), pp35–42.
- Fairfield-Sonn, J. W. (1987), 'A Strategic Process Model for Small Business Training and Development', *JSBM*, 25(1), pp11–18.
- Filion, L. J. (1994), 'Ten Steps to Entrepreneurial Teaching', *JSBE*, 11(3), pp68–78.
- Fitzgerald, P. M., Murphy, D., and O'Connor, J. (1984), 'A Case Study of Training Interventions in High Technology Entrepreneurship', *FER*, Babson College: Wellesley, MA, pp552–556.
- Garnier, B., and Gasse, Y. (1988), 'Utilisation of Local Newspapers for Training Potential Entrepreneurs', *JSBE*, 5(3), pp20–33.
- Garnier, B., and Gasse, Y. (1990), 'Training Entrepreneurs Through Newspapers', *JSBM*, 28(1), pp70–73.
- Garnier, B., Gasse, Y., and Raynal, C. (1991), 'Evaluation of a Televised Course in Entrepreneurship', *JSBE*, 9(1), pp25–34.
- Gartner, W. B., and Vesper, K. H. (1994), 'Executive Forum: Experiments in Entrepreneurship Education: Success and Failures', *JBV*, 9(3), pp179–187.
- Gasse, Y. (1985), 'A Strategy for the Promotion and Identification of Potential Entrepreneurs at the Secondary School Level', *FER*, Babson College: Wellesley, MA, pp538–559.
- Gibb, A. A. (1987), 'Education for Enterprise: Training for Small Business Initiation — Some Contrasts', *JSBE*, 4(3), pp42–47.
- Gibb, A. A. (1993), 'The Enterprise

- Culture and Education: Understanding Enterprise Education and its Links with Small business, Entrepreneurship and Wider Educational Goals', *ISBJ*, 11(3), pp11–34.
- Gibb, A. A. (1994), 'Do We Really Teach (Approach) Small Business the Way We Should?', *JSBE*, 11(2), pp4–27.
- Gillin, L. M. (1991), 'Entrepreneurship Education: The Australian Perspective for the Nineties', *JSBE*, 9(1), pp60–72.
- Griffith, J., and Dorsman, M. (1987), 'SMEs, New Technology and Training', *ISBJ*, 5(3), pp30–42.
- Gupta, A. (1992), 'The Informal Education of the Indian Entrepreneur', *JSBE*, 9(4), pp63–70.
- Gupta, S. K. (1989), 'Entrepreneurship Development: The Indian Case', *JSBM*, 27(10), pp67–69.
- Harrison, R. T., and Leitch, C. M. (1994), 'Entrepreneurship and Leadership: the Implications for Education and Development', *JERD*, 6(2), pp111–125.
- Hendry, C., Jones, A., and Arthur, M. (1991) 'Skill Supply, Training and Development in the Small-medium Enterprise', *ISBJ*, 10(1), pp68–72.
- Hess, D. W. (1987), 'Relevance of Small Business Courses to Management Needs', *JSBM*, 25(1), pp26–34.
- Hills, G. E. (1988), 'Variations in University Entrepreneurship Education: An Empirical Study of an Evolving Field', *JBV*, 3, pp109–122.
- Hood, J. N., and Young, J. E. (1993), 'Entrepreneurship's Requisite Areas of Development: A Survey of Top Executives in Successful Entrepreneurial Firms', *JBV*, 8(2), pp115–135.
- Hornaday, J. A. (1985), 'Alumni Opinions of the Value of the Curriculum in General Business and in Entrepreneurial Courses', *FER*, Babson College: Wellesley, MA, pp560–565.
- Ivancevich, J. M. (1991), 'A Traditional Faculty Member's Perspective on Entrepreneurship', *JBV*, 6(1), pp1–7.
- Johannisson, B. (1991), 'University Training for Entrepreneurship: Swedish Approaches', *JERD*, 3(1), pp67–82.
- Justis, R. T., and Chan, P. S. (1991), 'Training for Franchise Management', *JSBM*, 29(3), pp87–91.
- Kailer, N. (1990), 'Further Training in Small and Medium-sized Enterprises (Austria)', *JSBM*, 28(1), pp60–63.
- Kantor, J. (1988), 'Can Entrepreneurship Be Taught? A Canadian Experiment', *JSBE*, 5(4), pp12–19.
- Kao, R. W. Y. (1994), 'From General Management to Entrepreneurship: The Business ('B') School Challenge', *JSBE*, 11(2), pp4–10.
- Kirby, D. A. (1990), 'Management Education and Small Business Development: An Exploratory Study of Small Firms in the UK', *JSBM*, 28(4), pp78–87.
- Kirby, D. A., and Mullen, D. C. (1990), 'Developing Enterprise in Graduates: The Results of an Experiment', *FER*, Babson College: Wellesley, MA, pp601–602.
- Knight, R. M. (1987), 'Can Business Schools Produce Entrepreneurs? An Empirical Study', *FER*, Babson College: Wellesley, MA, pp603–604.
- Knight, R. M. (1960), 'A Proposed Approach to Teaching Entrepreneurship', *JSBE*, 9(1), pp43–54.
- Lang, J. R., and Golden, P. A. (1989), 'Evaluating the Efficiency of SBDCs with Data Envelopment Analysis: A Longitudinal Approach', *JSBM*, 27(2), pp42–49.
- Leclerc, W. (1985), 'Universities and

- Entrepreneurs', *JSBE*, 3(2), pp41–47.
- Lim, C. P. (1985), 'Entrepreneurial Development Programmes: The Malaysian Experience', *ISBJ*, 4(1), pp12–24.
- Linowes, R. G., and Dixon, B. R. (1992), 'Small Business Management Development for a Newly Deregulated Economy: The Case of New Zealand', *JSBM*, 29(4), pp131–136.
- Mangum, S. L., Tansky, J., and Keyton, J. (1988), 'Small Business Training as a Strategy to Assist Displaced Workers: An Ohio Pilot Project', *JSBM*, 26(4), pp14–21.
- Mann, P. H. (1990), 'Non-traditional Business Education for Black Entrepreneurs: Observations from a Successful Program', *JSBM*, 28(2), pp30–36.
- Marlow, S. (1992), 'The Take-up of Business Growth Training Schemes by Ethnic Minority-owned Small Firms in Britain', *ISBJ*, 10(4), pp34–46.
- McMullan, C. A., and Boberg, A. L. (1991), 'The Relative Effectiveness of Projects in Teaching Entrepreneurship', *JSBE*, 9(1), pp14–24.
- McMullan, W. E. (1988), 'The Economics of Entrepreneurship Education', *JSBE*, 6(1), pp8–18.
- McMullan, W. E., and Long, W. A. (1987), 'Entrepreneurship Education in the Nineties', *JBV*, 2(3), pp261–275.
- McMullan, W. E., Long, W. A., and Graham, J. B. (1986), 'Assessing Economic Value Added by University-based New-venture Outreach Programs', *JBV*, 1(2), pp225–240.
- McMullan, W. E., Long, W. A., Ray, D. M., and Vesper, K. H. (1988), 'New-venture Development: The Calgary Experience', *JSBE*, 5(4), pp3–11.
- McMullan, W. E., Long, W. A., and Wilson, A. (1985), 'MBA Concentration on Entrepreneurship', *JSBE*, 3(1), pp18–22.
- Mescon, T. S. (1987), 'The Entrepreneurial Institute: Education and Training for Minority Small Business Owners', *JSBM*, 25(1), pp61–66.
- Nehrt, L. C. (1987), 'Entrepreneurship Education in Bangladesh: A Beginning', *JSBM*, 25(1), pp76–78.
- O'Neill, C. (1990), 'Modular Training in the Post-start-up Phase in the Small Business Sector in Northern Ireland', *ISBJ*, 8(3), pp58–63.
- Plaschka, G. R., and Welsch, H. P. (1990), 'Emerging Structures in Entrepreneurship Education: Curricular Designs and Strategies', *ETP*, 14(3), pp55–71.
- Preshing, W. A. (1991), 'Education by Projects', *JSBE*, 9(1), pp55–59.
- Price, C., and Monroe, S. (1992), 'Educational Training for Women and Minority Entrepreneurs Positively Impacts Venture Growth and Development', *FER*, Babson College: Wellesley, MA, pp216–230.
- Reid, S. (1987), 'Designing Management Education and Training Programs for Service Firm Entrepreneurs', *JSBM*, 25(1), pp51–60.
- Robinson, P., and Long, W. (1992), 'Entrepreneurship Education in Canadian Universities', *JSBE*, 10(1), pp61–69.
- Ronstadt, R. (1987), 'The Educated Entrepreneurs: A New Era of Entrepreneurial Education is Beginning', *AJSB*, 11(4), pp37–53.
- Ronstadt, R. (1988), 'Validation of an Innovative Teaching Approach for Entrepreneurship Courses', *AJSB*, 12(3), pp11–21.
- Ryans, C. C., Ryans, J. K., Jr., and Pearson,

- M. A. (1987), 'Educators' Views on Small Business Training', *JSBM*, 25(3), pp80–83.
- Scott, M. G. (1988), 'Aspects of the Long-term Supply of Entrepreneurs: The UK Experience of Encouraging Graduate Enterprise', *FER*, Babson College: Wellesley, MA, pp662–663.
- Scott, M. G., and Twomey, D. F. (1988), 'The Long-term Supply of Entrepreneurs: Students' Career Aspirations in Relation to Entrepreneurship', *JSBM*, 26(4), pp5–13.
- Sexton, D. L., and Bowman Upton, N. (1987), 'Evaluation of an Innovative Approach to Teaching Entrepreneurship', *JSBM*, 25(1), pp35–43.
- Shuman, J. C., Seeger, J. A., and Teebagy, N. C. (1987), 'Entrepreneurial Activity and Educational Background', *FER*, Babson College: Wellesley, MA, pp590–599.
- Singh, J. B. (1990), 'Entrepreneurship Education as a Catalyst of Development in the Third World', *JSBE*, 7(4), pp56–63.
- Skipton, M. (1989), 'Management and Business Skills Development for Owner/Managers of Small and Medium-sized Enterprises: A Planning Framework Applied to Newfoundland and Labrador', *JSBE*, 6(3), pp19–29.
- Solomon, G., and Carney, M. (1985), 'United States Small Business Administration's Role in Small Business Training', *ISBJ*, 4(1), pp25–32.
- Stanworth, J., and Gray, C. (1992), 'Entrepreneurship and Education: Action-based Research with Training Policy Implications in Britain', *ISBJ*, 10(2), pp11–23.
- Stumpf, S. S., Dunbar, R. L., and Mullen, T. P. (1991), 'Simulations in Entrepreneurship Education: Oxymoron or Untapped Opportunity?', *FER*, Babson College: Wellesley, MA, pp681–694.
- Tait, E. (1990), 'Owner-managers' Perceived Management Education Needs: An Integrated Framework', *ISBJ*, 8(4), pp33–48.
- Ulrich, T. A., and Cole, G. S. (1987), 'Toward More Effective Training of Future Entrepreneurs', *JSBM*, 25(4), pp32–39.
- Van Clouse, G. H. (1990), 'A Controlled Experiment Relating Entrepreneurial Education to Students' Start-up Decisions', *JSBM*, 28(2), pp45–53.
- Vesper, K. H. (1985), 'New Developments in Entrepreneurship Education', *FER*, Babson College: Wellesley, MA, pp489–497.
- Vesper, K. H., and McMullan, W. E. (1988), 'Entrepreneurship: Today Courses, Tomorrow Degrees?', *ETP*, 13(1), pp7–13.
- Vesper, K. H., McMullan, W. E., and Ray, D. M. (1989), 'Entrepreneurship Education: More Than Just An Adjustment to Management Education', *ISBJ*, 8(1), pp61–65.
- Wan, V. (1989), 'The Enterprise Workshop Programme in Australia', *ISBJ*, 7(2), pp23–34.
- Wright, P. C. (1994), 'A Policy Alternative to Externally-sponsored Management Development and Skills Training Programs Aimed at Small Business', *JSBE*, 11(3), pp48–59.
- Wyckham, R. G. (1989), 'Assessing the Impact of Entrepreneurial Education: Canada and Latin America', *JSBE*, 6(4), pp7–19.
- Yu-Way, L., and Zuniga, M. (1987), 'Innovation and Entrepreneurship Development Centre: Honduras',

JSBM, 25(4), pp70–72.
Zeithaml, C. P., and Rice, G. H. (1987),
‘Entrepreneurship/Small Business
Education in American Universities’,
JSBM, 25(1), pp44–50.

Additional works cited:

- Bandura, A. (1986), *Social Foundations of Thought and Action*, Englewood Cliffs: Prentice-Hall.
- Block, Z., and Stumpf, S. A. (1992), ‘Entrepreneurship Education Research: Experience and Challenge’, in Sexton, D. L., and Kasarda, J. D. (eds.), *The State of the Art of Entrepreneurship*, Boston: PWS-Kent Publishing Company, pp17–42.
- Dainow, R. (1986), ‘Training and Education of Entrepreneurs: The Current State of the Literature’, *JSBE*, 3(4), pp10–23.
- Kolb, D. A. (1978), *Learning Style Inventory: Technical Manual*, rev. ed., Boston: McBer & Co.
- ² AJSB = American Journal of Small Business
- ETP = Entrepreneurship Theory and Practice
- FER = Frontiers of Entrepreneurship Research
- ISBJ = International Small Business Journal
- JBV = Journal of Business Venturing
- JERD = Journal of Entrepreneurship and Regional Development
- JSBE = Journal of Small Business and Entrepreneurship
- JSBM = Journal of Small Business Management