



Entrepreneurship in University
Environments

L'Environnement universitaire
de l'entrepreneuship



Entrepreneurship in Atlantic Canadian University Environments

Understanding Entrepreneurs: **An Examination of the Literature**

ENTREPRENEURSHIP IN ATLANTIC CANADIAN UNIVERSITY ENVIRONMENTS

PART I *Understanding Entrepreneurs:* *An Examination of the Literature*

December, 2004

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EXECUTIVE SUMMARY

“The value of Entrepreneurship Education goes beyond the positive effects venture creation has on regional development. According to Blais [an authority on technological entrepreneurship and engineering in Canada], the value of Entrepreneurship Education includes the personal development of the individual. It adds a practical base to theoretic knowledge and it focuses attention on student talents and skills. It also motivates students to become more creative, innovative and improves a student’s ability to work with others in team initiatives” (Menziez and Gasse, 1999:6).

- Three different forms of entrepreneurship have evolved since the medieval days of the handicraft system; they are traditional entrepreneurship, intrapreneurship, and, individual entrepreneurship.
- The development of a holistic definition of an entrepreneur is a necessity to aid in bridging the gap between entrepreneurship and academia.
- “Education involves challenging the conventional way of doing things. So does entrepreneurship. Our society has plenty of problems that can’t be solved by the marketplace. Health, education, and social assistance are in disarray, and their improvement requires thinkers. In a sense, these thinkers could be considered social entrepreneurs, people with imagination, drive and flexibility who are willing to take risks that aren’t necessarily market-driven” (Reid, 2000:8).
- In forming a definition, weaving in more of the social aspects of entrepreneurship and viewing it from a holistic perspective may change fallacies such as ‘entrepreneurship only pertains to business’. It is evident from the research into entrepreneurship in areas such as nursing that it is applicable in other faculties as well.
- After a thorough examination of pertinent research studies and literature, we contend that many of the skills and characteristics that entrepreneurs share are not ingrained; rather they can be learned/developed in individuals.
- The main areas of business knowledge required to achieve entrepreneurial success include marketing/sales, finance, accounting, management (organization of work), and business planning. Knowledge of engineering is also considered an asset.
- One hundred of the top Entrepreneurs in the United States state that self-motivation, a high comfort level with risk and uncertainty, common sense and strong personal values are the four most important characteristics for determining entrepreneurial success.

- Individuals with high levels of creativity and innovation coupled with strong management skills and business know-how (accounting, marketing, finance) have the greatest potential for entrepreneurial success. The first can be developed and the latter can be taught.
- The focus of a business school teaches critical judgment after analysis of large amounts of information whereas entrepreneurs need to be taught "gut feel" decision making with limited information.
- Decreased government resources, pressure to access more funding from private sources, strong worldwide competition for students and decreasing student populations are creating conditions of turbulence for universities, some of which are struggling to continue to offer their programs. There is a growing body of evidence that under these conditions, embracing an entrepreneurial orientation can affect organizational performance in a positive manner (Emerson and Twersky, 1996:337).
- Almost 70% of high school students express an interest in venture creation (Gallup, 1994) and over 96% of entrepreneurs/managers and students believe that the study of entrepreneurship at the university level would be advantageous.
- Increased interest in entrepreneurship crosses many disciplines. Engineering students, physical education students, and students of medicine/nursing and fine arts can also benefit from entrepreneurial training.
- Universities that take a proactive approach and incorporate appropriate entrepreneurship courses into their programming to fill the expressed demand/need (Dunn and Short, 2001:8; Gallup, 1994) may benefit through increased enrolment. This was the case at Swinburne University of Technology in Australia and the University of Calgary in Canada.

TABLE OF CONTENTS

EXECUTIVE SUMMARY	i
TABLE OF CONTENTS.....	iii
LIST OF APPENDICES, TABLES, AND FIGURES	iv
RESEARCH TEAM.....	v
BACKGROUND	1
I. OVERVIEW	1
II. PURPOSE OF THE LITERATURE REVIEW	3
III. RESEARCH METHODOLOGY	4
LITERATURE REVIEW	6
I. WHAT IS AN ENTREPRENEUR?	7
A. EVOLUTION OF THE TERM 'ENTREPRENEUR'.....	7
B. CURRENT DEFINITIONS OF AN 'ENTREPRENEUR'.....	11
C. COMMENTS ON DEFINITIONS.....	14
II. SKILLS AND CHARACTERISTICS/TRAITS OF AN ENTREPRENEUR.....	16
A. SKILLS.....	17
B. CHARACTERISTICS/TRAITS.....	19
C. TYPES OF ENTREPRENEURS.....	21
D. COMMENTS ON SKILLS AND CHARACTERISTICS.....	24
III. BARRIERS, INFLUENCES AND BEST PRACTICES	29
A. PROBLEM STATEMENT.....	30
B. INFLUENCES	32
C. COMMENTS ON INFLUENCES.....	37
CONCLUSION	38
I. DEFINITION	38
II. CHARACTERISTICS AND SKILLS.....	39
III. BARRIERS, INFLUENCES AND BEST PRACTICES	42
BIBLIOGRAPHY	47
SECONDARY SOURCES BIBLIOGRAPHY.....	51
APPENDICES.....	58

LIST OF APPENDICES

APPENDIX 1: ATLANTIC CANADIAN UNIVERSITIES CONTACTED FOR CALENDARS	58
APPENDIX 2: UNIVERSITIES EXAMINED IN REGARDS TO MODEL DEVELOPMENT.....	59
APPENDIX 3: DEFINITIONS OF ENTREPRENEURSHIP.....	61
APPENDIX 4: THE FIVE FACTOR MODEL.....	66
APPENDIX 5: EXPLANATION OF ACRONYMS USED.....	69

LIST OF TABLES

TABLE 1: THE SEMANTIC DEVELOPMENT OF AN ENTREPRENEUR AND ENTREPRENEURSHIP.....	9
TABLE 2: THE POINTS OF TRANSITION IN THE MEANING OF ENTREPRENEURSHIP.....	11
TABLE 3: SUCCESS OF MINER’S FOUR TYPES.....	23
TABLE 4: DESIRABLE AND ACQUIRABLE ATTITUDES AND BEHAVIOURS.....	28
TABLE 5: DIFFERENCE IN FOCUS – TRADITIONAL BUSINESS VS. ENTREPRENEURIAL...30	
TABLE 6: FIVE FACTOR MODEL.....	66

LIST OF FIGURES

FIGURE 1: ENTREPRENEUR – MORE THAN AN OWNER/MANAGER.....	18
FIGURE 2: TYPOLOGY OF AN ENTREPRENEUR.....	23
FIGURE 3: MARKET AND ENVIRONMENT FACTORS INFLUENCING NATURE OF ENTREPRENEURIAL RESPONSE	36

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BACKGROUND

I. OVERVIEW

“Historically, the standard of living of a nation can be measured by its ability to produce goods and services and to distribute them widely throughout its population. To this end, it is the entrepreneur who serves society by taking the risk and providing the innovation that enhances present values and ideas. It is the entrepreneur’s initiative that provides diversity and competition that, in turn, shapes our standard of living. As such, the entrepreneur has been, and will continue to be a valuable contributor to social progress” (King, 1984:400).

A recent report entitled “Entrepreneurship Development in Atlantic Universities – Post Secondary Level”, undertaken by the Atlantic Canadian Opportunities Agency (ACOA), highlighted areas of concern regarding the availability of university programs geared towards Entrepreneurship Education. This concern is echoed by The John Dobson Foundation which states that,

“in recent years, we have had concern for limited entrepreneurship research in Canada; lack of sharing of entrepreneurship teaching methods; and lack of funds directed to the field. We think that more can be done at the university level” (Menzie: 1998: iii).

The ACOA paper indicated that a major step towards the development of successful entrepreneurs in Atlantic Canada, involves gaining the support of universities in Atlantic Canada, both anglophone and francophone, in working towards enhancing Entrepreneurship Education. As well, the paper suggests that it is important to partner with the universities to increase the promotion of entrepreneurship, to advocate for the development of Entrepreneurship Education and to create community extensions of entrepreneurship radiating from the respective institutions.

The paper outlined a number of actions that could be taken in order to create the above noted results:

- Identify the status of Entrepreneurship Education in the universities of Atlantic Canada
- Initiate activities designed to create an environment within universities that exposes learners to the opportunities and challenges of starting a business
- Encourage faculties outside of the faculty of Business to offer courses in entrepreneurship
- Prompt non-business students to consider venture creation as a career option
- Identify levels of entrepreneurship programming and levels of entrepreneurship awareness and advocacy activities
- Create an inventory of entrepreneurial resources
- Develop resources and programs for delivery of entrepreneurship education and programs
- Offer programs/services to both the students and the faculty

The main purpose of this research project, Entrepreneurship in Atlantic Canadian University Environments is to respond to the concerns raised in the ACOA paper and attempt to identify and develop resources and programs that address the gaps in Entrepreneurship Education, awareness and advocacy at the university level as highlighted in the ACOA study. The overall objectives are to research and create a delivery model of entrepreneurship for various levels of university education that will:

- Expose all students to entrepreneurship
- Provide the information to support the creation of an entrepreneurial learning environment
- Develop entrepreneurial characteristics/traits in students
- Create awareness of venture creation as a viable career option
- Increase venture creation among students

II. PURPOSE OF THE LITERATURE REVIEW

The scope of the research reviewed is broad, including definitional and characteristic background information. As well, a thorough examination of best practices or models that may be adapted to fit universities in Atlantic Canada was undertaken. Survey themes were established to allow for systematic analysis, presentation and discussion of Entrepreneurship and the development of Entrepreneurship Education in Atlantic Canadian universities. The purpose of the literature review is to facilitate the development of a valid and effective survey instrument for the research project and to illustrate what is currently being done within the worldwide university community in regards to Entrepreneurship Education.

Step One of the project (Part One: The Literature Review and Part Two: An Examination of Models, Best Practices, and Program Development) is intended to review and provide a synopsis of pertinent research and literature including information that deals with:

- the definition of an entrepreneur
- the skills and characteristics/traits attributed to entrepreneurs
- internal and external influences that may affect the implementation and success of Entrepreneurship Education at the university level
- models of Entrepreneurship Education

III. RESEARCH METHODOLOGY

An exhaustive search of the EBSCO (Elton B. Stevens Company) host, specifically the Cambridge Scientific Abstract database, was conducted. Academic studies and articles concerning entrepreneurial education globally in journals, reports and books were identified. For the purpose of the research, the topic was narrowed to ten themes:

1. Definitions of entrepreneurs
2. Characteristics of entrepreneurs
3. Skills of entrepreneurs
4. Personality traits of entrepreneurs
5. Attributes of entrepreneurs
6. Types of entrepreneurs
7. Models of implementing entrepreneurial education including curriculum and barriers encountered
8. External influences on entrepreneurialism within universities, specifically geography and community
9. Justifications for entrepreneurship
10. University culture.

With regard to the latter, concentration was placed on the roles of faculty, administration and students in promoting or hindering entrepreneurial culture, inertia and change agents.

While reading each article, notes were taken along the above thematic lines in order to accumulate the information needed for the final report of this stage. The bibliography of each article was reviewed in order to identify articles of interest and surveys pertaining to the aforementioned themes. These articles were then ordered through one of two methods, interlibrary loan or Novanet Express. Research accumulated in French was found using ABI/Inform Global (distributed by ProQuest Company). The articles were translated while they were being read and notes were taken. Notes taken along each of the thematic lines were compiled in MS Word files. Once all the articles had been read and the information processed, all of the individual theme files were amalgamated into a master list.

Dr. Theresa Menzies and Wayne Miner, experts in the field of entrepreneurship, were contacted by phone for comments related to the topic. Any relevant comments were included in the paper and cited as (2001). While this report is intended to be a literature review only, each major topic is concluded with a section entitled “Comments on ...”. These comments are intended to allow for a brief discussion of recommendations and/or observations that arise directly from the literature reviewed for the project. These conclusions/recommendations may assist in focusing further research and discussion around key findings of previous research.

LITERATURE REVIEW

“The value of Entrepreneurship Education goes beyond the positive effects venture creation has on regional development. According to Blais, the value of Entrepreneurship Education includes the personal development of the individual. It adds a practical base to theoretic knowledge and it focuses attention on student talents and skills. It also motivates students to become more creative, innovative and improves a student’s ability to work with others in team initiatives” (Menzies and Gasse, 1999:6).

Entrepreneurship, according to Theresa Menzies (1998:8), is an increasingly popular phenomenon, which has no generally accepted definition. This leads to a diverse approach to both academic research and Entrepreneurship Education at the post-secondary level. The first section of this literature review examines the definitions of the term “entrepreneur” and the personality traits and characteristics attributed to entrepreneurs. An indepth look at the development of the definition of an entrepreneur delineates the evolution of the term starting from its roots in the medieval craft guild. While no single definition is offered as the one true meaning of entrepreneur, an overview of various applications of the term are offered with a view to enabling the selection of a holistic definition for entrepreneur which will satisfy the mandate of this project.

Not only is there no one accepted definition of an entrepreneur, after years of research on the topic, there is no one accepted description of the characteristics of an entrepreneur. As important as it is to define entrepreneurship, in order to select appropriate models for educating entrepreneurs, it is equally important to know the key characteristics of an entrepreneur. This section of the literature review highlights the major skills required by entrepreneurs, the characteristics needed to acquire and or apply those skills and a typology of entrepreneurs. As well, this section addresses the “generic trait” versus the learned behaviour argument that also plagued the development of leadership skills training in the recent past.

Having established the need for one definition of entrepreneurship for the purposes of this project, and outlining key skills and characteristics common to entrepreneurs, Section III of the literature review discusses internal and external influences, both positive and negative, as they relate to incorporating entrepreneurship education into Atlantic Canadian universities.

I. WHAT IS AN ENTREPRENEUR?

“In 1971, Peter Kilby likened the search for an entrepreneur to the hunt for the heffalump led by Winnie the Pooh in A.A. Milne’s famous 1926 children’s book. The heffalump was a large and important animal that everyone in the Hundred-Acre Wood reported having seen, although each one described it differently... Like the mythical heffalump, there is no accepted definition or description for entrepreneur, despite decades of research in the field” (Ensley et al, 2000:59-60).

A. EVOLUTION OF THE TERM ‘ENTREPRENEUR’

To better understand entrepreneurship, it is important to examine and review the understanding of the term “entrepreneur” that has developed over time. Since the pioneering work of Cantillon, Say, Schumpeter, and Weber, the study of entrepreneurship has aroused interest in both academic and professional circles. This interest, and the numerous studies undertaken in the field, have resulted in varied and sometimes uncomplimentary definitions of an entrepreneur. For example, in 1848 Mills defined an entrepreneur as being a risk bearer, in 1934 Schumpeter suggested an entrepreneur is innovative and in 1987 Winslow and Solomon stated that entrepreneurs are mildly sociopathic (Solomon and Winslow, 1988:165). While it is clear that there is no single definition of an entrepreneur, the development of a holistic definition of an entrepreneur may facilitate bridging the gap between entrepreneurship and academia.

Although entrepreneurial roots can be traced back to the medieval craftsman, industrialization is the context in which the meaning of entrepreneurship has developed. The handicraft system provided a secure standard of living to its members while

industrialization, for the most part, was risk-bearing. Thus, the first point of transition in entrepreneurship was the detachment from the craft entrepreneur. Industrialization was the beginning of worldwide markets and mass production versus the latter; trade over the local system. The technological and economic changes represented something new in history during the last third of the 18th century. The predictable, secure, and social order the craftsman maintained was threatened by industrialization. “The craft system constituted its own entrepreneur culture, legitimized by society and characterized by local markets, a stable, static and predictable life-cycle and a hierarchical social order” (Paula, 1996:81). This type of environment was a polar opposite to an industrialized one. Due to industrialization’s dominant stance, the craft entrepreneur remained independent while wage earners and large-scale companies increased in numbers. It is important to note that the craftsman is still in existence today. He/she provides a means to preserve and pass on the characteristics of the handicraft system which were perfected through life-long learning.

The broad use of the word entrepreneur may be attributed to the semantic development of the term. The first meaning was derived from the French verb ‘entreprendre’ which means, “ to undertake, to attempt, to try” (Solomon and Winslow, 1988:163). The terms adventurer and undertaker were used to denote an entrepreneur, followed by such terms as projector and contractor from the 14th century onwards (Paula, 1996:83). Furthermore, in the 17th century, Robert Cantillon defined entrepreneurship as “self-employment of any sort. Entrepreneurs buy at certain prices in the present and sell at uncertain prices in the future. The entrepreneur is a bearer of uncertainty” (Cantillon, circa 1730 http://westaction.org/definitions/def_entrepreneurship_1.html). However, moving into the 18th century, John Baptiste Say asserted that,

“the entrepreneur is the agent who unites all means of production and who finds in the value of the products, the re-establishment of the entire capital he employs, and the values of the wages, the interest, and rent which he pays, as well as profits belonging to himself” (Say, 1816, http://westaction.org/definitions/def_entrepreneurship_1.html).

**TABLE 1: THE SEMANTIC DEVELOPMENT OF AN ENTREPRENEUR AND
ENTREPRENEURSHIP**

The Century	Term	Meaning
1100	Entreprendre	To do something (no economic connotation)
1300	Adventurer Undertaker	Exciting, unknown experience Own risk, assignment from the government, an honest man
1300 Onwards	Project Projector	A speculator
1400	Contractor Entrepreneur	Assume some risk
1500	Contractor Entrepreneur Clerics	Some violent warlike action Large contracts with the Crown
1600	Contractor Entrepreneur	Risk-bearing
1700	Entrepreneurship -Say -Cantillon	Improving economics Employer = uncertain income Employee = certain income

(Paula, 1996:83)

From the 18th century onwards, science began to model and describe the evolving stages of entrepreneurship due to the rise of industrialization. Science was a contributing factor to this new environment, which was so different from that of a craft entrepreneur. Entrepreneurship took on a more specific and scientific meaning. Two different approaches can be identified.

“One follows the semantic development of the term. Its efforts turned towards the conflict between craftsmen in an industrialized environment. In the other, attention was concentrated on international trade and open markets. Its focus was not on entrepreneurship but on equilibrium between supply and demand” (Paula, 1996:82).

Furthermore, Israel Kirzner stated that, “the entrepreneur recognizes and acts upon market opportunities. Essentially, the entrepreneur moves the market itself towards equilibrium” (http://westaction.org/definitions/def_entrepreneurship_1.html).

In contrast to Kirzner's viewpoint, Schumpeter argues that the core of entrepreneurship is innovation.

“The entrepreneur is the innovator who implements change within markets through the carrying out of new combinations. The carrying out of new combinations can take several forms; 1) the introduction of a new good or quality thereof, 2) the introduction of a new method of production, 3) the opening of a new market, 4) the conquest of a new source of supply of new materials or parts, 5) the carrying out of the new organization of any industry” (http://westaction.org/definitions/def_entrepreneurship_1.html).

Like Schumpeter, Max Weber regards an entrepreneur as a “dynamic coordinator of resources”(Paula, 1996:86). However, Weber's definition of an entrepreneur is derived from a sociological perspective suggesting entrepreneurship is a cultural process. Coming from this viewpoint, Weber also regards entrepreneurship as a detachment from old traditions. Both Weber and Schumpeter mentioned explicitly that their type of entrepreneur was the opposite of the craftsman's (Paula, 1996:84-86).

From the late 19th century onwards, the dominance of organizations began to step ahead of industrialization, which is the second point of transition (See Table 2, pg.11). Within this time frame, two forms of entrepreneurship were created.

“Entrepreneurship referred to entrepreneurs outside the organization, while the term intrapreneur referred to entrepreneurs who were inside the organization. This interpretation involves, though, two kinds of phenomenon: collective behavior and individual behavior. The implicit assumption behind this is that entrepreneurship is always an individual category. However the organization is, as a phenomenon, collective by nature. When entrepreneurship has now been harnessed to break an organizational way of behavior, it has received a new meaning and a new category” (Paula, 1996:87).

It is important to note that intrapreneurs are workers exhibiting entrepreneurial traits; they are not owners.

TABLE 2: THE POINTS OF TRANSITION IN THE MEANING OF ENTREPRENEURSHIP

500-1700s	Handicraft System Shops and Home Market Static, hierarchical working environment, circumstances and social status Secure future, no gains, no accumulation of capital	
First Point of Transition: Detachment from the Craft Entrepreneur		
1700s	Start of large-scale industry and companies along with industrialization, international markets, and industrialized methods of production <i>Entrepreneur as a change agent, breaker of traditions, creating new ways of behavior, a dynamic innovator, a risk and uncertainty-bearer, a coordinator</i>	
External Entrepreneurship		
1800s	Organization as an ethos of time. Organizations planning and controlling human behavior at all levels of society.	
Second Point of Transition: Detachment from the Organization		
Late 1800s	<i>Entrepreneur as a change agent, breaker of traditions, creating new ways of behavior, a dynamic innovator, a risk and uncertainty-bearer, a coordinator.</i>	
Entrepreneurship (Individual entrepreneur/firm)	Intrapreneurship (Collective within organization)	Individual Entrepreneurship (self-oriented entrepreneurship)

(Paula, 1996:88)

In summary, three different forms of entrepreneurship have evolved since the medieval days of the handicraft system; they are traditional entrepreneurship, intrapreneurship, and, individual entrepreneurship. At both points of transition in the meaning of entrepreneur, the attributes of an entrepreneur parallel one another.

“Entrepreneurship has been harnessed to break old stable and hierarchical habits and institutions and to introduce new, innovative, holistic, risk-taking and net-working ways of behavior. In both cases its role has been to work as an instrument” (Paula, 1996:88-89).

B. CURRENT DEFINITIONS OF AN ‘ENTREPRENEUR’

Misconceptions have festered through decades making the discussion of entrepreneurship very complex. Add to this the diverse nature of entrepreneurship and it is understandable that researchers have found defining entrepreneurship to be problematic. The literature presented reveals a multitude of complex definitions in reference to entrepreneurs (Appendix 3), while conversely, it lends credibility to those who argue that the discipline of entrepreneurship has not yet defined what it is. One example of the ongoing debate is

whether entrepreneurship and business venture creation are synonymous. Menzies and Gasse (1999:4) state that,

“entrepreneurship is a multi-faceted concept and has evolved to include: self employment, small business, new ventures from scratch, new ventures within an organization, entrepreneurial management, an enterprising attitude (self knowledge and leadership skills), social entrepreneurship (not-for-profit) and so on.”

Hatten and Ruhland define an entrepreneur as “an individual who establishes and manages a business for the principal purposes of profit and growth. Entrepreneurs are characterized principally by innovative behavior and employ strategic management practices in the business” (1995:224). Leibenstein adds to this his assertion that the entrepreneur also “fills market deficiencies through input-completing activities, activities necessary to create or carry on an enterprise where not all markets are well established or clearly defined and/or in which relevant parts of the production function are not completely known” (1968; 1979). Lipper echoes this statement suggesting that an entrepreneur is “one who creates the opportunity for earning profit by seeking to solve recognized problems” (1987:214). These definitions portray entrepreneurship as a positive concept, primarily concerned with venture creation. This is not unexpected as the term entrepreneurship has “historically referred to the efforts of an individual who takes on the odds in translating a vision into a successful business enterprise” (Morris and Jones, 1999:73).

There are also definitions of entrepreneurship that add other dimensions to the traditional view of entrepreneur as venture creator. Timmons suggests that “entrepreneurship is creating and building something of value from practically nothing. That is, entrepreneurship is the process of creating or seizing an opportunity and pursuing it regardless of resources presently controlled” (1999:7). Weber also sees entrepreneurship as a process and asserts that it is a cultural process. Normally, this process is considered new venture creation, however, it can also be applicable in other areas. Simpson (1997:24) defines a nurse entrepreneur as, “someone who identifies a patient need and envisions how nursing can respond to that need in an effective way, and then formulates

and executes a plan to meet that need...It's looking for opportunities and really seizing the moment." This definition is supported by Minton's assertion that "entrepreneurs apply their training in creative ways, make new connections through networking, and organize professional opportunities for themselves" (1987:74).

Nursing is a profession that offers opportunity for entrepreneurship. Nurses are educated from a holistic perspective, that is, the focus of a nurse's formal education is to care for the individual, not to treat a disease. Also, nurses are educated to assess a patient's health status. Therefore, nurses are positioned to see the broad picture, which is a critical skill in innovation. As the Entrepreneurship Centre at Miami University of Ohio stated, "Entrepreneurship is the process of identifying, developing, and bringing a vision to life. The vision may be an innovative idea, an opportunity, or simply a better way to do something" (http://westaction.org/definitions/def_entrepreneurship_1.html).

On a similar note, Reid (2000:8) states,

"education involves challenging the conventional way of doing things. So does entrepreneurship. Our society has plenty of problems that can't be solved by the marketplace. Health, education, and social assistance are in disarray, and their improvement requires thinkers. In a sense, these thinkers could be considered social entrepreneurs, people with imagination, drive and flexibility who are willing to take risks that aren't necessarily market-driven."

Emerson and Twersky (1996:i) define a social entrepreneur as

"a non-profit manager with a background in social work, community development, or business, who pursues a vision of economic empowerment through the creation of social purpose business intended to provide expanded opportunity for those on the margins of the economic mainstream."

C. COMMENTS ON DEFINITIONS

Attempts to define entrepreneurship for the purposes of this project have also been challenging and problematic. There are a number of reasons for this. Firstly, the current definitions of entrepreneurship range from the very narrow:

“someone that recognizes an opportunity, acts on it by creating an organization, and, in the process, risks a significant amount of personal wealth” (Bygrave and Minniti, 2000:27)

to the extremely broad:

“someone who identifies a need and envisions how they can respond to that need in an effective way” (Simpson, 1997:24).

To address this issue, it is necessary to note the most commonly recurring themes within the current definitions, and then select those that most closely fit within the parameters of this project. Definitions offered in this section have emphasized a broad range of activities from self-employment of any sort to the carrying out of new combinations of opportunities and/or products to being a visionary, both proactive and innovative. The possibilities are endless and the challenges to developing a working definition significant. While the definition selected should be broad and inclusive, it is necessary to come to terms with the fact that the definition proposed for this project cannot encompass every facet of entrepreneurship. It is also important to remember that the definition selected/accepted will be one of the factors delineating the development of a model for Entrepreneurial Education in Atlantic Canadian universities.

Therefore, it is crucial that the definition be clear and inclusive of all major aspects that are to be included in program development. While full agreement on a definition may not be reached, it is key that all proponents of the project have a clear understanding of what is meant by “entrepreneurship” as it relates to this initiative.

Another issue that appears to be problematic in establishing a definition of entrepreneurship for the purposes of this project is the dichotomy of interests of the parties involved: entrepreneurship education at the university level as a means to venture creation versus entrepreneurship education as an academic means to developing inquiring minds. According to Bill Graham, the president of the University of Toronto Faculty Association, developing entrepreneurs is not the goal of university education and venture creation is not their priority (Desruiseaux, 1999:61). In order to further the project successfully, eliciting support from both parties, it is necessary to find the common ground. It is important that both sides recognize entrepreneurship education as valuable. Just as there is value in developing inquiring and analytical minds with a high regard for truth, there is also value in equipping these minds with the skills required to employ their education as a tool in venture creation.

The current working definition for the project is ***“The combination of skills, aptitude and attitude within individuals resulting in new ideas, innovations, and new ventures.”***

This definition does coincide with much of what we see in the research, however, it appears to be somewhat generic focusing mainly on venture creation. By weaving more of the social aspects of entrepreneurship into the working definition, viewing it from a holistic perspective, perceptions such as ‘entrepreneurship only pertains to business’ may be addressed. It is evident from the research into entrepreneurship in nursing, as well as the literature dealing with social entrepreneurs, that it is applicable in other faculties as well.

Perhaps combining the working definition with that developed by Saint Louis University (2001, <http://www.eweb.slu.edu/Default.htm>) can offer a more holistic definition for use in this project.

“The combination of skills, aptitudes and attitudes within individuals resulting in new ideas, innovations, and the ability to turn opportunities into reality through the creation of new ventures. The best entrepreneurs invent new ways to live, work, and achieve. Successful entrepreneurship blends independence and collaboration, vision and action, the individual and the community”.

This definition allows a wider understanding of entrepreneurship. It includes the development of new ideas, such as students of the fine arts marketing their unique set of skills and aptitudes; innovations like the patenting and marketing of intellectual property; and the development of not for profit ventures utilizing a mix of sociology/theology/psychology (etc.) and business knowledge. It offers common ground between entrepreneurship education solely as business training and entrepreneurship education as a purely academic exercise. It stipulates that entrepreneurship education should incorporate the development of the skills required to fully utilize the knowledge students' gain, through their chosen university program, in a beneficial manner. The inclusion of entrepreneurship education, and the development of entrepreneurial skill sets and thinking in current university programs, may enhance students' success in post-university endeavors, whether it involves new venture creation or continued academic pursuits.

II. SKILLS AND CHARACTERISTICS/TRAITS OF AN ENTREPRENEUR

“McClelland stressed need for achievement as a major entrepreneurial personality trait, whereas Robinson asserted that self-esteem and confidence are more prominent in entrepreneurs than the need for achievement....Gasse states that entrepreneurs have an internal locus of control, which may be a more accurate identifying characteristic of potential entrepreneurs than is achievement motivation”

(Hatten & Ruhland, 1995: 224 – 225).

For years, the debate regarding whether leaders were born or developed plagued research in the field of leadership. A similar dichotomy in belief is present in the study of entrepreneurship. And, just as there is no consensus on the definition of an entrepreneur, there is no one description of the skills and characteristics they require. This section of the literature review offers an overview of the main skills and characteristics attributed to entrepreneurs. As well, it indicates that many of these skills and characteristics may indeed be taught. While not the view of all researchers into entrepreneurship, Miner's (1997:18) typology of an entrepreneur offers a clear picture of what his research indicates

are the four major categories of entrepreneurs. These will be outlined with emphasis on the “Personal Achiever”, Miner’s description of what he contends is the true entrepreneur. While the characteristics and skills highlighted may not include every minor ability or trait required, they do include the major areas that should be considered in designing and developing Entrepreneurship Education.

There have been numerous studies conducted into the skills and personality traits/characteristics of entrepreneurs, initiated by academic researchers and/or business interests. While most experts have come to agree that there are a number of personality traits common to entrepreneurs, they do not agree on which is the most important or whether or not these traits are inherent or learned. For example, Bygrave and Minniti (2000:28) assert that individuals are endowed with an initial set of characteristics that determine his/her predilection to become an entrepreneur. On the other hand, Ede, Bhagaban and Calcich (1998:291) state that “entrepreneurship is not a genetic trait, it is a learned skill.” After a thorough examination of pertinent research studies and literature, it appears that many of the skills and characteristics that entrepreneurs share are not ingrained, rather they can be learned/developed in individuals.

A. SKILLS

According to Morris and Jones (1989:74), entrepreneurs must be able to do five things:

- Identify and evaluate an opportunity
- Define a business concept
- Identify the needed resources
- Acquire the necessary resources
- Implement, operate and harvest the venture

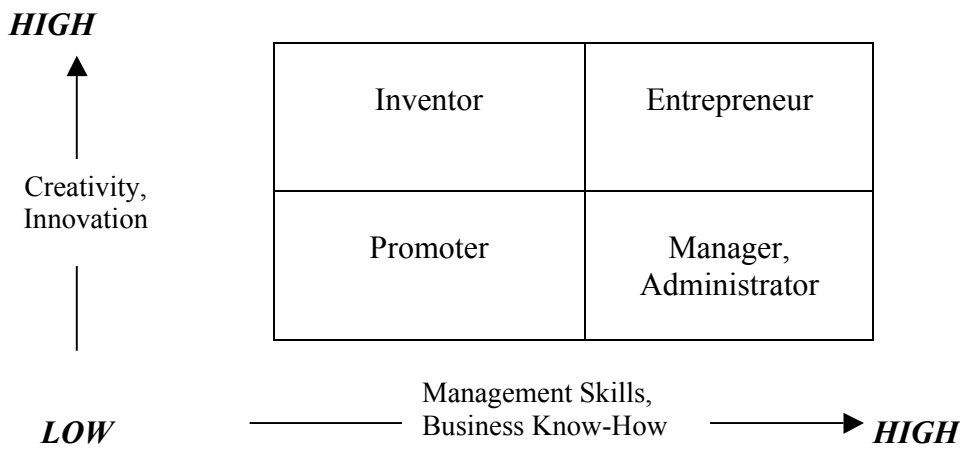
In order to do these things effectively, the entrepreneur would be employing business knowledge in areas such as marketing/sales, management of work, finance, accounting and strategic thinking. Hood and Young (1993:124) state that it is necessary to have a basic understanding and knowledge of these areas to achieve entrepreneurial business success. In addition, engineering is an asset given the increasing use of, and change in, technology in many of the world’s fastest growing firms. It is also necessary for

individuals to develop skills in oral presentation, interpersonal relations and business planning (Hood and Young, 1993:121). In addition to these skills, Hood and Young (1993:121-125) deem that the following areas of business knowledge/skills (listed in random order) are crucial to entrepreneurial success:

- Leadership
- Communication (oral/written)
- Human Relations/Hiring
- Management
- Deal-making/Negotiation
- Logical/Analytical thinking
- Decision-making and Goal-setting
- Business plan preparation

One could argue that these skills are exactly those required by any business manager within any organization, but the skills that might separate the two are the ability to identify an opportunity and to implement the resulting venture. Timmons (1989:21) suggests, in Figure 1, that in order to be a successful entrepreneur, an individual must have the creativity and innovation of an inventor and the business skills of a manager. While there is no consensus among experts whether or not creativity and innovation are learned or inherent characteristics, the business know-how and management skills required to become a successful entrepreneur are learned skills.

FIGURE 1: ENTREPRENEUR – MORE THAN AN OWNER/MANAGER



(Timmons, 1989:21)

B. CHARACTERISTICS/TRAITS

In a survey drawn from Inc. Magazine, one hundred of the most successful publicly held firms in the United States received questionnaires that were forwarded to over five hundred of their best and brightest entrepreneurs. Of those who returned the questionnaire (n=100), 79% had founded at least one business of their own and all were CEO's or the top executive of their firm (Hood and Young, 1993:121). The proposed areas of development for successful entrepreneurship with regards to personality characteristics included a need for achievement, internal locus of control, high tolerance for ambiguity and novelty, and a high need for autonomy, dominance and independence. The following is a list of the characteristics that the participants felt to be the most important with regards to entrepreneurial success.

- **Self-motivation** (acting on one's own initiative without external pressure)
- **Risk-taking** (high comfort level with risk; has the ability to calculate the appropriate degree of risk)
- **Common-sense** (sound practical sense, especially in everyday matters)
- **Values** (the principles or moral standards of a person or social group; the generally accepted or personally held judgment of what is valuable or important in life)
- **Competitiveness/Aggressiveness** (having a strong urge to win; keen to compete; forceful, assertive; energetic, enterprising)
- **Persistence** (continuing in spite of obstacles)
- **Responsibility** (authority; the ability to act independently and make decisions; accountable for one's own actions and able to endure the consequences)
- **Self-confidence** (self-reliant; belief in one's ability to succeed)
- **Acceptance of loneliness** (emotional independence)
- **Adaptability** (able to adapt oneself to new conditions/environments)

The first four characteristics listed are those that top executives revealed to be the most important personality factors in determining entrepreneurial success. Hood and Young (1993:131) asked respondents to evaluate the characteristics as being teachable or not. Self-motivation and common sense were deemed to be non-teachable, but only by a small majority (51%). On the other hand, risk-taking and values were deemed to be teachable by 85% of respondents. Even though the first two were considered inherent, the results showed that the respondents felt they could be fostered through experiential methods such as case studies, mentoring, competitive games, awareness training and actual business experience (Ibid).

Many researchers have used the “Five Factor” model (Appendix 4) to attempt to categorize entrepreneurs. “Throughout the 1980’s and continuing through the present, a plethora of personality researchers have established the five-factor model as the basic paradigm for personality research” (Howard and Howard, 2000:4-10). The following are the “Big Five” foundational factors:

- Neuroticism (Negative Personality)
- Extroversion/Introversion
- Agreeableness
- Conscientiousness
- Openness

An evaluation of the dispersal of characteristics attributed to entrepreneurs across the five factors suggests that entrepreneurs do not merit a category of their own. The characteristics determined to be common to successful entrepreneurs span four of the five factors. While no concrete conclusions can be drawn, it appears that entrepreneurs are generally extroverts who are open and conscientious; focused, adaptable explorers who may also be agreeable. The personality factor that entrepreneurs do not appear to fit at all is negative emotionality. As there has been limited research into the Five Factor Model and its relation to the characteristics of entrepreneurs, this may be an area worthy of further research.

John Miner (1997:13) contends that much of the research into the psychology of entrepreneurs is primarily descriptive. While common characteristics have been determined, causal relationships between personal characteristics and new venture performance have not been established. For example, a high need for achievement and the willingness to bear risk is often linked to successful entrepreneurs, but they may just as strongly characterize unsuccessful ones. Many early efforts to study entrepreneurship examined personality and motivation or life experiences. Miner (1997:127) agrees that “this approach makes intuitive sense, especially when faced by the strong character and interesting lives of real entrepreneurs. Yet, this approach has provided little predictive power and limited insight into the functioning of entrepreneurs.” While it is widely assumed that there is a universal set of attributes common to entrepreneurs, there is no ideal personality type or set of attributes that guarantees success.

C. TYPES OF ENTREPRENEURS

Due to the lack of research relating sets of entrepreneurial characteristics to success, Miner (1997) undertook a longitudinal research study of entrepreneurs extending over a seven year period, applying a battery of tests to a sample of one hundred successful entrepreneurs using an entrepreneurship development program as the delivery vehicle. This study resulted in the development of Miner’s (1997:22-31) typology of entrepreneurs. Miner was able to categorize entrepreneurs into four categories:

1. **The Real Manager Type** – characterized by high supervisory and communication skills, strong need for advancement and self-actualization, positive attitude toward authority, desire to exert power, personal decisiveness, desire to perform routine managerial tasks.
2. **The Expert Idea Generator Type** – innovative, problem-solvers, highly intelligent, risk adverse.
3. **The Empathic Super-salesperson Type** – empathic in cognitive style, forge strategic alliances easily, desire to help others, value social process and have a strong need for harmonious relationships, believe sales force is key to venture strategy.
4. **The Personal Achiever Type** – motivated for self-achievement, concerned with

achieving success more so than failure and thus does not concentrate energy on warding off adversity, much prefer situations in which they themselves can influence and control the outcome, prefer situations involving clear-cut individual responsibility so that if they do succeed, that fact can be attributed to their own effort. This type, which is similar to the Type A Personality, also includes the following characteristics:

- Desire for feedback on achievements
- Desire to plan and set goals for future achievement
- Strong personal initiative
- Strong personal commitment to their venture
- Desire to obtain information and learn
- Internal locus of control
- High value placed on careers in which personal goals, individual accomplishments, and the demands of work itself govern
- Low value placed on careers in which peer groups govern

Miner (1997:33) considers the first three to be more like intrapreneurs, or entrepreneurs that operate successfully within established organizations or in partnership with other entrepreneurs who embody the attributes and skills that they do not have. The fourth category is the one that Miner (1997:33) feels most accurately describes the true entrepreneur. While the characteristics in all types are inherent in the entrepreneurial job, Miner asserts (1997:33) the Personal Achiever type fits the requirements of venture creation more closely, and will be more likely to achieve success.

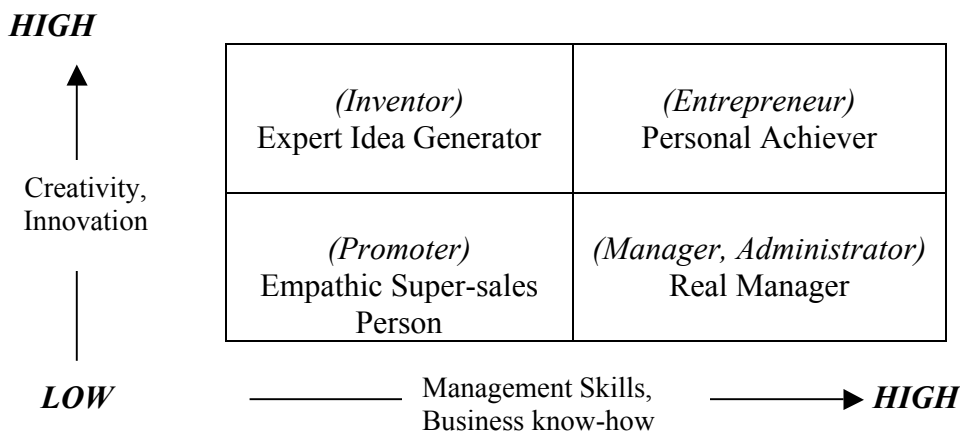
While the results of Miner's (1997) study indicate that all four categories of entrepreneur generate significant results with regards to success, the Personal Achiever reports the strongest evidence of success, followed closely by the Real Manager. As well, results indicate that individuals who fit more than one type, with the exception of Empathic Super-salesperson, will have a greater chance of succeeding than those that fit just one category (Table 3). Clearly the set of characteristics attributed to the Personal Achiever and the Real Manager offer the best possibility for predicting success.

TABLE 3: SUCCESS OF MINER’S FOUR TYPES

Type	Substantial Evidence of Success	More than one type
Personal Achiever	58%	86%
Real Manager	52%	82%
Expert Idea Generator	45%	67%
Empathic Supersalesmen	33%	48%

Interestingly, if you compare the attributes accorded to the Personal Achiever with the characteristics that CEO’s and executives intuitively felt were key for success as an entrepreneur (pg.17), they are very similar. It appears that the results of Miner’s (1997) research are supported by the findings of the study done on successful entrepreneurs. As well, Miner’s (1997) four categories are almost identical to, and interchangeable with, those discovered by Timmons (1989:21) as previously illustrated in Figure I.

FIGURE 2: TYPOLOGY OF AN ENTREPRENEUR



Miner (2001) also contends that certain attributes of all types of entrepreneurs may be fostered, and the Personal Achiever type is very teachable. This contention is supported by numerous top business professionals (Hood and Young, 1993:121) and by the findings

within the McClelland Framework (Miner, 2001). It is clear from Figure 2 above that Timmons (1989) research also supports this finding as management skills and business know-how are learned skills and creativity can be developed. It is also clear after evaluating pertinent literature that many academics and business practitioners concur that a large number of the characteristics deemed imperative to successful entrepreneurship can be taught. If these findings are true, then entrepreneurial skills and characteristics can be cultivated effectively through well designed Entrepreneurship Education programs.

D. COMMENTS ON SKILLS AND CHARACTERISTICS

It is clear that many of the skills and characteristics attributed to successful entrepreneurs are teachable. But, does the development of these skills and characteristics actually affect venture growth? According to Baum, Locke and Smith (2001:300-301), while traits attributed to entrepreneurship may affect the success of a new venture, it is self-efficacy, motivation and well-developed managerial and technical/industry-specific competencies that impact most strongly on venture growth. Interestingly, these skills have been recognized and noted in much of the literature reviewed, the most commonly accepted being reported in this paper. The following is a summary of the skills required for the development of entrepreneurial success:

Business Knowledge and Skills:

- Basic business skills (marketing/sales, finance, accounting, management of work)
- Strategic and analytical thinking
- Technical expertise
- Opportunity identification
- Communications (oral and written)
- Leadership
- Good human and interpersonal relations
- Deal-making/negotiation

- Decision-making
- Goal-setting
- Business planning

Personal Traits/Characteristics:

- Self-motivation and motivation to excel
- Risk-taking/risk-bearing
- Common-sense
- Values
- Competitiveness/aggressiveness
- Persistence/determination
- Responsibility
- Self-confidence
- Emotional independence
- Adaptability
- Desire for feedback on achievements
- Desire to plan and set goals for future achievement
- Strong personal initiative
- Strong personal commitment to the venture
- Desire to obtain information and learn
- Internal locus of control
- High value placed on careers in which personal goals, individual accomplishments, and the demands of work itself govern
- Creativity and innovation

These are the basic business skills and characteristics most often cited as those required by entrepreneurs. Having established that they can be taught or developed, are there methods that are more effective at developing these skills? Thompson and Dass have found that, while basic business skills, communication skills and technical expertise can be taught successfully using traditional university methods (lectures, case studies, supporting textbooks, practical exercises), this is not the case with business skills such as

strategic thinking, business planning, goal-setting and decision making. Along with the personal characteristics listed above, the strategic business management skills are best developed through experiential learning (Thompson and Dass, 2000:37-38).

A study done by Thompson and Dass (2000) suggests that experiential learning through simulations, rather than just lectures and cases, increases student self-efficacy and strategic planning/thinking. According to Bandura (Thompson and Dass, 2000:5), self-efficacy is the belief in one's capabilities to organize and execute the courses of action required to produce given attainments. This definition incorporates many of the characteristics listed as those found in successful entrepreneurs. According to Bandura (Thompson and Dass, 2000:7), there are four sources of self-efficacy, enactive mastery experiences, vicarious experience, verbal persuasion and physiological and affective states. The most influential source of self-efficacy are enactive mastery experiences as "they provide the most authentic evidence of whether one can muster whatever it takes to succeed" (Ibid.). The next most effective source is the vicarious experience. These two methods of developing self-efficacy and strategic business management skills are those that are most often employed by the universities considered as offering the best Entrepreneurship Education programs by Vesper, Gartner, Menzies and Gasse. In the following section, the use of experiential learning and faculty practitioners, as well as guest speakers, will be examined as part of the discussion of models and best practices.

The outcomes of incorporating entrepreneurship educational programs within a university curriculum may address the interests of both parties involved in this project, venture creation and the personal and academic development of the students. According to research done into the effects of developing the foundational business skills, as well as the development of strategic business management skills and the characteristics attributed to successful entrepreneurs, the outcomes include:

- New venture creation (Baum et al, 2001:300-301)
- Venture growth (Ibid.)
- Increased level of motivation (Thompson and Dass, 2000)
- Increased persistence in attacking difficult tasks (Ibid.)

- Stronger work performance (Ibid.)
- Increase in self-regulatory skills such as goal-setting, evaluating alternatives, creating self-incentives (Ibid.)
- Increased self-confidence (Ibid.)

Having noted the major skills and characteristics required by entrepreneurs, and the suggested outcomes of the development of these skills, one final question needs to be addressed. Are there any current educational programs in entrepreneurship that focus on developing these skills and characteristics? A review of textbooks used in entrepreneurship education, some at the university level, suggests that the answer is yes. The following table (Timmons, 1999:221) displays the skills and characteristics, the development of which is a major focus of the text *New Venture Creation: Entrepreneurship for the 21st Century*.

TABLE 4: DESIRABLE AND ACQUIRABLE ATTITUDES AND BEHAVIOURS

Themes	Attitude and/or Behaviour
Commitment and Determination	Tenacity and decisiveness Able to commit/decommit quickly Discipline Persistence in solving problems Willingness to undertake personal sacrifice Total immersion
Leadership	Self-starter High standards (not perfectionist) Team builder and hero maker Inspires others, good people skills Share the wealth with all the people who helped create it Integrity and reliability, builder of trust Practices fairness Not a lone wolf Superior learner and teacher Patience and urgency
Opportunity Obsession	Have intimate knowledge of customer's needs Market driven Obsessed with value creation and enhancement
Tolerance of Risk, Ambiguity, and Uncertainty	Calculated risk taker, risk minimizer, risk sharer Manages paradoxes and contradictions Tolerance of stress, conflict, uncertainty and lack of structure Ability to resolve problems and integrate solutions
Creativity, Self-reliance, and Adaptability	Unconventional, open-minded, lateral thinker Restlessness with status quo Ability to adapt and change, ability to learn quickly Lack of fear of failure Ability to conceptualize and "sweat the details"
Motivation to Excel	Goal and results orientation, sets high but realistic goals Drive to achieve and grow, low need for status and power Interpersonally supporting (vs. competitive) Aware of weaknesses and strengths Has perspective and a sense of humour

While this example is taken from one text, similar exhibits listing the desirable and acquirable characteristics and skills appear in other texts used in entrepreneurship programs. This suggests that the development of the required set of skills and characteristics for successful entrepreneurship are a major focus of current entrepreneurship programs. If this is the case, according to the research, incorporation of entrepreneurship programs within a university curriculum may indeed provide positive outcomes such as those described above.

III. BARRIERS, INFLUENCES AND BEST PRACTICES

This section of the literature review is intended to highlight best practices for the design and development of Entrepreneurship Education within Atlantic Canadian universities. Before the discussion of model design can take place, the components of its development must be addressed. This discussion will begin by addressing the obstacles present under current university curriculum and focus, provided that the current curriculum has not previously incorporated entrepreneurship. Once the problems have been identified, the differences in the foci between the entrepreneurial curriculum and the current curriculum will be detailed. The manner in which the differences in focus affect the process and utilization of learning will also be discussed. In order to develop an Entrepreneurship Education program, certain barriers must be understood and eliminated. An examination of these barriers, both internal and external, will allow for an informed discussion of a full model. Finally, we will present an outline of the methods involved in developing a successful Entrepreneurship Program based on current models of effective university programs as benchmarks. An overview of each model is provided in the Appendices, offered in alphabetical order for ease of reference.

While examining the models offered, it is important to keep in mind a number of potentially limiting issues. Many of the programs presented as models are graduate programs that, in their entirety, are considered successful by experts in the field of entrepreneurship research. As the individual components of each program were not similarly evaluated, it may be that the effectiveness of the programs depend on the interaction between components. Because the majority of Atlantic Canadian universities are undergraduate schools, it is not realistic to consider applying a full graduate program, regardless of its successful outcomes. A program's effectiveness may be diminished or compromised when reduced to individual, applicable components. Another limitation may be access to financial resources. The fees charged for a number of these programs are quite high. The high tuition, coupled with greater access to private sector support,

afford these schools the opportunity to implement some of the initiatives that make them successful, such as the hands-on, for-fee business counseling clinics.

A. PROBLEM STATEMENT

“It is clear from a number of studies in the literature that the preferred career of a considerable number of students and graduates is towards business ownership. However, many students and graduates perceive several obstacles that militate against entrepreneurship, such as lack of experience, or lack of finance, which block the path towards their preferred choice. The problem of this inconsistency may lie in the present business curricula, which have, until recently, focused almost entirely on the needs of aspiring middle and functional managers rather than the needs of aspiring entrepreneurs” (Fleming, 1996:97).

James Fell (1999:5) builds on Fleming (1996) by outlining the differences in focus between the business curriculum and the entrepreneurial curriculum (in bold lettering) in Table 5.

TABLE 5: DIFFERENCE IN FOCUS – TRADITIONAL BUSINESS VS. ENTREPRENEURIAL

Traditional MBA	Enterprise Development MBA
Course based approach , compartmentalized approach	Integrated approach , understanding of the impacts of decision making across business disciplines
Focus on teaching wide variety of business theories	Focus on teaching the more practical and applicable aspects of business administration
Entire course delivered in large bundles of knowledge	First-year curriculum delivered in modules with a phased approach to learning through start-up, growth, and revitalization phases
Focus on memorization of theories for examination and assignment purposes	Focus on integrating knowledge into thought processes for practical use with real clients
Goal is to develop graduates who become corporate middle managers in their area of specialization	Goal is to develop graduates who are less concerned with an area of specialization, ‘but are more motivated to be innovative leaders who have a broader understanding of business administration’

The differences in focus erect obstacles to entrepreneurial students because they affect the type of knowledge and skills the students acquire. “The skills and knowledge necessary to understand issues regarding business entry seem different from the skills and knowledge necessary to understand the operation of an ongoing business entity” (Gartner and Vesper, 1994:182). Gibb (1987:19) outlines the effect of focus on the process and utilization of learning. The focus of a business school teaches critical judgment after analysis of large amounts of information whereas entrepreneurs need to be taught "gut feel" decision making with limited information. (Gibb, 1987)

According to Gibb (1987), entrepreneurs need to be taught to understand the values of those who transmit and filter information rather than to understand and recall the information itself; to recognize the varied goals of others rather than to assume goals away. They need to make decisions on the basis of judgment and of trust and competence of others instead of seeking (impersonally) to verify absolute truth by the study of information. Entrepreneurs must seek to apply and adjust, in practice, to the basic principles of society rather than to understand the basic principles of society in the metaphysical sense. They must develop the most appropriate solution under pressure rather than simply seek the correct answer with time to do it. The most effective style of learning for these skills is experiential, learning while and through doing rather than through lectures (Ibid).

Entrepreneurs must be able to glean and evaluate information personally, from any and everywhere. Fell asserts that, generally, business schools teach one to glean information from experts and authoritative sources, often overlooking the importance of personal and practical experience. Entrepreneurs are evaluated by the judgment of people and events through direct feedback on performance and actual outcomes. University business students are generally evaluated on their ability to explain what they have learned rather than the outcome of practical application or demonstration of the skills they have gained. As well, entrepreneurs find success in learning by solving problems and learning from failure whereas business school students measure success in learning by knowledge-based examinations (Ibid).

B. INFLUENCES

The reasons some have for opposing entrepreneurship are the same reasons others have for embracing it; it is all related to external influences. People who oppose entrepreneurship were not influenced to develop entrepreneurial ideas and ambitions throughout the stages of their lives. Gibb (1987:13) identifies five main stages under which to gain this influence. The stages he identified are childhood, adolescence, early adulthood, middle adulthood and late adulthood.

During the childhood stage, Gibb (1987:13) claims that one way to influence comes in the form of parental and family class mobility. Another influence in this stage is the work situation of the parents and the extended family. The final method of influence in this stage is found in the family values and life goals of the parents and extended family.

During the adolescent stage, Gibb (1987:13) identified five methods of influence. One of those methods is the influence that parents and extended family have on educational choice. Another is the influence that parents and extended family have on vocational preference, which relates to the third method of influence, the choices of vocational education available. The fourth influence depends on education being a provider of values and goals and the final method is dependent on friendship and community attachments.

During the early adulthood stage, there are five methods of influence identified by Gibb (1987:13). One method is the presence or choice of further education and training. Another is the ranking one obtains in their class. The third is the attachment one has to the community and friends. The fourth is accomplished through any residual family influence and the final method is found in the nature of work.

During the middle adulthood stage, Gibb (1987:13) illustrates six methods of external influence. The first method is occupational and class mobility followed by the nature of work, working relationships, one's own family and friendships, reward systems and job satisfaction and finally in interactions with the environment both at work and socially.

During the last stage identified by Gibb (1987:13), late adulthood, external influences present themselves in six methods. The first method is found in the class attained and the income achieved. This is followed by one's family situation, communal attachments, extra work opportunities, job satisfaction and finally through pensions and early retirement facilities.

Jackson and Rodkey (1994:358-360) agree with Gibb's (1987) argument that external influences affect entrepreneurship.

“The presence of entrepreneurial attitudes among a population may be an important indicator of the pool of potential entrepreneurs. Areas with a larger proportion of people who are willing to take financial risks or who think it might be easy to start a successful business may display higher rates of firm creation simply because the region contains more people who are likely to start a business. However, pro-entrepreneurial attitudes are lower among those who live in areas dominated by large organizations” (Ibid).

Gibb (1987) expands on this by outlining the components that generate an Enterprise Culture. There are five components of an Enterprise Culture:

- Positive role images of independent and successful businesses.
- The “opportunity to practice entrepreneurial attributes reinforced by society culture during formative years” (Gibb, 1987:14).
- The availability of knowledge, whether informal or formal, to the process of managing an independent business.
- The business/family contact network that provides market entry opportunities and familiarity.
- Familiarization during youth to the tasks associated with small businesses.

Lipper (1987) agrees with Gibb (1987) that universities should work in conjunction with high schools and colleges to promote entrepreneurship development during the formative stages. Lipper (1987:215-218) argues that rather than introducing analytical and critical thinking at the university level, these skills should be taught immediately to children as

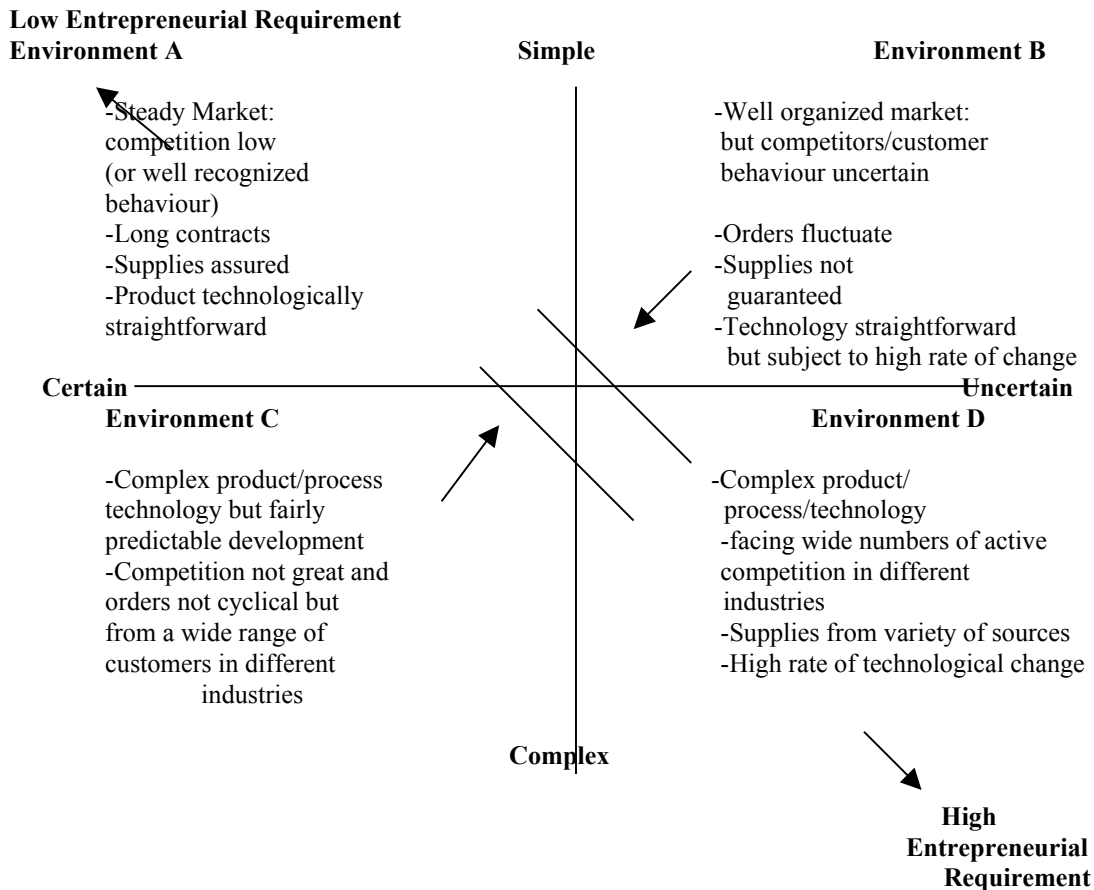
they enter the schooling system. This change would promote innovative thinking and problem solving and by doing so create an atmosphere of entrepreneurial thinking and produce entrepreneurs. This sentiment is reinforced by Hatten and Ruhland (1995:224-227) who suggest that identifying and nurturing potential entrepreneurs throughout the education process could produce more successful entrepreneurs. They did so through the Small Business Institute (SBI) program, which is a co-operative arrangement between colleges and universities, and small businesses.

The overall purpose of the SBI program is to provide students with a hands-on approach through business counseling and direct contact with small business clients. A study was conducted to determine if college students' entrepreneurial characteristics and attitudes such as the need to achieve, innovation, locus of control, and self-esteem changed after participation in a SBI program. Results indicated a significant difference in the students. The study found attitudinal changes in the relationship between students and entrepreneurship. Those who possess an internal locus of control will develop a more positive attitude toward entrepreneurship after they participate in a SBI program than those who possess an external locus of control. Student age was a contributing factor in attitude towards entrepreneurship. The SBI program was more influential towards students in their early 20's producing a positive change in their attitude. Despite these arguments, entrepreneurship education is primarily introduced at the Post-Secondary level.

The introduction of entrepreneurship education at the Post-Secondary level is influenced by the presence of market and environment factors, which in turn determine the nature of entrepreneurial response. Depending on the environment, there may be a low or high entrepreneurial requirement. Entrepreneurial requirement refers to the demand for entrepreneurial people and thinking that is generated depending on their environment. When there is a low entrepreneurial requirement, the choice of whether to incorporate entrepreneurial educational models arises. Conversely, if there is a high requirement such a program becomes a necessity.

Gibb (1987:9) details four environments that influence the nature of entrepreneurial response in Figure 3. Environment A has a low, certain entrepreneurial requirement. In this environment there is a steady market, meaning that competition is low (or well recognized behaviour), there are long contracts, supplies are assured and products are technologically straightforward. Environment B has a low, uncertain entrepreneurial requirement. In this environment there is a well-organized market but competitor/customer behaviour is uncertain coupled with fluctuating orders, non-guaranteed supplies and technology that is subject to a high rate of change. Environment C has a high, certain entrepreneurial requirement. In this environment there is complex product/process technology but fairly practical development coupled with average competition and non-cyclical orders that come from a wide range of customers in different industries. Finally, Environment D has a high, uncertain entrepreneurial requirement. In this environment there is complex product/process/technology coupled with facing wide numbers of active competitors in different industries, getting supplies from a variety of sources and having a high rate of technological change (Ibid).

FIGURE 3: MARKET AND ENVIRONMENT FACTORS INFLUENCING NATURE OF ENTREPRENEURIAL RESPONSE



(Gibb, 1987:9)

While there are some steady markets, generally the markets in Atlantic Canada exist as outlined in Environment B. The markets are generally well organized with uncertain competitor and customer behaviour. Orders commonly fluctuate, supplies are often not guaranteed and technology is, in general, straightforward but subject to a high rate of change. Generally, the market and environmental factors present in Atlantic Canada are also similar to those outlined in Environment D. There are complex products, processes and technologies that face intense and vast competition, and supplies often come from many sources. A combination of Environment B and Environment D suggests a high entrepreneurial requirement in the Atlantic Canadian region.

C. COMMENTS ON INFLUENCES

It appears, from the literature reviewed, that there is a high entrepreneurship requirement in the Atlantic Canadian region. As the discussion of models in the next section reveals, there has already been some work done in the area. For this work to continue and be expanded, educators must examine the factors that influence the development of entrepreneurship in individuals, as outlined in this section. If educators are to disregard the factors influencing entrepreneurship then it “suggests a possible impediment to the socialization and training of potential entrepreneurs and future workers in riskier, new firms” (Jackson and Rodkey, 1995: 365).

Research done by Lipper (1987), Hatten and Ruhland (1995), and Gibb (1987) suggests that the degree to which the university examines external and internal influences directly affects the degree of successful incorporation that an Entrepreneurship Program will achieve. Clearly, evaluating internal and external factors is crucial to developing a successful entrepreneurship program. Vesper and Gartner (1997:405-407) assert that it is equally important to evaluate the level of entrepreneurship programs used to respond to the entrepreneurial requirement. They offer benchmarks for evaluation of programs using four major criteria: (1) qualifications of faculty, (2) the variety and depth of the entrepreneurship curriculum, (3) academic standards and student scores, and (4) the quality and depth of resources (Ibid). In attempting to select a model that fits the entrepreneurial requirement at a specific university, should it be deemed unreasonable or unrealistic to incorporate an entire program, these criteria may be equally effective in evaluating and selecting the optimum components for a unique entrepreneurship program.

CONCLUSION

“An entrepreneurial event is a conceptualization and implementation of a new concept, idea, process, product, service or venture. An entrepreneurial agent is an individual or group who assumes personal responsibility for bringing that event to fruition” (Morris and Jones, 1999:73).

Acting as an entrepreneurial agent, this research team has completed the first step in bringing to fruition an entrepreneurial event, the conceptualization and implementation of Entrepreneurship Education in Atlantic Canadian universities. The review and synopsis of academic research and literature pertaining to the following issues has been completed:

- the definition of an entrepreneur
- the skills and characteristics/traits attributed to entrepreneurs
- internal and external influences that may affect the implementation and success of Entrepreneurship Education programs at the university level
- models of Entrepreneurship Education

I. DEFINITION

According to Theresa Menzies and Yvon Gasse (1999:4) “the debate around the term entrepreneurship is well documented and can be considered as exciting as the spirit of entrepreneurship itself.” The numerous and varied definitions recorded in the synopsis attest to the validity of her statement. Unfortunately, while Menzies and Gasse (1999:4) suggest that diversity in definition is common at the formative stages in any discipline, we do not have the luxury of time to work this problem out. In order to move from initiation to the design and developmental stage of this project, our ideas must become more structured (Russell, 1999:71). Bearing this in mind, it is necessary that a clear and inclusive definition of entrepreneurship be determined for the purposes of this study.

The working definition¹ upon which this project was initiated encompasses many of the facets included in a variety of the generic definitions of entrepreneurship. However, the research suggests that there is resistance to incorporating entrepreneurship programs by university faculty. Bill Graham, president of the University of Toronto Faculty Association, voices the views of many of his peers. “Government and business want us all to be entrepreneurs, but the job of an entrepreneur is to develop and sell a product, not to pursue the truth. Turning scholars into entrepreneurs undercuts the very idea of post-secondary education” (Desruisseaux, 1999:60). To respond to this concern, we recommend that the definition include some reference to Reid’s (2000:8) assertion that the development of social entrepreneurs would do much to improve the current state of health care, education, and social assistance systems.

Reid’s idea of a social entrepreneur is an individual with imagination, drive, flexibility and armed with the required skills who is willing to take risks that aren’t necessarily market-driven (2000:8). Emerson and Twersky (1996:2) expand on this idea by stating that “social entrepreneurs have their roots in the history of community service and development. This history of commitment to social justice and economic empowerment is what feeds their passion for the creation of social purpose business ventures.” By incorporating these aspects of entrepreneurship into the definition proposed for this project, resistance to incorporating Entrepreneurship Education may be softened.

II. CHARACTERISTICS AND SKILLS

“By defining the entrepreneur in terms of a set of attributes and the small business in terms of a set of tasks, it has been possible to explore the relationship between the two and to clarify their interdependency while at the same time distinguishing between the two” (Gibb, 1987:35).

Stevenson and Grumpert state that we should discard the notion that entrepreneurship is an all or nothing trait that some people possess and others do not (Solomon and Winslow,

¹ Working definition: The combination of skills, aptitude and attitude within individuals resulting in new ideas, innovations, and new ventures.

1988:165). Support for this contention is evident in the diverse categorization of different types of entrepreneurs according to the unique traits they exhibit. While there is disagreement among academics and practitioners regarding the traits embodied by entrepreneurs, evidence is mounting that certain traits in combination may increase the expectation of entrepreneurial success.

Many of these traits are those included in Miner's (1997:22-31) Personal Achiever type:

- Self-motivated - Type A Personality
- Strong personal initiative
- Internal locus of control
- Strong personal commitment to their venture
- Strong sense of responsibility and accountability
- Achievement-oriented
- Desire for feedback on achievements
- Desire to plan and set goals for future achievement
- Desire to obtain information and learn
- High value placed on careers in which personal goals , individual accomplishments, and the demands of work itself govern

Add to these characteristics, risk-taking, common sense and strong personal values and you have the ingredients for a successful entrepreneur. It is the experience of researchers and successful entrepreneurs alike, that many of these traits are very teachable, and others can be developed through experiential learning (Miner, 2001; Hood and Young, 1993:131). If these traits can be taught and fostered through the implementation of Entrepreneurship Education, the resulting increase in personal motivation and initiative, coupled with increased commitment to goals may have a positive side effect for university faculty. Entrepreneurial thinkers may indeed become more effective and diligent students.

If those academics are correct, who suggest that entrepreneurial characteristics are inherent and learned, then the development of Entrepreneurship Educational programs

will still be of value to individuals who have high levels of creativity and innovation but very limited knowledge of, and skills in, business and venture creation (Timmons, 1989:21). Without strong business and management skills and a solid understanding of venture creation, a budding entrepreneur will likely remain unable to convert his/her creative ideas into successful ventures. Rather than become a successful entrepreneur, according to Timmons (1989:21), he or she will likely remain an inventor or a promoter.

Reid states (2000:8) the health, education and social welfare systems are facing major problems, with funding restraints being one of the main issues. This requires a major shift in thinking for non-profit organizations, especially those who have depended mainly on government funding. Unfortunately, the skill set of most non-profit managers is not immediately equal to the task of operating a [profitable] enterprise (Emerson and Twersky, 1996:334). While many are able to identify opportunities for their clients and for their organization to evolve, they often do not look beyond grant dollars and charitable donations to support their initiatives (Ibid). This mind-set may limit the possibilities for successful delivery of programs for many non-profit enterprises.

Health service is one area where support for developing entrepreneurship skills in an educational setting is making a difference. For example, in the nursing profession, many nurses are stepping beyond the boundaries of traditional practice (Simpson, 1997:24). The Capstone School of Nursing, University of Alabama supports this move into entrepreneurship and/or intrapreneurship by offering hands-on training in developing and operating nurse-run clinics within the nursing school and local hospitals (Simpson, 1997:25). This type of initiative may be equally effective for medical students, dental students, psychology and psychiatry students in order to prepare them for entering private practice more smoothly and effectively.

Students across varied disciplines can benefit from education in entrepreneurship. While some individuals are more entrepreneurially inclined than others, all can benefit from education in entrepreneurship. For example, many students of sociology find themselves drawn to social service and work with non-profit agencies. Offering courses in

entrepreneurship specifically designed to develop the skills and characteristics required to “identify a need, envision an effective response to that need and formulate and execute a plan to meet that need (Simpson, 1997:24)” may benefit the students and increase the potential for success of the enterprises/agencies they develop or with which they are involved (Timmons, 1989; Hood and Young, 1993:131). A longitudinal study undertaken by Fleming (1996:116) indicated that creating awareness of the entrepreneurship process, coupled with the transference of knowledge about business formation during higher education, can indeed stimulate entrepreneurial traits among students.

III. BARRIERS, INFLUENCES AND BEST PRACTICES

“We cannot escape from the fact that you do not service people out of poverty. At its core, the ability to exit poverty is a question of employment, asset accumulation, and wealth creation. The time has come for broader endorsement of new paradigms for and approaches to our communities’ efforts at economic development, job creation and access to markets” (Emerson and Twersky, 1996:3).

A recent report on entrepreneurship in Canadian universities suggests that entrepreneurship is widely viewed as being a positive phenomenon (Menzies and Gasse, 1999:6). This assertion eases the concerns raised by the literature reviewed regarding issues of internal and external influences and university culture. Clearly, there are a number of barriers to implementing Entrepreneurship Education in a university culture. While many barriers were highlighted in the synopsis, one of the key factors is faculty resistance.

Many Canadian professors do not trust the move towards entrepreneurializing universities. They have already witnessed an increase in the power of business on campuses due to a trend to link more government research to the needs of industry. “Faculty leaders say that many scholars are being forced to forsake basic research for applied research and to abandon scholarship for entrepreneurship. (They contend that) such developments threaten the academic freedom of scholars as well as the integrity of universities” (Desruisseaux, 1999:59).

While there are those who find it distasteful, the increasing presence of business interests on campus is becoming a reality for universities throughout the world. Certainly, there is need for caution when allowing this presence, but the changing nature of educational services and the limited availability of funding, especially in Canadian universities, is making it necessary to seek corporate support and sponsorship for many university programs. This pressure to access funding from the business sector is exacerbated by the strong worldwide competition for students. Demographics have changed and student populations are dropping. These changes are creating conditions of turbulence for universities, some of which are struggling to continue to offer their programs. While there is a growing body of evidence that, under these conditions, embracing an entrepreneurial orientation can affect organizational performance in a positive manner (Emerson and Twersky, 1996:337), many faculty members and universities resent the encroachment on their autonomy.

One of the key factors in gaining acceptance for the implementation of Entrepreneurship Education is taking the WIIFM approach to deans and faculty of the universities: “What’s In It For Me?” Bill Graham, the president of the University of Toronto Faculty Association, does not believe that developing entrepreneurs is the goal of university education, yet he does acknowledge that, “given the decreases in government financing for universities, the institutions need private support” (Desruiseaux, 1999:61). While many professors resent the fact that this may require the inclusion of Entrepreneurship Education and applied research in university programs, Graham feels it can be made more acceptable to faculty. He contends that ensuring openness, transparency and accountability are built in to these new initiatives to ensure academic integrity is maintained will aid in gaining support for them.

The academic integrity of the entrepreneurship program at the **Swinburne University of Technology** in Australia is attested to, in part, by the fact that approximately 10% of the graduates from the Master’s program have carried on with their education and enrolled in PhD programs (McMullan and Gillan, 1998:9). While this offers some assurance that

academic integrity can be maintained within entrepreneurship programs, there is still the issue of the integrity of the field. “Entrepreneurship and ethics seem to be at odds. How can entrepreneurs, seeking to aggressively participate in an economic enterprise, be expected to study moral philosophy and spend time thinking about their collective ethics” (Fain, 1987:76)? Entrepreneurship has been practiced for centuries and yet there has been no code of ethics developed to guide its practitioners (Ibid). Including the study of ethics in entrepreneurship will demand of students the intellectual requirement to think, reflect, and behave in a manner which adds dignity to life (Fain, 1987:77).

While some university and faculty members are resisting the move towards embracing entrepreneurship education, students are demanding it. “The strong demand by businesses for students with an entrepreneurship educational background, and the considerable interest of business and non-business students in the study of entrepreneurship cannot be ignored” (Dunn and Short, 2001:8). Almost 70% of high school students express an interest in venture creation (Gallup, 1994) and over 96% of entrepreneurs/managers and students believe that the study of entrepreneurship at the university level would be advantageous.

As stated above, this interest is not limited to business students, nor are they the only students who would benefit from Entrepreneurship Education. Increased interest in entrepreneurship crosses many disciplines. Engineering students, physical education students, students of medicine/nursing and fine arts students can also benefit from entrepreneurial training. Many dancers find themselves graduating from their programs with limited opportunities to pursue. “Many will have to become entrepreneurs. They will have to apply their training in creative ways, make new connections outside the dance community, and organize professional opportunities by themselves” (Minton, 1987: 74). As the career paths and business ventures that arise from different educational disciplines are numerous and varied, it may be necessary to design programs or select courses that are specific to that discipline. This involves in-depth examination of entrepreneurial courses and programs relevant to the field of study, especially those that have proven to be successful.

One measure of success for educational programs is the application of the knowledge gained to endeavours undertaken by graduates. Entrepreneurship programs are no different. In this area, rather than counting the number of lawyers, doctors, sociologists, writers, or PhD candidates that have been graduates, one measure of success is the rate of venture creation entered into by graduates. Two universities offering Entrepreneurship Education have been studied and measured in this way.

“In 1993, the **University of Calgary** converted their traditional MBA program to an MBA in Enterprise Development. Prior to that time, the university had been offering courses in entrepreneurship as part of their Masters Program. Venturing rates (i.e., the rate of graduates who started businesses) in the traditional program were 14 percent, approximately the same as the Canadian population at large. Following the implementation of the complete program, this rose to 38 percent (McMullan & Gough, 1999). A similar phenomenon was recorded subsequent to a new program launched at **Swinburne University of Technology**, Melbourne, Australia, where 87 percent of graduates engaged in entrepreneurial activity”
(Leach and Mortley, 2000:9).

Universities that take a proactive approach and incorporate appropriate entrepreneurship courses into their programming to fill the expressed demand/need (Dunn and Short, 2001:8; Gallup, 1994) may benefit through increased enrolment. This was the case at **Swinburne University of Technology** and the **University of Calgary**. The number of graduates from the Swinburne program has increased from an average of 18 per year between 1998 to 1992 to an average of 32 per year from 1993 to 1998 (McMullan and Gillan, 1998:10). According to the admissions department, since the inception of the MBA program at the University of Calgary in 1987, the majority of students applying from outside the local area were interested in Entrepreneurship Education (McMullan and Gough, 1999:7). Since the inception of the MBA in Entrepreneurship in 1993, the enrolment in their program doubled from 34 to 68 in 1997 (McMullan and Gough, 1999:15). This doubling in enrolment occurred even without the \$300,000 in financial assistance offered to MBA students until 1993. Furthermore, an unpublished study of three Canadian and four European MBA programs found that 33% of students surveyed

would have preferred a concentration in entrepreneurship, some stating that they would cross continents for such an education (McMullan and Gough, 1999:7).

The increase in student interest, the wider markets from which to draw them, and the documented increase in enrolment at the **University of Calgary**, may encourage university administration to move toward incorporating entrepreneurship courses and programs. These same issues may have little effect on faculty resistance, as it lies more in the area of academic integrity. Overcoming this resistance may take a focused and concentrated effort throughout the life of this project. According to Menzies and Gasse (1999:24), without the support of the academic department and faculty, or at least a champion for Entrepreneurship Education, it will be difficult to develop a solid and well supported program. Once the support and commitment of university administration and faculty is garnered, the selection of a model suited to the Atlantic Canadian region can begin in earnest.

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APPENDICES

APPENDIX 1: ATLANTIC CANADIAN UNIVERSITIES CONTACTED FOR CALENDARS

- 1) Acadia University
- 2) Atlantic Baptist University
- 3) Atlantic School of Theology
- 4) Dalhousie University
- 5) Memorial University of Newfoundland
- 6) Mount Allison University
- 7) Mount Saint Vincent University
- 8) Nova Scotia Agricultural College
- 9) Nova Scotia College of Art and Design
- 10) Saint Francis Xavier University
- 11) Saint Mary's University
- 12) Saint Thomas University
- 13) Université de Moncton
- 14) Université Sainte-Anne
- 15) University College of Cape Breton
- 16) University of King's College
- 17) University of New Brunswick-Fredericton
- 18) University of New Brunswick-Saint John
- 19) University of Prince Edward Island

APPENDIX 2: UNIVERSITIES EXAMINED IN REGARDS TO MODEL DEVELOPMENT

1. Acadia University in Wolfville, Nova Scotia, Canada
2. Atlantic Baptist University in Moncton, New Brunswick, Canada
3. Atlantic School of Theology in Halifax, Nova Scotia, Canada
4. Babson College in Boston, Massachusetts, United States
5. Chalmers School of Entrepreneurship in Goteborg, Sweden
6. Chalmers University of Technology in Goteborg, Sweden
7. Cranfield University in Bedford, England United Kingdom
8. Dalhousie University in Halifax, Nova Scotia, Canada
9. Goteborg University in Goteborg, Sweden
10. Harvard University in Cambridge, Massachusetts, United States
11. Hokudai University in Kita-ku, Sapporo, Japan
12. IMH Business School in Sweden
13. INSEAD, European Campus in France and Asian Campus in Singapore
14. Kobe University in Nada, Kobe, Japan
15. Kyushu University in Higashiku, Fukuoka, Japan
16. Linkoping University in Linkoping, Sweden
17. Lulea University of Technology in Lulea, Sweden
18. Lund University in Lund, Sweden
19. McGill University in Montreal, Quebec, Canada
20. Memorial University of Newfoundland in St. John's Newfoundland, Canada
21. Mid Sweden University in Sweden
22. Mount Allison University in Sackville, New Brunswick, Canada
23. Mount Saint Vincent University in Halifax, Nova Scotia, Canada
24. Nova Scotia Agricultural College in Truro, Nova Scotia, Canada
25. Nova Scotia College of Art and Design in Halifax, Nova Scotia, Canada
26. Saint Francis Xavier University in Antigonish, Nova Scotia, Canada
27. Saint Mary's University in Halifax, Nova Scotia, Canada
28. Saint Thomas University in Fredericton, New Brunswick, Canada
29. Stirling University in Stirling, Scotland, United Kingdom
30. Stockholm University in Stockholm, Sweden
31. Swinburne University of Technology, Melbourne, Australia
32. The London School of Business in London, England, United Kingdom
33. The University College of Cape Breton in Sydney, Nova Scotia
34. The University of Tsukuba in Tsukuba City, Ibraki Prefecture, Japan
35. Tohoku University in Sendai, Miyagi Perfecture, Japan
36. Tuft's University in Medford, Massachusetts, United States
37. Université de Moncton in Moncton, New Brunswick, Canada
38. Université Sainte-Anne in Church Point, Nova Scotia, Canada
39. University of Alberta in Edmonton, Alberta, Canada
40. University of Calgary in Calgary, Alberta, Canada
41. University of Durham, Durham, United Kingdom
42. University of King's College in Halifax, Nova Scotia, Canada
43. University of Louisiana at Monroe in Monroe, Louisiana , United States
44. University of New Brunswick-Fredericton in Fredericton, New Brunswick, Canada

45. University of New Brunswick-Saint John in Saint John, New Brunswick, Canada
46. University of Prince Edward Island in Charlottetown, Prince Edward Island, Canada
47. University of Skovde in Skovde, Sweden
48. University of Southern California in Los Angeles, California, United States
49. University of St. Louis in St. Louis, Missouri, United States
50. University of Victoria in Victoria British Columbia, Canada
51. University of Washington in Seattle, Washington, United States
52. University of Waterloo in Waterloo, Ontario, Canada
53. University of Umea in Umea, Sweden
54. Uppsala University in Uppsala, Sweden
55. Vaxjo University in Vaxjo, Sweden
56. Waseda University in Tokyo, Japan
57. Wharton School of Business in Pennsylvania, United States
58. Wilfrid Laurier University in Waterloo, Ontario, Canada

APPENDIX 3: DEFINITIONS OF ENTREPRENEURSHIP

A Redefinition of Terms (Gibb, 1987:11)

Enterprise Attributes- Defined as a set of attributes such as initiative, strong persuasive powers, moderate rather than high risk-taking ability, flexibility, creativity, independence/autonomy, problem-solving ability, need for achievement, imagination, high belief in control of one's own destiny, leadership and hard work.

Enterprise-The exercise of enterprising attributed in any task or environmental context.

Entrepreneur-Someone who demonstrates a marked use of enterprising attributes (in a particular task and environmental context-more commonly in commerce or business)

Small Business- Defined as the owner-managed independent business of size arbitrarily defined (relatively) as small in relation to the structure of the industry sector in which it operates and with respect also to the size structure of business as a whole.

Entrepreneurial-An adjective used to describe the marked use of enterprising behaviour in a particular context, usually commercial or administrative.

Enterprise Culture-A set of values, attitudes and beliefs supporting the exercise in the community of independent entrepreneurial behaviours in a business context.

“By defining the entrepreneur in terms of a set of attributes and the small business in terms of a set of tasks, it has been possible to explore the relationship between the two and to clarify their interdependency” while at the same time distinguishing between the two (Gibb, 1987:35).

Academic entrepreneurship is defined as the attempt to increase individual or institutional profit, influence, or prestige through the development and marketing of research ideas or research-based products (Louis et al, 1989:110).

“The recognition that a idea has potential as an innovative opportunity is a necessary precondition to the initiation of the innovative process” (Russell, 1999:72).

Entrepreneurs are risk takers that “work best in areas where rules governing their behavior are not highly regularized” (Fain, 1987:76).

An entrepreneurial event is a conceptualization and implementation of a new concept, idea, process, product, service or venture. An entrepreneurial agent is an individual or group who assumes personal responsibility for bringing the even to fruition (Morris and Jones, 1999:73).

“Some writers have identified entrepreneurship with the function of uncertainty – bearing, others with the coordination of productive resources, others with the introduction of innovations, and still others with the provision of capital. In addition, all definitions are retrospective in nature: A person is defined as an entrepreneur because of something done, rather than something they are capable of doing” (King, 1985:399).

“Entrepreneurship is a particular form of innovation. It is the successful implementation of creative ideas to produce a new business, or a new initiative within an existing business” (Amabile, 1997:18).

“Anyone starting an organization or working within the confines of an organization who pursues opportunities without regard to resources currently controlled”(Brazeal and Herbert, 1999:6)

“Someone that recognizes an opportunity, acts on it by creating an organization, and, in the process, risks a significant amount of personal wealth”(Bygrave and Minniti, 2000:27)

“An individual who establishes and manages a business for the principal purposes of profit and growth. Entrepreneurs are characterized principally by innovative behavior and employ strategic management practices in the business” (Hatten and Ruhland, 1995:224).

“A true entrepreneur feels little guilt, is bold, can be ruthless, but can also communicate well and work as a team member when necessary”(Johnston, 1987:16).

“One who creates the opportunity for earning profit by seeking to solve recognized problems” (Lipper, 1987:214).

“Entrepreneurs apply their training in creative ways, make new connections through networking, and organize professional opportunities for themselves” (Minton, 1987:74).

“The term entrepreneurship has historically referred to the efforts of an individual who takes on the odds in translating a vision into a successful business enterprise” (Morris and Jones, 1999:73).

“Entrepreneurship has been conceptualized as a process that can occur in organizations of all sizes and types. It refers to the process of creating value by bringing together a unique combination of resources to exploit an opportunity” (Morris and Jones, 1999:73).

“An entrepreneur sees a need and then brings together the manpower, materials, and capital required to meet that need” (Sheffield, 1987:64).

“An entrepreneur is a person who seeks out new opportunities and combines the factors of production to exploit them” (Sheffield, 1987:65).

“Intrapreneurs act in an innovative and autonomous manner within organizations” (Sheffield, 1987:65).

“Entrepreneurship is a well thought – out shift of resources from an area of low productivity to a new area of higher productivity and yield” (Sheffield, 1988:35).

“One who starts and is successful in a venture and / or project that leads to profit (monetary or personal) or benefits society” (Solomon and Winslow, 1988:164).

“Essentially, an entrepreneur is an innovative person who creates something different with value [added] by devoting time and effort, assuming the...financial, psychological and social risks...in an action – oriented perspective...and receiving the resulting rewards [and punishments] of monetary and personal satisfaction” (Solomon and Winslow, 1988:165).

“Entrepreneurship is creating and building something of value from practically nothing. That is, entrepreneurship is the process of creating or seizing an opportunity and pursuing it regardless of resources presently controlled” (Timmons, 1999:7).

“One who organizes, manages, and assumes the risks of a business or enterprise” (King, 1985:399).

“A man who has created out of nothing an ongoing enterprise” (King, 1985:399).

“Someone who exercises some control over the means of production and produces more than he can consume in order to sell (or exchange) it for individual (or household) income” (King, 1985:399).

A nurse entrepreneur is defined as, “someone who identifies a patient need and envisions how nursing can respond to that need in an effective way, and then formulates and executes a plan to meet that need...It’s looking for opportunities and really seizing the moment” (Simpson, 1997:24).

A working definition of an entrepreneurial university is, “an institution focused on nontraditional students (predominantly adult, part – time) that emphasizes the delivery of instructional services (as opposed to research or community outreach activities) in alternative formats (time, place, or technology) at multiple locations (including across state lines and national borders). The leadership style within this type of institution would emphasize aggressive yet planned growth and expansion, openness to a wide range of partnerships and collaborative agreements, and the leasing of key resources (including faculty and facilities) to minimize administrative overhead and maximize future flexibility. The essence of entrepreneurship, then, seems to be a willingness to move out of traditional delivery structures – campuses and classrooms – and to seek new audiences and serve new constituencies through collaborations” (Neal, 1998:72).

“Entrepreneurship is defined as self-employment of any sort. Entrepreneurs buy at certain prices in the present and sell at uncertain prices in the future. The entrepreneur is a bearer of uncertainty” (Richard Cantillon, circa 1730

http://westaction.org/definitions/def_entrepreneurship_1.html).

“The entrepreneur is the agent who unites all means of production and who finds in the value of the products...the re – establishment of the entire capital he employs, and the value of the wages, the interest, and rent which he pays, as well as profits belonging to himself” (Jean Baptiste Say, 1816

http://westaction.org/definitions/def_entrepreneurship_1.html).

“The entrepreneur is the innovator who implements change within markets through the carrying out of new combinations. The carrying out of new combinations can take several forms; 1) the introduction of a new good or quality thereof, 2) the introduction of a new method of production, 3) the opening of a new market, 4) the conquest of a new source of supply of new materials or parts, 5) the carrying out of the new organization of any industry” (Joseph Schumpeter, 1934

http://westaction.org/definitions/def_entrepreneurship_1.html).

“Entrepreneurial activity involves identifying opportunities within the economic system. Managerial capacities are different from entrepreneurial capacities” (Penrose, 1963

http://westaction.org/definitions/def_entrepreneurship_1.html).

“The entrepreneur fills market deficiencies through input – completing activities. Entrepreneurship involves activities necessary to create or carry on an enterprise where not all markets are well established or clearly defined and/or in which relevant parts of the production function are not completely known”

(Harvey Leibenstein, 1968; 1979

http://westaction.org/definitions/def_entrepreneurship_1.html).

“The entrepreneur recognizes and acts upon market opportunities. The entrepreneur is essentially an arbitrageur. The entrepreneur moves the market toward equilibrium”

(Israel Kirzner, 1979 http://westaction.org/definitions/def_entrepreneurship_1.html).

“The creation of new organizations” (Gartner, 1988

http://westaction.org/definitions/def_entrepreneurship_1.html).

"Entrepreneurship is the process of identifying, developing, and bringing a vision to life. The vision may be an innovative idea, an opportunity, or simply a better way to do something. The end result of this process is the creation of a new venture, formed under conditions of risk and considerable uncertainty” (The Entrepreneurship Centre at Miami University of Ohio http://westaction.org/definitions/def_entrepreneurship_1.html).

“Entrepreneurs explore opportunities and create organizations to make opportunities into realities. The best entrepreneurs invent new ways to live, work, and achieve. Successful entrepreneurship blends independence and collaboration, vision and action, the individual and the organization” (Saint Louis University, 2001<http://www.eweb.slu.edu/Default.htm>).

“We define entrepreneurship as the pursuit of opportunity beyond the tangible resources currently controlled” (Harvard Business School, 2000).
<http://www.entrepreneurship.hbs.edu/>).

“Entrepreneurship is a multi-faceted concept and has evolved to include: self employment, small business, new ventures from scratch, new ventures within an organization, entrepreneurial management, an enterprising attitude (Self knowledge and leadership skills), social entrepreneurship (not for profit) and so on (Menzies, 1999,4).

“Education involves challenging the conventional way of doing things. So does entrepreneurship. Our society has plenty of problems that can’t be solved by the marketplace. Health, education, and social assistance are in disarray, and their improvement requires thinkers. In a sense, these thinkers could be considered social entrepreneurs, people with imagination, drive and flexibility who are willing to take risks that aren’t necessarily market-driven” (Reid, 2000:8).

“A non-profit manager with a background in social work, community development, or business, who pursues a vision of economic empowerment through the creation of social purpose business intended to provide expanded opportunity for those on the margins of the economic mainstream” (Emerson and Twersky,1996:i).

APPENDIX 4: THE FIVE FACTOR MODEL

Many researchers have used the “Five Factor” model to attempt to categorize entrepreneurs. “Throughout the 1980’s and continuing through the present, a plethora of personality researchers have established the five-factor model as the basic paradigm for personality research” (Howard and Howard, 2000:4-10). This model encompasses the traits which experts in the field of Psychology believe best exemplify the human personality. The following are the “Big Five” foundational factors:

- Neuroticism (Negative Personality)
- Extroversion/Introversion
- Agreeableness
- Conscientiousness
- Openness

This model can be used as a sort of funnel. The mouth of the funnel is represented by the five main traits that experts consider foundational to the study of human personality. Many individual characteristics are not captured at this level and therefore categorization is weak. When the subsets, the minor characteristics within each of the five factors, are included they act as filters. This further refines categorization and individual characteristics can be segregated into the factor(s) which represent their unique traits. In this manner, an attempt was made to indicate where the characteristics of entrepreneurs fit in the “Five Factor” model, or if they warranted a specific category of their own. In order to accomplish this, Howard and Howard’s model (2000:4-10) was amended by highlighting the characteristics attributed to entrepreneurs in bold letters. The result of this funneling process is illustrated in Table 6.

TABLE 6: FIVE FACTOR MODEL

Negative Emotionality Factor		
Six Facets of Negative Emotionality	Resilient N-	Reactive N+
Worry	Relaxed; Calm	Worrying; uneasy
Anger	Composed; Slow to anger	Quick to feel anger
Discouragement	Slowly discouraged	Easily discouraged
self-consciousness	Hard to embarrass	More easily embarrassed
Impulsiveness	Resists urges easily	Easily Tempted
Vulnerability	Handles stress easily	Difficulty coping

The Extroversion Factor

Six Facets of Extraversion	Introvert E-	Extrovert E+
Warmth	Reserved; formal	Affectionate; friendly , Intimate
Gregarious	Seldom seeks company	Gregarious, prefers company
Assertiveness	Stays in background	Assertive; speaks up; leads
Activity	Leisurely Pace	Vigorous pace
Positive emotions	Less exuberant	Cheerful; optimistic
Excitement-Seeking	Low need for thrills	Craves excitement

The Openness Factor

Six facets of openness	Preserver O--	Explorer O+
Fantasy	Focuses on here and now	Imaginative daydreams
Aesthetics	Uninterested in art	Appreciates art and beauty
Feelings	Ignores and discounts feelings	Values all emotions
Actions	Prefers the familiar	Prefers variety; tries new things
Ideas	Narrower intellectual focus	Broad intellectual curiosity
Values	Dogmatic; conservative	Open to re-examining values

The Agreeableness Factor

Six facets of Agreeableness	Challenger A-	Adapter A+
Trust	Cynical; skeptical	See others as honest and well-intentioned
Straightforwardness	Guarded; sketches truth	Straightforward, frank
Altruism	Reluctant to get involved	Willing to help others
Compliance	Aggressive; competitive	Yields under conflict; defers
Modesty	Feels superior to others	Self-effacing; Humble
Tender-Mindedness	Hardheaded; rational	Tender-minded; easily motivated

The Conscientiousness Factor

Six Facets of Conscientiousness	Flexible C-	Focused C+
Competence	Often feels unprepared	Feels capable and effective
Order	Unorganized; methodical	Well-organized; neat; tidy
Dutifulness	Casual about obligations	Governed by conscience; reliable
Achievement striving	Low need for achievement	Driven to achieve success
Self-discipline	Procrastinates; distracted	Focused on completing tasks
Deliberation	Spontaneous; hasty	Thinks carefully before acting

(Adapted from Howard and Howard, 2000:4-10)

An evaluation of Table 6 and the dispersal of the characteristics attributed to entrepreneurs suggest that entrepreneurs do not merit a category of their own. The characteristics determined to be common to successful entrepreneurs span four of the five factors. While no concrete conclusions can be drawn, it appears that entrepreneurs are generally extroverts who are open and conscientious; focused, adaptable explorers who may also be agreeable. The personality factor that entrepreneurs do not appear to fit at all is negative emotionality. As there has been limited research into the Five Factor Model and its relation to the characteristics of entrepreneurs, this may be an area worthy of further research.

APPENDIX 5: EXPLANATION OF ACRONYMS USED

ABI	American Business Institute
ACEI	Australian Centre for Entrepreneurship and Innovation
ACOA	Atlantic Canadian Opportunities Agency
CEED	Centre for Entrepreneurship Education and Development
CATA	Canadian Advanced Technology Alliance
EBSCO	Elton B. Stevens Company
ERP	Enterprise Resource Planning
ESP	Entrepreneurial Skills Program
EVCA	European Venture Capital Association
EVMA	The European Venture Management Association
FEM	Foundation for Entrepreneurial Management
IMC	Intermediate Management Core
LEAD Award	Leadership and Excellence in Academic Development
LEO	Department of Leadership, Entrepreneurship, and Organization
MEI	Master of Entrepreneurship and Innovation
MTE	Minor in Technological Entrepreneurship
PEI Club	The Program in Entrepreneurship and Innovation
SBI	Small Business Institute
SIRE	Scandinavian Institute for Research in Entrepreneurship
USASBE	United States Association for Small Business and Entrepreneurship
WIIFM	What's In It For Me



Entrepreneurship in University
Environments

L'Environnement universitaire
de l'entrepreneurship

