



Entrepreneurship in University
Environments

L'Environnement universitaire
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Entrepreneurship in Atlantic Canadian University Environments

A Model and Strategy for Entrepreneurship Development Among Students

ENTREPRENEURSHIP IN ATLANTIC CANADIAN UNIVERSITY ENVIRONMENTS

PART IV *A Model and Strategy for* *Entrepreneurship Development Among Students*

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PROJECT OVERVIEW

A consortium of Atlantic Canadian university-based business development centres, university entrepreneurship chairs, and other university-based partners joined forces in 2001 to undertake a major research initiative. The overall goal of the project was to identify needs and developmental opportunities regarding gaps in entrepreneurship education, awareness, and advocacy at the university level in Atlantic Canada. This information was used to develop a model to increase entrepreneurial behaviours and activities in students and graduates, specifically:

- 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; and
- increase the likelihood of venture creation among students and graduates.

The project, funded by the Atlantic Canada Opportunities Agency (ACOA), was broken down into six steps as follows:

Step 1 – Literature and Model Review - The purpose of the literature review was to better understand past work and facilitate effective survey design for primary research. The model review provided insight into what is currently being done within the worldwide university community in regards to Entrepreneurship Education.

Step 2 – Inventory of Entrepreneurship Courses and Resources - This step involved creating a database of entrepreneurship courses and resources currently in existence in Atlantic Canadian universities.

Step 3 – Review of the University Infrastructure - The purpose of this step was to provide a better understanding of the structure and culture within Atlantic Canadian universities to determine what implementation approach might be used.

Step 4 – Attitudinal Surveys – Five survey instruments were designed to assess attitudes and perceptions of entrepreneurship among those working and studying in Atlantic Canadian universities and to identify the variables that promote or hinder entrepreneurship development.

Step 5 – Model Development – The analysis of the primary research conducted in Step 4 was used to develop the model. The model was to be conducive to Atlantic Canadian university environments and generic in nature so as to address varying resources and levels of entrepreneurship development within these universities.

Step 6 – Implementation Strategy – This step involved the development of a general implementation strategy that Atlantic Canadian universities can utilize to implement the model. The strategy encompasses insight gained through the analysis of Atlantic Canadian universities’ culture and structure gathered in Step 3 and the attitudinal surveys to ensure the strategy was beneficial to these environments.

The results can be found in a four-part series of documents entitled *Entrepreneurship in Atlantic Canadian Universities*:

- Part I “Understanding Entrepreneurs: An Examination of the Literature”
- Part II “An Examination of Models, Best Practices, and Program Development”
- Part III: “The Variables That Promote and Hinder Entrepreneurship Development”
- Part IV “A Model and Strategy for Entrepreneurship Development Among Students”

The consortium is comprised of Université de Moncton, Centre for Women in Business at Mount Saint Vincent University, Saint Mary’s University Business Development Centre, Centre Jodrey at Université Sainte-Anne, St. Francis Xavier Enterprise Development Centre, Chair in Youth-Focused Technological Entrepreneurship at Memorial University of Newfoundland, The John Dobson Micro-Enterprise Centre at Mount Allison University, the School of Business at University of Prince Edward Island, Dr. J. Herbert Smith Centre at University of New Brunswick, Dalhousie University, University of Kings College, Atlantic School of Theology, Nova Scotia Agricultural College, University College of Cape Breton, St. Thomas University, Atlantic Baptist University, Nova Scotia College of Art and Design, and the Acadia Centre for Small Business & Entrepreneurship at Acadia University.

BACKGROUND

In order to provide context and rationale for the model described in this document, a brief description of the research methodology and conclusions from the research undertaken in Steps 3 and 4 have been included. The full results of this research can be found in the document entitled “Entrepreneurship in Atlantic Canadian University Environments: Part III – The Variables that Promote and Hinder Entrepreneurship Development” and herein after referred to as the EUE Study.

RESEARCH OBJECTIVE

The primary research objective of the EUE study was to identify variables that can promote or hinder entrepreneurship development within universities in Atlantic Canada.

In order to accomplish this objective, the following research questions were devised:

1. Is the structure and culture of Atlantic Canadian universities conducive to the implementation of entrepreneurship programming?
2. Are the attitudes toward entrepreneurship within Atlantic Canadian universities negative or positive and what variables contribute to these attitudes?
3. What is the level of interest among university students, academic administration, and faculty in the implementation of entrepreneurship programming?
4. Do students attending Atlantic Canadian universities possess entrepreneurial characteristics/skills?
5. Are students provided the opportunity to develop entrepreneurial characteristics/skills and what factors increase or decrease this opportunity?
6. To what extent are future graduates from all disciplines prepared to embrace entrepreneurial opportunities?
7. Do students intend to stay in Atlantic Canada after graduation and if not, why?

Three different types of entrepreneurship were examined in this study: Business Entrepreneurship (ownership and/or operation of a business), Social Entrepreneurship (directing/managing a not-for-profit organization), and Inventing/Innovating (inventing or improving a product, process or service). Additionally, entrepreneurship was not specifically defined by the researchers, so it was possible to ascertain whether respondents' possess a business oriented or a broad perception of the concept. This was accomplished by providing respondents with two definitions of entrepreneurship: one which specifically related to the creation and operation of a business (business oriented), and the other which related to initiating change and improvement within society (broad).

METHODOLOGY

In order to gain insight and answer the research questions, university presidents, academic administrators, faculty, students, and alumni from Atlantic Canadian universities were surveyed using qualitative and quantitative methods. The population of university presidents, representing senior administration, completed a questionnaire and were personally interviewed. In two instances, academic vice-presidents participated in the study on behalf of the president of the university. The purpose of the questionnaire was to gather their views concerning the university structure and culture. The purpose of the interview was to identify the mandates of Atlantic Canadian universities in order to ascertain whether entrepreneurship development aligns with the mandates. All 18 Atlantic Canadian universities participated in this study.

The population of all Atlantic Canadian academic administrators (deans, directors, department heads), faculty, and students were surveyed to discover attitudes toward entrepreneurship and implementation of entrepreneurship programming, perceptions of entrepreneurship, the level of importance placed on the development of entrepreneurial characteristics/skills, and whether students possess entrepreneurial characteristics. A combination of on-line and mail delivery was used to collect the data. Academic

administration returned 140 surveys of which 128 were useable; faculty returned 841 of which 803 were usable; and students returned 11,786 with 11,747 being included in the analysis.

A sample of Atlantic Canadian university alumni, who graduated between 5 and 10 years ago was surveyed by mail to measure the level of entrepreneurial activity among Atlantic Canadian university alumni, attitudes toward and perceptions of entrepreneurship, the characteristics/skills alumni entrepreneurs possess, and whether their university experience contributed to their desire to pursue entrepreneurship. The alumni respondents totaled 1,664 and 511 surveys were removed since the alumni had graduated more than 10 years prior, leaving a sample size of 1,153.

CONCLUSIONS

Major Findings:

1. Is the structure and culture of Atlantic Canadian universities conducive to the implementation of entrepreneurship programming?

The common structure and culture present in Atlantic Canadian universities appears to be a barrier to implementing entrepreneurship programming due to decentralized decision-making, an interdependence of departments relative to course offerings - meaning changes in curriculum of one department may affect many others, peer governance, and the autonomy of faculty. These institutional factors slow the change process and create the need to garner support from various departments even when the change is concentrated in one department or discipline.

2. Are the attitudes toward entrepreneurship within Atlantic Canadian universities negative or positive and what variables contribute to these attitudes?

Attitudes toward entrepreneurship are generally positive with regard to its role in society; however, attitudes have a tendency to become increasingly negative when the concept refers to change within the university environment. While the results varied

among the respondent groups, overall, senior administration and alumni possessed a more positive attitude than students, faculty, and academic administration toward entrepreneurs and entrepreneurship as a career option. The variables that were found to contribute to a more positive attitude were: possessing a broad definition of the term entrepreneurship, students being exposed to entrepreneurship as a career option during university, and academic administration and faculty being responsible to generate revenue for a Faculty/department (earned income philosophy).

3. What is the level of interest among university students, academic administration, and faculty in the implementation of entrepreneurship programming?

The level of interest among students, academic administration, and faculty, in the implementation of entrepreneurship development across all disciplines/programs was somewhat low. The majority of respondents within all groups possessed a business oriented perception of the concept of entrepreneurship and indicated it pertains to the creation and operation of a for-profit business. However, those who possessed a broad perception of entrepreneurship (acting on opportunities that may improve the quality of life for others) also have a more positive attitude toward the implementation of entrepreneurship across all disciplines. Therefore, influencing and expanding the perception of entrepreneurship to include the broader applications of entrepreneurship may promote the positive implementation of entrepreneurship across all disciplines.

4. Do students attending Atlantic Canadian universities possess entrepreneurial characteristics/skills?

Results showed students possess a variety of entrepreneurial characteristics and skills yet the majority of students do not possess those characteristics significantly related to alumni business and social entrepreneurs and inventors. The students with a strong predisposition or tendency toward entrepreneurship more strongly possess

characteristics and skills related to alumni entrepreneurs and further, have a higher likelihood of future entrepreneurship. Therefore, the variable that appears to promote entrepreneurial characteristics and skills in students is predisposition.

5. Are students provided the opportunity to develop entrepreneurial characteristics/skills and what factors increase or decrease this opportunity?

It is apparent that students do have the opportunity to develop several entrepreneurial characteristics and skills; however, they tend to have a higher level of opportunity to develop those characteristics deemed important by academic administration and faculty as opposed to those most strongly related to being an entrepreneur. It appears that faculty opinion/perception is a variable that can promote or hinder the development of entrepreneurial characteristics and skills in students. Results also show that teaching methods utilized within Atlantic Canadian universities can have a significant impact on the development of entrepreneurial characteristics in students.

6. To what extent are future graduates from all disciplines prepared to embrace entrepreneurial opportunities?

Atlantic Canadian university students, on average, are somewhat unlikely to undertake one of the three types of entrepreneurship defined in this study, even though a large percentage indicated they have had an idea for a small business. The results indicate students do not believe entrepreneurship can provide the career attributes that are most important to them (financial security, opportunity for intellectual challenge, and opportunity to be creative and original) and tend to make their career decisions based on their level of personal interest in a field combined with the potential for employment.

Of the students who have a high likelihood to undertake entrepreneurship, males tend to be more likely than females to engage in business entrepreneurship and inventing/innovating and females tend to be more likely than males to engage in social entrepreneurship. It appears that students studying certain disciplines also have a higher likelihood to engage in particular types of entrepreneurship. Additionally, acquiring the knowledge to start a business seems to positively influence students' likelihood of starting a business.

Increasing students' predisposition, providing the knowledge to start a business/venture, and focusing on the development of characteristics related to alumni entrepreneurs should increase students' likelihood of engaging in entrepreneurship.

7. Do students intend to stay in Atlantic Canada after graduation and if not, why?

A total of 58.57% of students said they intended to stay in Atlantic Canada after graduation. Of the group who indicated they would leave (37.26%), the most common reasons cited were few career/job opportunities, uncompetitive salaries, the need to broaden their horizons, and that desired graduate programs are unavailable in Atlantic Canada. These reasons were similar to the reasons cited by alumni who left the region.

Limitations:

- These results are limited to the population of Atlantic Canadian universities therefore we cannot evaluate our results against those universities in other regions of the country.
- The whole population of Atlantic Canadian university faculty, academic administrators, and students were surveyed; however, the whole university population may not have been reached due to limited or no access to internal mail and e-mail.

- The data collection process was somewhat lengthy as it took over three months to collect data from all 18 universities. It is possible respondents developed a bias by communicating with one another about survey questions.

Future Research:

- This study has helped identify factors that increase one's likelihood of undertaking entrepreneurship; however, it does not explore the factors that trigger engaging in entrepreneurship. Further research should aim to identify the triggers that move an individual who has a high likelihood of engaging in entrepreneurship to actually undertaking entrepreneurship.
- This study provides a profile of students studying within Atlantic Canadian universities. Further research concentrating on the profiles of students studying in universities in other geographical regions would shed light on whether or not regional differences exist and, if so, what factors are contributing to any differences.

MODEL DESCRIPTION

The literature available on the phenomenon of entrepreneurship is predominantly focused on business creation and operation so it appears that entrepreneurship and business are seen as synonymous. The results of the EUE study, upon which this model is based, showed that the majority of people believe entrepreneurship is creating and operating a business. Given this, it is understandable why the majority of respondents did not think entrepreneurship is appropriate and relevant to every degree program. They generally viewed entrepreneurs as valuable contributors to society yet, as a whole, they reacted fairly negatively to the concept of entrepreneurship development in every degree program.

The literature review revealed numerous definitions of entrepreneurship, indicating the term is perceived differently among the population. While the majority of respondents who took part in the EUE study chose a business-oriented definition, there was a portion of respondents that indicated they believe entrepreneurship has a broad application. It may prove beneficial to segment the term and provide definitions of various forms of entrepreneurship (social entrepreneurship, academic entrepreneurship, business entrepreneurship) rather than promote an all-encompassing description.

There is evidence that entrepreneurship is not only undertaken within the realm of business. Entrepreneurial behaviors often result in the creation of a venture or business but there is increasing literature demonstrating the use of entrepreneurial characteristics and skills in carrying out socially oriented mandates and addressing challenges in the education and health services sectors. These broader applications of entrepreneurship, including but not limited to business entrepreneurship, may be more relevant to the primary university mandates and to the various disciplines within these organizations.

Entrepreneurship education is increasingly in demand and the number of courses being offered in universities has been increasing over the past ten years. Many of these courses, however, are focused on business entrepreneurship such as new venture creation, small business management, and family business and may not be accessible to all students. There is also evidence in the literature that barriers to entrepreneurship education and development exist such as faculty resistance, financial restrictions, existing attitudes and perceptions, and external influences.

The results of the EUE study showed a certain level of resistance toward entrepreneurship development among all groups surveyed (senior and academic administration, faculty, students and alumni). It is very possible the foremost contributing factor to the resistance toward entrepreneurship development within universities is due to a business oriented perception of the term, resulting in an attitude that it is relevant to a small portion of the university community. It is also possible that the general view that entrepreneurship relates to business creation may be causing some conflict relative to its significance to university mandates. The primary mandates of Atlantic Canadian universities of research, teaching, and service for the benefit of society are broad and encompass contributions to a wide range of sectors within society including, but well beyond, the economy. Providing information and examples of entrepreneurship activity in various sectors of society may, in fact, serve to broaden the perception and in turn impact a more positive attitude toward its relevance to universities.

In this model we present three types of entrepreneurial activity: Business entrepreneurship – the creation and operation of a profit-oriented business or venture; Social entrepreneurship – the creation and operation of a not-for-profit organization; and Inventor/Innovator – inventing or improving a product, service or process. Recognizing these differences more closely reflects the diversity of student needs and perspectives as they relate to entrepreneurship. Some students will embrace entrepreneurship as it pertains to business while others will find relevance within the context of social entrepreneurship. The recognition of inventors/innovators is also significant within university environments because there are those students and faculty who are engaged in research that could have future applications within a social or business setting.

The ultimate objective of the model is to increase students' likelihood of becoming entrepreneurs (business, social, or inventors/innovators) at some future point, either while pursuing their education or after completing it. The model conceptually addresses how certain elements interact to affect one's likelihood of becoming an entrepreneur and, following the model description, the implementation strategy provides guidance regarding how to influence the elements of the model to increase students' likelihood.

Likelihood of Becoming an Entrepreneur

As demonstrated in **Figure 1**, the results of the EUE study showed one's likelihood of becoming an entrepreneur is impacted by one's perception and attitude, possession of certain characteristics, different factors in the environment, perceptions of academics and teaching methods used, and one's background. Actions taken to increase a student's likelihood of becoming an entrepreneur should address one or more of these elements.

Model

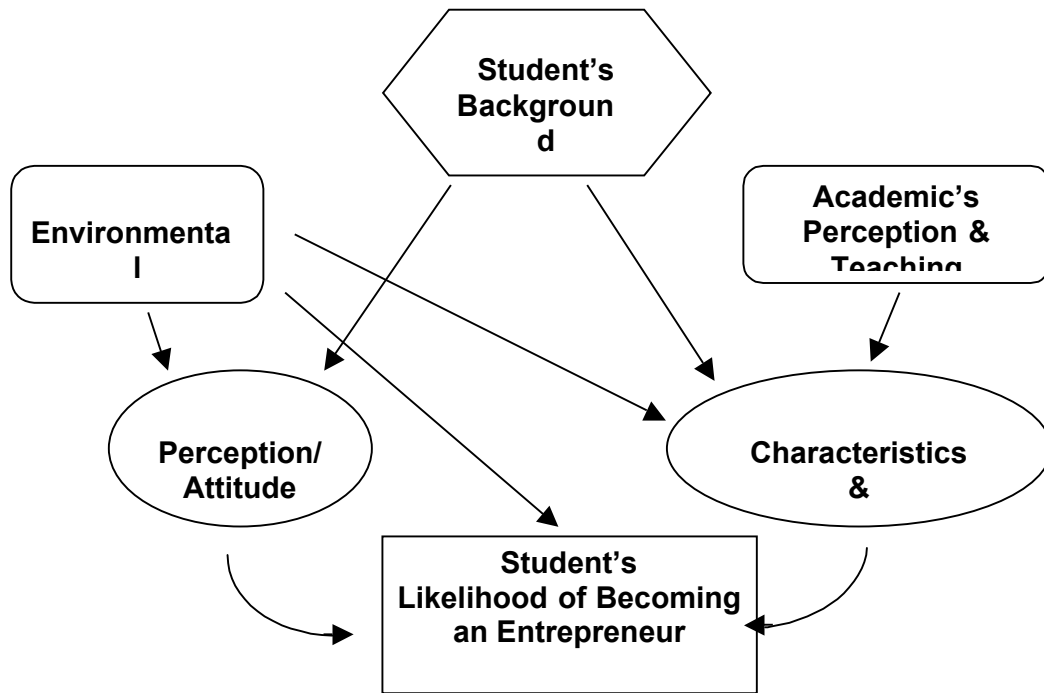


Figure 1

Perception and Attitude

The first element of the model is Perception and Attitude (see Figure 2). Perception in this model has been defined as the way one views the concept of entrepreneurship or what they think the concept means and attitude relates to one's feelings toward the concept of entrepreneurship. The results of the EUE study showed the majority of respondents believe entrepreneurship relates to the creation and operation of a business; therefore, they possess a business-oriented perception of entrepreneurship. This perception was found to more negatively impact their attitude both towards entrepreneurs in society and entrepreneurship as a career option. It will be vitally important to expand the perception of entrepreneurship among students and all members of the university community in order to dispel the notion that entrepreneurship only pertains to the creation of a for-profit organization. In turn, this will help influence a more positive attitude toward

entrepreneurship, increase the relevance of entrepreneurship development among students in all disciplines, and increase the likelihood that students engage in entrepreneurship. Otherwise, resistance will likely continue.

Objectives:

- Expand the perception of entrepreneurship to include business, social, and personal applications in order to influence a more positive attitude.
- Demonstrate the viability of a career in entrepreneurship, highlighting those attributes students indicated are important to them which entrepreneurship can provide (ability to be creative and original, opportunity to take responsibility, freedom from close supervision)
- Provide examples of entrepreneurial behavior and entrepreneurship in various disciplines (business entrepreneurship, social entrepreneurship, inventing/innovating).

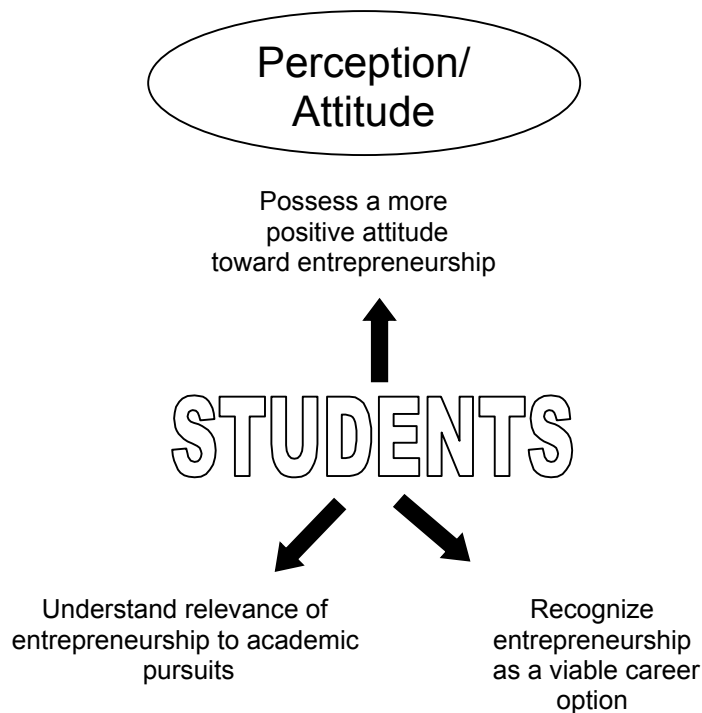


Figure 2

Factors in the Environment

The second element of the model comprises factors in the environment. These factors include the variables found within the university or community that have the greatest impact on a student's perception and attitude as well as their likelihood of becoming an entrepreneur.

The EUE study showed students who have a predisposition (a tendency) toward entrepreneurship have a more positive attitude toward entrepreneurs and toward entrepreneurship as a career option and have a higher likelihood of engaging in entrepreneurship. Five of the factors used to measure predisposition cannot be influenced because they are pre-existing. These have been grouped and detailed in the element of the model entitled Student's Background. Four of the factors, however, can be influenced during the university experience and have been included in this element of the model. They are identified in Figure 3 by an asterisk (*).

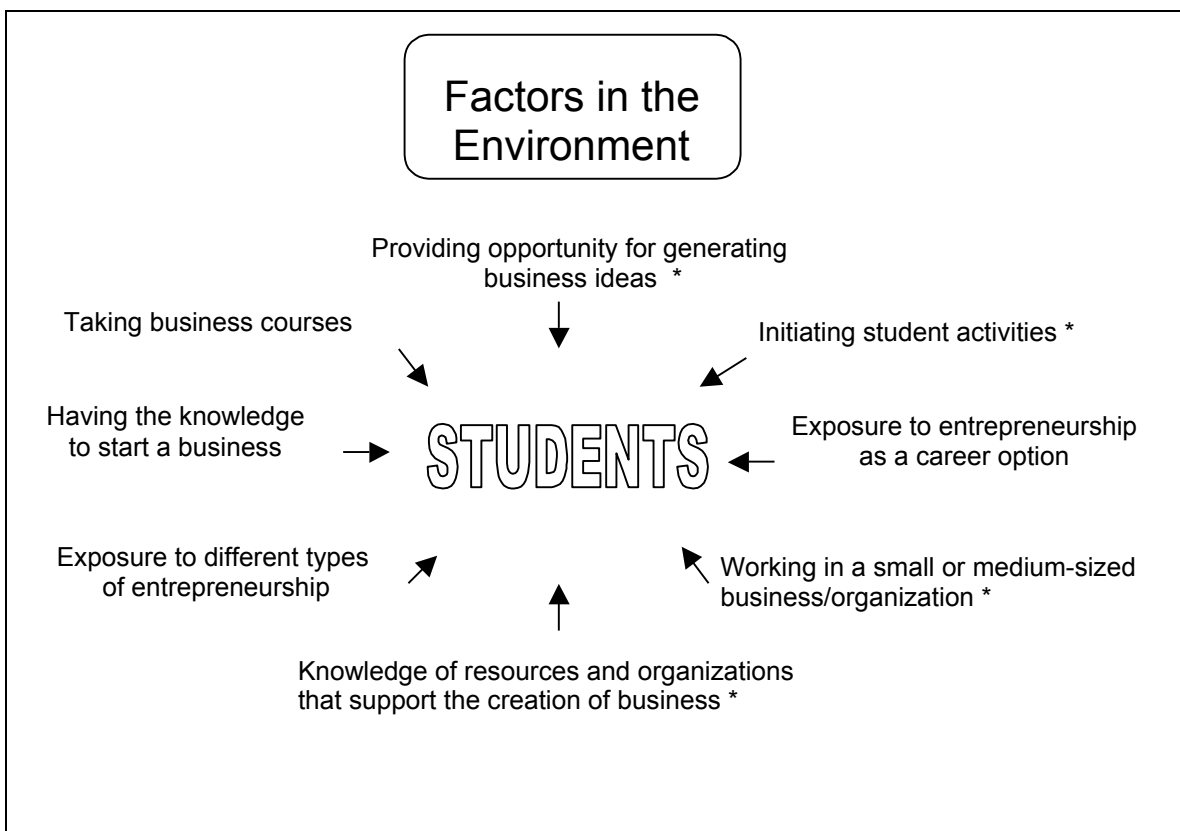
Further, the EUE study showed that being exposed to entrepreneurship as a career option, acquiring the knowledge to start a business/venture, and taking business courses contribute to a more positive attitude toward entrepreneurship. Additionally, taking business courses and having the knowledge to start a business/venture contribute to a higher likelihood of engaging in certain types of entrepreneurship (business and inventing/innovating).

Objectives:

- Provide venues for students to initiate student activities.
- Initiate occasions for students to work with small and medium-sized businesses/organizations.
- Create awareness of the resources that support the creation of businesses/ventures.

- Provide opportunities for students to generate business/venture ideas.
- Offer opportunity for students to acquire the knowledge to start a venture.
- Provide students access to business courses.
- Initiate occasions for students to learn about various types of entrepreneurship.
- Demonstrate the viability of entrepreneurship as a career option.

Focusing development activities on these factors presents the greatest potential to promote entrepreneurship within the student population given the nature of professional bureaucracies and the complexity and speed of change within these structures. If the desire is to increase entrepreneurship development among students, then this element of the model needs to exist and be active within each university in Atlantic Canada. See **Figure 3**.



* = factors of predisposition which can be influenced.

Figure 3

Characteristics and Skills

The third element of the model which has an impact on a student's likelihood of becoming an entrepreneur is having a set of characteristics and skills exhibited by entrepreneurs. These include, among others (see **Figure 4**), being opportunistic, intuitive, having the need to achieve, possessing perseverance, risk taking ability, being resourceful, creative thinking/innovativeness, leadership ability, and having the capability to maximize the potential of others. Characteristics and skills development should concentrate on those factors common to entrepreneurs as well as those specific to each type of entrepreneur.

The results of the EUE study showed students are being provided the opportunity to develop certain entrepreneurial characteristics; however, they are not provided a high level of opportunity to develop many of the characteristics significantly related to entrepreneurs identified in this study. Therefore, this model concentrates on the development of those characteristics.

Objectives:

Common Characteristics

- Initiate and support activities through which students can identify opportunities (Opportunistic)
- Encourage and create exercises/projects which require students to persist through difficult situations (Perseverance).
- Increase opportunities for students to create and influence trends. (Creative thinking/innovation)
- Provide or enhance activities that require students to act on their instincts (Intuition).
- Encourage occasions that require risk taking. (Like taking risks)
- Initiate and promote activities that demand innovative ideas, imagination, originality and creative problem solving (Resourcefulness).
- Provide opportunities for students to look for new challenges, foster a desire to exceed their expectations, and reward effort and energy in performance (Need to Achieve).
- Provide occasions for students to take on leadership roles (Leadership ability).

- Increase opportunities for students to take on responsibility (Responsibility/Accountability)
- Encourage group work and team work that require students to make the best use of the abilities of others (Maximize the potential of others).

Business Entrepreneurs – Concentration on common characteristics plus:

- Encourage students to form teams and work groups with individuals who possess knowledge and skills required to successfully carry out the project rather than choose friends and individuals with which they are comfortable. Enhance opportunities for independent decision-making and individual work (Desire for independence).
- Influence an environment in which failures are seen as opportunities to learn. Provide opportunities for students to reflect upon mistakes and devise strategies to correct errors or to avoid similar mistakes in the future (Ability to learn from mistakes).
- Initiate competitions among students and opportunities to compete with one another (Competitiveness).
- Enhance and support opportunities for students to discover new things (Curiosity).

Social Entrepreneurs – Concentration on common characteristics plus:

- Initiate and support activities that require students to persuade and influence others such as negotiating, selling and promoting ideas, garnering support for an idea or opportunity (Need for power).
- Highlight and demonstrate the positive aspects of change (Desire for constant change).

Inventors/Innovators - Concentration on common characteristics plus:

- Build capacity to adapt to change (Capacity to adapt to change).
- Highlight and demonstrate the positive aspects of change (Desire for constant change).
- Initiate and support activities that require students to persuade and influence others such as negotiating, selling and promoting ideas, garnering support for an idea or opportunity (Need for power).
- Influence an environment in which failures are seen as opportunities to learn. Provide opportunities for students to reflect upon mistakes and devise strategies to correct errors or to avoid similar mistakes in the future (Ability to learn from mistakes).
- Initiate competitions among students and opportunities to compete with one another (Competitiveness).
- Enhance and support opportunities for students to discover new things (Curiosity).

The results of the EUE study showed a higher likelihood of engaging in certain types of entrepreneurship among students studying certain disciplines. It might be beneficial to initially target specific entrepreneurship development activities toward these disciplines. Student studying Business/Management, Dentistry, Forestry/Environment Studies, and Computer Science indicated a higher likelihood of engaging in business entrepreneurship. Students studying Theology, Forestry/Environmental Studies, Architecture/Rural-Urban Planning, and Arts and Humanities/Social Sciences appear to have a higher likelihood of undertaking social entrepreneurship. Finally, students studying Engineering indicated the highest likelihood of engaging in inventing/innovating; however, those studying Computer Science, Forestry/Environmental Studies, and Business also have a strong likelihood of engaging in this form of entrepreneurship.

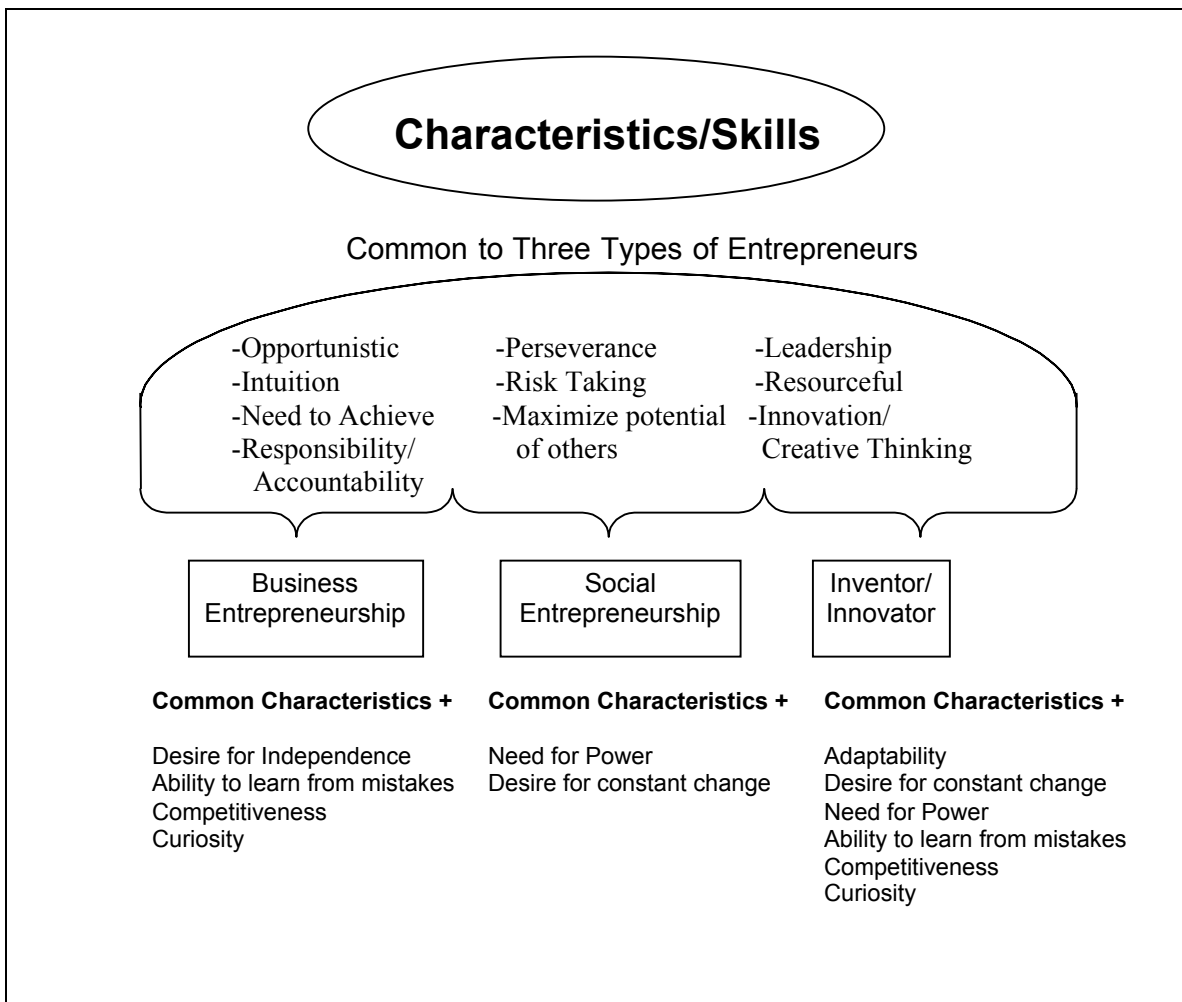


Figure 4

Faculty Perception and Teaching Methods

The fourth element of the model is faculty perception of entrepreneurship and the teaching methods used which directly impact the opportunity students have to develop entrepreneurial characteristics. This element is more difficult to address due to the academic liberty afforded faculty and the structure and culture within Atlantic Canadian universities. One way to increase students' opportunity is to provide the information to faculty concerning the different types of entrepreneurship, the benefits of developing entrepreneurial characteristics in students, and how teaching methods may impact characteristic development. (See Figure 5).

Objectives:

- Promote the benefits of entrepreneurship to society and to student development.
- Establish the relevance of different forms of entrepreneurship to particular disciplines.
- Provide the information concerning how different teaching methods impact the development of certain characteristics.
- Create awareness of the different forms of entrepreneurship and the characteristics associated with each type.

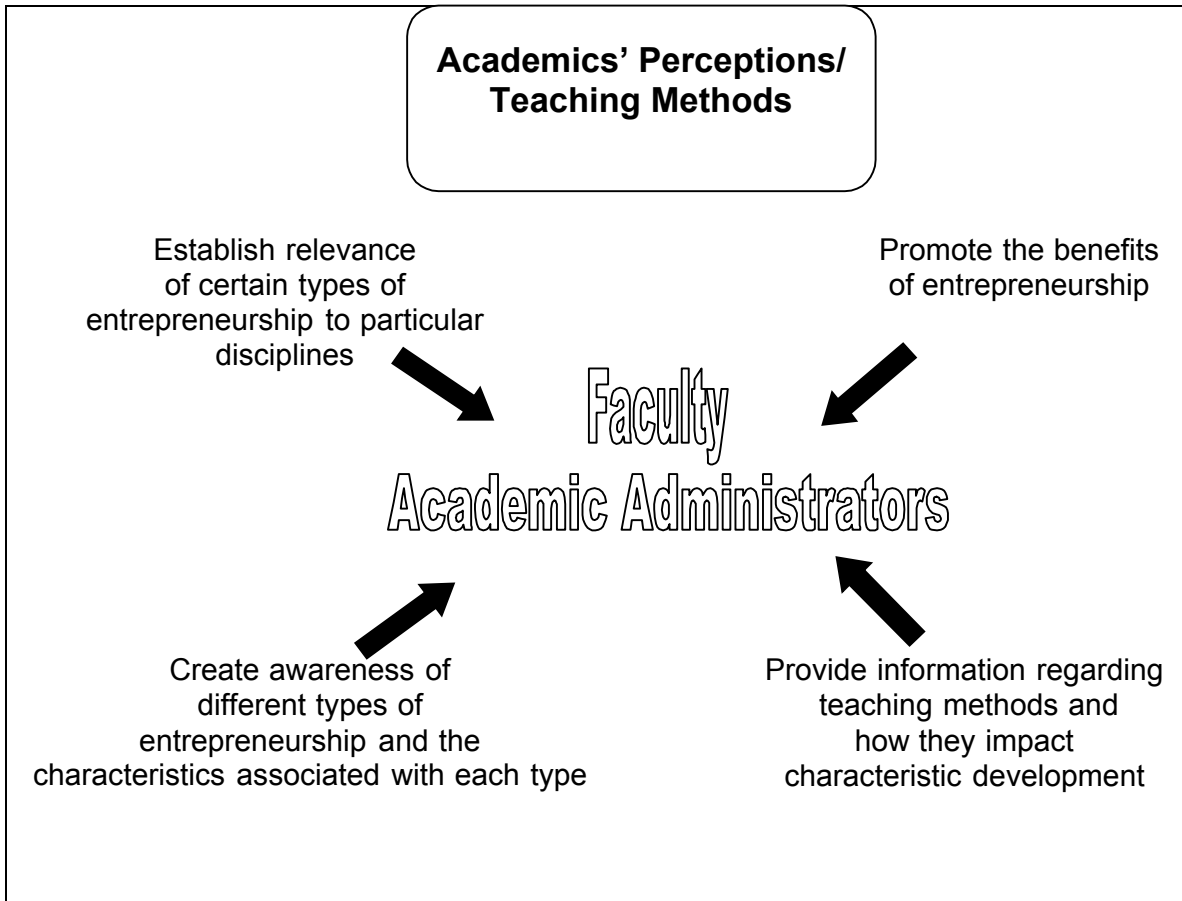


Figure 5

Student's Background

The fifth and final element of the model that indirectly impacts students' likelihood of becoming entrepreneurs, through the direct relationship with perception/attitude and possession of certain characteristics, is their background. The results showed a relationship between a high predisposition toward entrepreneurship and a high likelihood of undertaking entrepreneurship in the future. Of the nine factors used to measure predisposition, five cannot be influenced through a university entrepreneurship development model.

Those five factors are: having a parent who owns or has owned a business, having a close friend who owns a business, being the eldest child in a family, being an immigrant or having parents who are immigrants, and having a means of earning spending money during childhood. These factors have been grouped together and included in the model under the category of student's background. While these factors pre-exist, understanding them can be beneficial in identifying students who possess entrepreneurial characteristics and have a high likelihood for entrepreneurship. (See **Figure 6**).

The four which can be influenced are included in the element – Factors in the Environment (**Figure 3**) and identified using an asterisk (*).

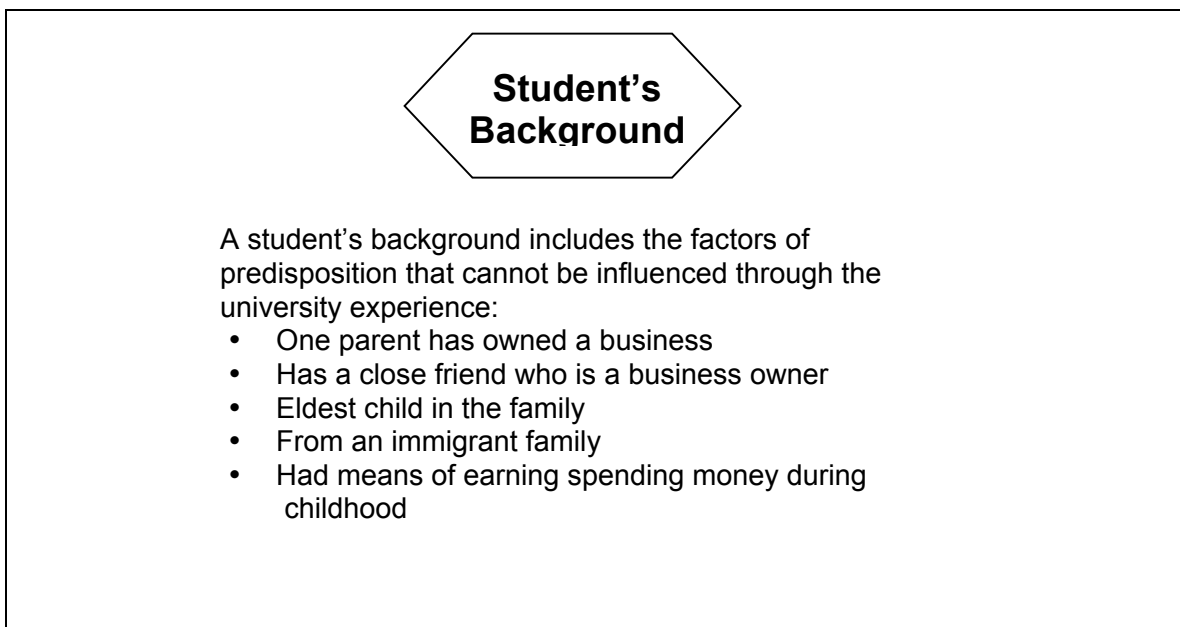


Figure 6

IMPLEMENTATION STRATEGY

It is vitally important that the model and implementation strategy focus on the commonality between entrepreneurship in its broadest sense and academe rather than on the differences. The approach must complement and fit within the environment rather than conflict and serve to change it. It is also necessary that the model be rigorous yet the approach be robust enough to respond to the unique characteristics, resources, and circumstances of each university in Atlantic Canada. Lastly, much of the literature related to entrepreneurship development in universities refers to the necessity of a “champion” or committee to build consensus around entrepreneurship and its benefits. While it is important to ensure a person or group of people have this focus, a champion should be one who advocates entrepreneurship not one who acts as a change agent. Given the collegial nature of universities, forming a committee to further entrepreneurship on campus would uphold the normal decision making approach currently utilized.

The traditional structure appears to be the predominant configuration among Atlantic Canadian universities and change does occur relatively slowly, yet it is evident that following the established process for change will increase the chances for success. This means that any components of the model that are integrated with or involve the academic sector must be planned well in advance so the decision making procedures are adhered to and respected. In this case, it can be assumed that change is not a barrier to entrepreneurship development but rather a challenge that can be addressed by upholding the academic standards, proceeding through the established change process, and ensuring transparency and accountability.

Many of the factors in the environment previously outlined can be undertaken both inside and outside the academic sectors and therefore, can be planned and implemented more quickly. Following are the steps required to implement the model.

Step 1 – Dissemination of Research Results and Model

- Scientific mediums (i.e. Journals, Conferences)
- Audiences (i.e. university environment and greater community)
- On-line dissemination of the four (4) reports generated through this project

Step 2 – Complementary Action

Complementary to the dissemination of information is the identification of champions within each university who will take action to address certain elements of the model. Affecting Factors in the Environment as well as Faculty/Academic Administrators' Perceptions and Teaching Methods used will, in turn, affect students' perception and attitude and the development of entrepreneurial characteristics and skills which impact students' likelihood of engaging in entrepreneurship.

Faculty/Academic Administrators' Perceptions and Teaching Methods Used

Purpose:

- To increase awareness of different types of entrepreneurship
- To increase awareness of teaching methods that have an impact on key entrepreneurial characteristics

Factors in the Environment

Factor: Venues for students to initiate student activities

Purpose:

- To increase students' predisposition
- To develop entrepreneurial characteristics and skills

Factor: Occasions for students to work in a small or medium-sized business/organization

Purpose:

- To increase students' predisposition
- To develop entrepreneurial characteristics and skills
- To clarify their perception of entrepreneurship

Factor: Awareness of the resources that support the creation of a business/venture.

Purpose:

- To increase students' predisposition
- To create awareness of services offered
- To increase students' understanding of how to access available resources to support a venture

Factor: Opportunities for students to generate business/venture ideas

Purpose:

- To increase students' predisposition
- To develop specific characteristics
- To pique students' interest in entrepreneurship
- To help students identify opportunities that meet their career goals

Factor: Acquiring the knowledge to start a business/venture

Purpose:

- To provide students with an understanding of the venture creation process
- To increase students' ability to undertake a venture
- To increase students' likelihood of starting a venture

Factor: Opportunity to take business courses

Purpose:

- To affect a more positive attitude toward entrepreneurship
- To acquire business knowledge

Factor: Occasions to learn about the various types of entrepreneurship

Purpose:

- To expand students' perception of entrepreneurship (business, social, inventing/innovating)
- To create an awareness of the possibilities associated with entrepreneurship
- To enable students to find the style of entrepreneurship appropriate to their interests
- To develop a more positive attitude towards entrepreneurship

Factor: Opportunities to learn about entrepreneurship as a viable career option

Purpose:

- To increase students' awareness of how entrepreneurship can provide many of their desired career attributes (opportunity for intellectual challenge, opportunity to be creative and original, the possibility to take on responsibility, and freedom from close supervision)
- To develop a more positive attitude towards entrepreneurship

EVALUATION

This research has provided a benchmark regarding perception, attitudes, characteristics, career aspirations, and likelihood of undertaking entrepreneurship among students studying in Atlantic Canadian universities. Evaluation should concentrate on measuring shifts and changes in these benchmarks three to five years after the model has been introduced in Atlantic Canadian universities.



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Environments

L'Environnement universitaire
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