



Applying Entrepreneurial Discipline

The Catalysts for Enterprise Development at the Confluence
The Catalysts for Intellectual Capital 2020
2011 Pro-Seminar in Civic Entrepreneurship

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ABSTRACT.

Entrepreneurial discipline is commonly overlooked when thinking of entrepreneurial ventures. Entrepreneurship is a tangible concept that can be manipulated into different forms to achieve goals. Being analytical, versatile, and adept is often neglected when promoting entrepreneurship. Providing students with entrepreneurial guidance during their educational career influences the success of future start-up businesses. An interdisciplinary minor whose mission is to improve entrepreneurial thinking can connect students and local businesses in partnerships. Opening the minor to students across all majors allows for interdisciplinary culmination that could serve any type of business with support. Local businesses could seek entrepreneurial students for strategies, planning, marketing, financing, or legal help. The connection would serve as real-life practice for students by allowing them to apply their disciplinary majors to the scenarios.

Keywords: Entrepreneurship; Formulating Ideas; Personal Development; Student Organizations; Teaching Models; Power of SUNY; Adopt-A-Local Business

Binghamton Keywords: Entrepreneurship Across the Curriculum (ExC); Innovation and Entrepreneurship Institute; Greater Binghamton Community

I. INTRODUCTION

The role of the SUNY system within communities has been revamped by the project "Power of SUNY." SUNY Chancellor Nancy Zimpher is calling on all SUNY

schools to become the “economic engine that will help enhance the quality of life for the state of New York” (Zimpher, SUNYIT). The chancellor introduced part of her 2010 strategic plan during a speech at SUNYIT, geared to improving partnerships between New York State Universities and their local communities. The “Power of SUNY” strategic plan is composed of six big ideas; four of the big ideas are the core of this year’s cohort. The four ideas are: SUNY and the Entrepreneurial Century; SUNY and the Seamless Education Pipeline; SUNY and the Vibrant Community; SUNY and the World. Taking focus on these four core ideas, the SUNY system can reinvent its purpose and power within the New York State community. The goal of the “Power of SUNY” is to “cultivate entrepreneurial thinking across its entire learning landscape, helping new and existing businesses innovate, prosper, and grow” (8).

Currently Binghamton University challenges students through traditional degrees such as english, social sciences, business, psychology, and engineering amongst others. Under the Chancellor’s new mission, Binghamton University inadequately presents a united outlook and curriculum challenging students to serve as “economic engines” (Zimpher, SUNYIT). The university lacks an educational program dedicated to teaching entrepreneurial methods that promotes innovative thinking.

The strategic ideas presented by Chancellor Zimpher are encouraging entrepreneurship, creating an education pipeline, improving health care in the state, becoming more energy efficient, being involved in the surrounding community, and developing more international relationships. Given the new mission of the SUNY system, it is critical that Binghamton University adapts an innovative curriculum that teaches students entrepreneurial concepts both in practice and theory. Entrepreneurship is argued to be a method not a process, in order for educators to effectively teach entrepreneurship, they must approach it with practical discipline. Entrepreneurial discipline is the concept of combining analytical and empirical tools as a form of training for identifying opportunities.

The importance of entrepreneurship is increasing due to the constant changes of the business markets. Competition and innovations have been driving the United States economy for centuries, calling for new goods, ideas, or inventions. A research by Rachel Shinnar, Mark Pruett, and Bryan Toney of the Appalachian State University use statistics collected by the U.S. Small Business Administration (SBA) to prove the importance of entrepreneurship. The data collected by the SBA in 2001 concludes that entrepreneurship is the driving force of the U.S. economy:

According to recent statistics presented by the U.S. Small Business Administration (2001), two thirds of college students intend to become entrepreneurs at some point in their careers. In addition, small businesses play an important role in the American economy. Data from the U.S. Census Bureau (2001); U.S. Department of Labor, Bureau of Labor Statistics (2001); and U.S. Department of Commerce, International Trade Administration (2001) indicate there are approximately 26 million small firms in the United States that (a) represent 99.7% of all employer firms; (b) employ half of all private sector employees; (c) pay 44.3% of the total U.S. private payroll; (d) generate 60%–80% of net new jobs annually; (e) create more than 50% of nonfarm, private gross domestic product; (f) employ 39% of high-tech workers (e.g., scientists, engineers, computer workers); (g) make up 97% of all identified exporters;

and (h) produce 29% of the known export value (in 2001) (Shinnar, Pruett, and Toney 151).

The SBA defines a small business as an independent business with fewer than 500 employees. As of 2001 there are approximately 26 million small firms in the United States and 89 percent of those firms employ fewer than 20 employees. Small local businesses comprise for the majority of small businesses operating in the United States, which employs a large portion of the population. The importance of entrepreneurial ventures creates a mark in the economy and the quality of life as new ventures translate into new jobs. Data also gathered by the SBA, shows that small businesses create seven out of every ten jobs, marking 64 percent new jobs in the past 25 years.

The research conducted by Shinnar, Pruett, and Toney comprised of 317 students and 87 faculty participants, show the same importance of entrepreneurship. The participants comprised of 60.4% business, 38.6% non-business, and 1% undeclared (152). The survey results concluded that 35.4% of business participants were interested in entrepreneurial careers and 16.9% of non-business participants were interested in entrepreneurial careers. Given this survey, students show interest in entrepreneurialism but little is done to bridge the gap of future interest between business and non-business participants. Entrepreneurial ventures are not denoted by any particular major or career track, therefore an increase of interest by non-business majors is important. Analyzing data from the SBA and research conducted at Appalachian State University, it is important to increase the awareness of entrepreneurship at the university level. Analyzing both data shows the importance that entrepreneurship serves for the economy and also for self-satisfaction of achievements.

Shinnar, Pruett, and Toney also conducted a 7-point Likert Scale survey ranging from 1 (*not entrepreneurial at all*) to 7 (*very entrepreneurial*), which concluded that business students cumulatively felt their curriculum was 2.7 points entrepreneurial with a standard deviation of 0.8. Non-business majors cumulatively ranked their curriculum at 1.92 points entrepreneurial with a standard deviation of 0.87 (153). Incorporating entrepreneurial discipline in the curriculum could have an increasing effect on the amount of students interested in entrepreneurial careers and can change the point scale view of entrepreneurial curriculums.

II. Defining Entrepreneurial Discipline

“Entrepreneurship is complex, chaotic, and lacks any notion of linearity” (Neck and Green). Entrepreneurship summons educators to find a concise method that effectively teaches the foundations needed for a successful venture. It is essentially difficult to grasp a solid format that promotes entrepreneurship because entrepreneurship serves as conscious thinking. Entrepreneurship is the “process of identifying an opportunity” and applying practical reasoning to the specific content. Entrepreneurship is multifaceted and has yet been decoded as it lingers in the shadows of failure lurking an opportunity. Conceptualizing when to identify an entrepreneurial opportunity can be strenuous as there is no specific chronological order to recognize. There is no formula that identifies opportunities or the next world statelier invention. Professors and professionals would agree that entrepreneurship is one of the most

spontaneous concepts of business, as it has no core design. Identifying an entrepreneurial opportunity derives from analytical practices and empirical tools across disciplinary knowledge to assess an applicable method.

Babson College professors Heidi M. Neck and Patricia G. Greene would both agree that entrepreneurship demands a concoction of approaches to comprehend the characteristics of entrepreneurship. In their published journal "Entrepreneurship Education: Known Worlds and New Frontiers", Neck and Greene delineate three feasible methods that would facilitate entrepreneurial discipline (2010). The first concept is, understanding the current state of entrepreneurship and its impact on society as it "reigns supreme with almost superhero characteristics." A concept derived from past research that marks entrepreneurship as an individual's character and psychological personality giving foundation to the thought of entrepreneurial discipline. The concept of entrepreneurial discipline encapsulates personal traits, analytical proficiency, psychological platforms, and propensity. Therefore, Neck and Greene's research composes the concept of how to approach entrepreneurial discipline. It is made evident that combining multiple disciplinary methods allows for the development of an efficient entrepreneurial discipline.

III. How A Learning Model Creates Entrepreneurial Discipline

The abstract form of entrepreneurship is being revolutionized into an interwoven concept of theory and practice. Applicable methods have been re-exposed by Peter Van der Sijde in his collaborative book Teaching Entrepreneurship: Cases for Education and Training based on the experiences of entrepreneurial educators in European schools. Van der Sijde identifies entrepreneurship as a practical approach derived from a set of competencies (1-3). The book's findings from older research solidify the concept of entrepreneurial discipline by presenting methods used during the learning process. Van der Sijde refers to David Kolb's 1984 model of the Learning Cycle containing four phases that interprets individual's learning style (1). The four phases are concrete experience, reflective observation, abstract conceptualization, and active experimentation. The first phase, concrete experience, is the emotional responses while experiencing the action. Emotional responses are personal which allows for better recognition when remembering what occurred. These emotional responses interconnect with the third phase, abstract conceptualization, which allows the individual to grasp what they are thinking, experiencing, watching, and feeling during the experience. Their emotional responses from the first phase affect and interlink with what they would learn from the situation and accommodate the individual to an action.

The second phase, reflective observation, allows the individual to learn from watching others involved in the experience and reflecting on what happens. Reflective observation presents individuals with first-person experience of an encounter, which in future events could be remembered and reproduced. The second phase interconnects with the fourth phase, active experimentation through the concept of applying your observation and doing it themselves. This connection of watching and doing involves the responses generated from emotional feelings and thinking during the process. Each phase connect simultaneously, affecting the responses and behavior of the individual

during the transition of phases. Adjoining the responses between the transition of phases create entrepreneurial discipline as individuals learn through first and second person encounters.

Revised March 2006, Kolb's Learning Model:

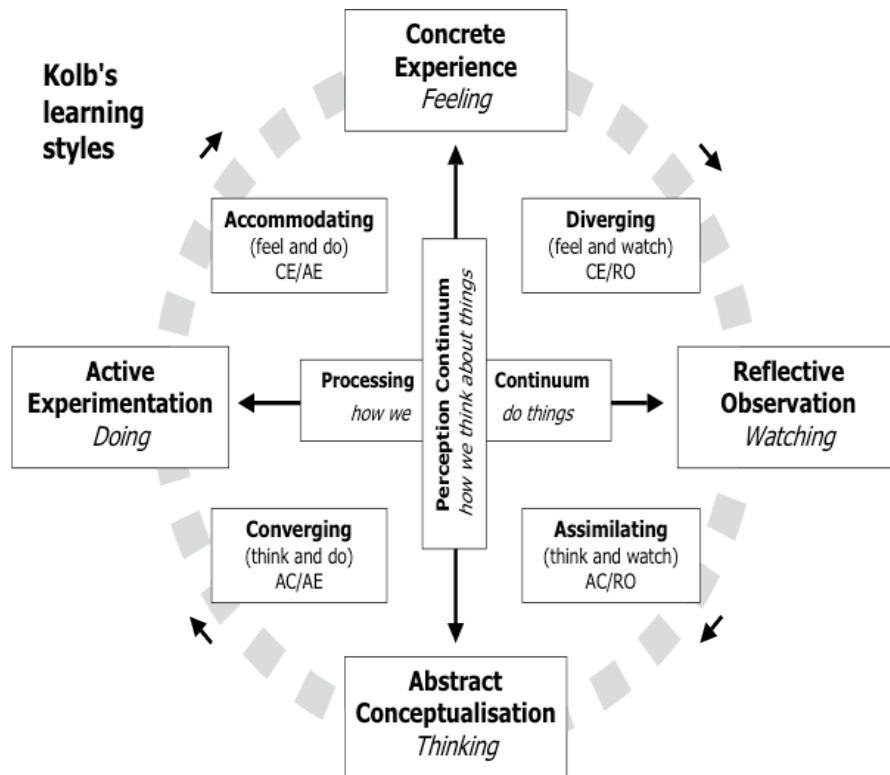


Fig. 1

IV. BEST PRACTICES

A. Arizona State University

Encouraging entrepreneurship is Arizona State University's mission; they allow

students from all majors to study entrepreneurship as a “means to solve local and global challenges” (ASU). The goal of the program is to have students and faculty implement entrepreneurial solutions to local and global problems. Arizona State University has steered away from assimilating entrepreneurship into the school of business because it would disintegrate innovations that are developed through interdisciplinary relationships.

ASU refers to this environment as an “entrepreneurial culture” that allows diversity and opportunities to be combined into a discipline. That allows students from different educational programs to develop innovating thinking, leadership and management skills. There are specific bachelors and masters degrees that allow a student to focus their educational interest entrepreneurially. Having such options attracts students from different disciplines to interact creating a diversified culture that in essence translates into actions.

ASU’s entrepreneurs program is known to have created local and global innovations that have long felt impacts on society. For example, the Global Resolve program from the College of Technology and Innovation was established to develop sustainable technologies for developing countries. Global Resolve involves students in semester long projects that innovates ideas that improve the lives of people in under-developed nations. Involving students in projects in villages like Fawomanye where the people were using water from a polluted pump. The Global Resolve team found an alternative source for the polluted water and created low-energy purifying pump. Students involved in the Global Resolve team acknowledge that there are local and global challenges that need entrepreneurial disciplined individuals to take interest. The Global Resolve program receives donations from local businesses, churches, and organizations to fund their projects.

B. Entrepreneurship Across the Curriculum

Binghamton University may of incorporate an Entrepreneurship and Innovation Institute, but until then the university is taking actions through its Entrepreneurship Across the Curriculum program (ExC). ExC encourages faculty members to modify a course integrating entrepreneurship into the curriculums. The program is designed to introduce students from a variety of disciplines to the idea of entrepreneurship and how it could be applied to what they are learning. This year, the ExC program awarded grants to three professors from different academic schools for their proposals on how their integrated course would promote entrepreneurship. Bioengineering professor George Catalano revised the “Modeling and Design for a Sustainable Planet” course which is geared to engineering eco-effective designs that can be integrated to create sustainable communities. Professor Catalano is giving students case studies that demand students to apply their engineering discipline to create an innovation that would alleviate the problem presented.

Another professor in the program is Dr. Diane Crews a professor from the College of Community and Public Affairs. Dr. Crews course “Pro-seminar in Civic Entrepreneurship” which connects students with community leaders to address issues faced in the Binghamton local community. The research project for each year’s class creates an entrepreneurship culture sparked by how to retain young talent in the Southern Tier. The course enhances student network by connecting them with

professionals and involving students in solving issues in the local community. During a semester long course, students research and then present their project recommending their entrepreneurial ideas to local community leaders.

The third professor is Weiyi Meng from the Computer Science department, who teaches the course “Web Data Management.” The course was tweaked to introduce computer science students to techniques for using databases to start a company. The use of search engines and database allows students to effectively research concepts that may or may not have solutions. Seeking these concepts promotes entrepreneurship as students are challenged to create their own entrepreneurial concepts for their research.

V. RECOMMENDATIONS

A. Entrepreneurial Discipline Minor

Capitalizing on student’s intellectual capacity and interest is essential for improving Binghamton University’s role in the community. Currently, the CIC2020 course Pro-Seminar in Civic Entrepreneurship is the only interdisciplinary course that challenge students to entrepreneurially address local issues. The CIC2020 course proves that Binghamton University students have taken interest in the needs of the local community. A problem coincides because it is the only curriculum in Binghamton University designed to promote civic entrepreneurship. The new SUNY strategic plan the “Power of SUNY” demands Binghamton University to reinvent its curriculum to promote student participation in local and global entrepreneurship. Creating an entrepreneurial discipline minor that encompasses SUNY’s strategic plans needed to successfully execute innovative operations.

The minor will be achieved by completing one introductory course, two intermediate courses, two expertise level courses and one elective course. The introductory course will teach students the importance of entrepreneurship in both the global and local community as it finds solutions through innovation or reinvention. This course will introduce students to entrepreneurial thinking, behavior, and executions. Preparing students by teaching the concept and art of entrepreneurship, formulating and expressing ideas, and how entrepreneurship has been applied in the global and local community. The first intermediate course consist of writing business plans and proposals, finding funds, filing for loans, and will be introduced to organizations that assist entrepreneurs. This course will give students a better understanding of the insider work of an entrepreneur and the process of becoming successful. Students promoted to the second intermediate course are taught the in-depth concept of the Kolb’s Learning Model and how it is applied to gain entrepreneurial discipline. Students would be taught through the four stages of leaning by simulating a global or local issue faced in the community. The students are to create a project applying the four stages of learning to innovate a solution for the issue. The goal of the course is to strengthen student’s entrepreneurial discipline and thinking.

Upon completion of the introductory and intermediate courses students are promoted to the upper level expertise courses. The first expertise course uses the

material learned from the preceding courses expanding on the concepts taught in each. Students are taught the detailed method of writing a business plan and proposal; are taught about micro-financing and angel investors; student will also learn about how entrepreneurship has revolutionized society. Students will be provided with extensive research and methods for applying entrepreneurship to prevalent obstacles in the global society. The final expertise course will strengthen student's entrepreneurial discipline by mandating a semester long project consisting of identifying a local or global issue and finding the best practicable solution. Students will need to create a business plan and proposal, find sources of funding, and apply all skills and knowledge they have attained. If interested, students are encouraged to further their project and implement their innovation.

B. Adopt-A-Local Business

The application of entrepreneurial discipline to address local community issues can be achieved through the formation of a student organization. The formation of a student cohort interested in improving local businesses will enhance the relationship between the university and the community. The organization would serve as an adopt-a-business program where the students are linked with a business for a two-months period. Students in the organization would have weekly meetings to discuss the current state of the business and how they can help improve it. Students in the organization will apply their disciplinary field of study in a brainstorm exercise that promotes participation supporting opinions and views. The organization is open and encourages students of all disciplines to participate. It is direly important that there is a concoction of different majors as it allows for a crossbreed of ideas. The organization operates similarly to CIC2020 which embarks in a semester long student brainstorm of practices for the community or university to implement.

The organization would seek local businesses willing to receive assistance for two months resulting in a final project to be recommended to help boost the business. Local businesses would receive assistance in their field of choice ranging from marketing, financing, production, innovations, and consumerism. During the two month partnership the cohort will focus on what type of retention the business is facing. At the end of the two months the organization will assemble a best practice for the business to adopt. The organization will then assist the business in adopting the new concept by presenting their research and best practice to the business owner. The best practice recommendation would derive from collaborative research from the organization and business. The organization is mandated to check with the business two months after the new application and observe any improvements or setbacks. Tracking the progress businesses have made due to the organizations assistance project is essential for future recommendations. It will help students know which methods to use when deriving recommendations and which methods to avoid. Being aware of the improvements businesses made will help the organization's integrity in both the university and local community. As success rates increase the number of businesses seeking assistance will increase as well.

A similar organization is already existent for partnerships between corporate

companies and developing countries. *Adopt-a-Business* (AAB) was established in 2003 to provide innovative services that “help organizations attract, retain, develop, and inspire their people while simultaneously using their skills to help make a real difference” (adopt-a-business.com). AAB was created with a mission to make a positive social impact and contribution to a developing country. The organization provides different services that promote leadership development; participants are placed on either the “outzone experiences” or “pulse assignments.” The “outzone experiences” program is a three to four week experience assignment that places participants “out of their comfort zones” (AAB), and places them in a new environment surrounded by a new culture. “Outzone experiences,” teach participants how to create innovations for their new surrounding given what they have experienced before. At the same time it increases a participants awareness, motivation, and appetite for challenges. The second program, “pulse assignments,” pair participants with partnered organizations for a three to six month period to “support an area of strategic and ongoing importance” (AAB). The group is expected to develop an alternative approach to make a distinctive contribution to the developing country.

The AAB can serve as a model for the Adopt-a-Local Business (AALB) organization due to its impact in creating innovations for developing countries and the number partnerships it has attained. Programs from the AAB could be the backbone to the AALB, serving as a model for teaching participants how to interact in given situations, thinking beyond the basics, and operating outside of the comfort zone. Through the organization participants will learn how to survey situations and apply the best methods and solutions possible. Having such organization in Binghamton University will increase student participation in the local community as they become familiar with businesses, owners, area, and how they operate. Students will play an essential role in the advancement of the Binghamton local community by providing entrepreneurial innovations that foster prosperity.

The organization and the business shall sign an agreement of confidentiality for privacy of information and data usage. The agreement serves to entrust and protect the business and organization from any misuse of information. During the two months period the business and organization will be sharing information and data that shall only be discuss during meetings due to confidentiality. The agreement will protect the entity’s information and will give assurance that any information, data, and/or projects will not be released to other businesses or organizations. The relationship and resources needed by the organization or business will vary from partnerships therefore the agreement will be edited to meet the business and organization’s needs during the two month period.

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