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Exploring the Goals, Content, and Methods of Entrepreneurship Professors: A Multiple Case Study

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EXPLORING THE GOALS, CONTENT, AND METHODS OF ENTREPRENEURSHIP PROFESSORS: A MULTIPLE CASE STUDY

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Carlos A. Albornoz

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To: Dean Delia C. Garcia
College of Education

This dissertation, written by Carlos A. Albornoz, and entitled Exploring the Goals, Content, and Methods of Entrepreneurship Profressors: A multiple Case Study, having been approved in respect to style and intellectual content, is referred to you for judgment.

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DEDICATION

Quiero dedicar este trabajo a mi esposa Loreto y mi hijo Diego. Su existencia es la inspiración a dar lo mejor de mi cada día, con alegría, esperanza, y rigor. También a mi madre y mi hermano Víctor, quienes desde la generosidad y el amor me entregaron el apoyo para alcanzar mis metas personales.

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ABSTRACT OF THE DISSERTATION

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Along with the accumulation of evidence supporting the role of entrepreneurship in economic development (Acs & Armington, 2006; Kuratko, 2005, Reynolds, 2007), governments have persisted in encouraging people to become entrepreneurs (Acs & Stough, 2008; Brannback & Carsrud, 2008). These efforts have tried to reproduce the conditions under which entrepreneurship emerges. One of these conditions is to develop entrepreneurial skills among students and scientists (Fan & Foo, 2004).

Entrepreneurship education within higher education has experienced a remarkable expansion in the last 20 years (Green, 2008). To develop entrepreneurial skills among students, scholars have proposed different teaching approaches. However, no clear relationship has been demonstrated between entrepreneurship education, learning outcomes, and business creation (Hostager & Decker, 1999).

Despite policy makers demands for more accountability from educational institutions (Klimoski, 2007) and entrepreneurship instructors demands for consistency about what should be taught and how (Maidment, 2009), the appropriate content for entrepreneurship programs remains under constant discussion (Solomon, 2007). Entrepreneurship education is still in its infancy, professors propose diverse teaching goals and radically different teaching methods. This represents an obstacle to

development of foundational and consistent curricula across the board (Cone, 2008). Entrepreneurship education is in need of a better conceptualization of the learning outcomes pursued in order to develop consistent curriculum. Many schools do not have enough qualified faculty to meet the growing student demand and a consistent curriculum is needed for faculty development. Entrepreneurship instructors and their teaching practices are of interest because they have a role in producing the entrepreneurs needed to grow the economy.

This study was designed to understand instructors' perspectives and actions related to their teaching. The sample studied consisted of eight college and university entrepreneurship instructors. Cases met predetermined criteria of importance followed maximum variation strategies. Results suggest that teaching content were consistent across participants while different teaching goals were identified: some instructors inspire and develop general skills of students while others envision the creation of a real business as the major outcome of their course. A relationship between methods reported by instructors and their disciplinary background, teaching perspective, and entrepreneurial experience was found.

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CHAPTER I

INTRODUCTION

This multiple case study explores how entrepreneurship professors design their curriculum. This chapter begins with the background of the problem, problem statement, purpose of the study, and research questions. A theoretical framework, delimitations of the study, definitions of terms, significance of the study, and a brief summary are provided.

Background of the Problem

"Entrepreneurship is the process of getting into and operating your own business" (Meyer & Allen, 1994, p.46). Beginning in the 1970s, small firm job creation in North America and Europe began to increase while large firm job creation began to decline (Birch, 1987; Loveman & Sengenberger, 1991). The declining strategic importance of scale economies, the instability of the finance market, and the need to assimilate changes rapidly might explain why big corporations have reduced the number of jobs offered while small businesses increasingly create more jobs (Audretsch, Keilbach, & Lehmann, 2006). Entrepreneurship plays a role fostering innovations that lead to increased productivity (Kuratko, 2005) and is strongly associated with faster economic growth of local economies (Acs & Armington, 2000).

Along with the accumulation of evidence supporting the role of entrepreneurship in economic growth (Acs & Armington, 2006; Baumol, Litan, & Schraman 2007; Kuratko, 2005, Reynolds, 2007), governments have persisted in encouraging people to become entrepreneurs (Acs & Stough, 2008; Cooke, 2005; Brannback & Carsrud, 2008). Singapore, Israel, Ireland, Taiwan, India, and China have tried to duplicate the Silicon Valley experience by recreating the ecological elements that they believe lead to innovation and entrepreneurship (Fan & Foo, 2004). Many Nordic and Anglo Saxon

countries have implemented policies to boost entrepreneurship and increase innovativeness (Hjalmarson & Johansson, 2003; Saxenian 1994). In Australia, the Federal Government invested $2.9 billion in 2001 to include a culture of entrepreneurship and innovation in the educational system (Jones, 2007). The Kauffman Foundation donated $40 million in 2003 to make entrepreneurship education available across U.S. university campuses (Kauffman Foundation, 2009). All these efforts have tried to reproduce the conditions under which entrepreneurship emerges; one of these conditions is the existence of entrepreneurial skills among students and scientists (Fan & Foo, 2004).

As an important part of the innovation systems that policy makers encourage in search of high growth businesses (Brannback et al, 2009), entrepreneurship education within higher education has experienced a remarkable expansion (Green & Rice, 2007; Katz, 2003). In the U.S., the number of universities reporting courses in entrepreneurship grew from 300 in the early 1980s to 1,050 in 1990 (Solomon, Weaver, & Fernald, 1994). The number of entrepreneurship courses that colleges and universities offer, grew from less than ten in 1970 (Kuratko, 2005) to over 2,000 in 2008 (Cone, 2008).

In addition to the interest of governments, the rise of entrepreneurship programs has been fueled by an unprecedented student demand for an education that provides the skills needed to succeed in an increasingly divergent business environment (Cooper, Bottomley, & Gordon, 2004; Murray, 2001). In response, educational institutions have implemented learning activities associated with entrepreneurship such as lectures on business concepts, business-planning competitions, interaction with practitioners, and networking events (Al-Laham, Souitaris & Zerbinati, 2007). Common methods used to teach entrepreneurship are business plan writing, case studies, guest speakers (Vesper,

1985; Klatt, 1988; Kent, 1990), project based exercises, consultation with real entrepreneurs (Klatt, 1988), simulations (Pittaway & Cope, 2007) environmental scans (Solomon, 2008), field trips, and the use of video and films (Klatt, 1988). Teaching activities have been implemented not only at business schools but also at engineering, agriculture, and art and science schools without the involvement of faculty from business schools (Green & Rice, 2007).

Scholars who research entrepreneurship education have described in detail what exists as teaching methods (Solomon, 2008; Gartner & Vesper, 1994), analyzed what has been done (Garavan&O'Cinneide, 1994; Gibb, 2002; Politis, 2005; Young & Sexton, 1997; Pittaway, & Cope, 2007) and studied the factors associated with opportunity recognition that are believed to be associated with entrepreneurial capacity (Roomi & Harrison, 2008; Kellermanns, & Eddleston, 2006). Scholars have also studied the factors that influence individuals to become entrepreneurs (Hasenmark, 1998) and the impact that specific programs have on entrepreneurial intentions (Zhao, Seibert, & Hills 2005).

Even though energy and resources have been dedicated to teach entrepreneurship, no clear relationship has been demonstrated between entrepreneurship education and students becoming entrepreneurs (Hostager & Decker, 1999). In fact, in 2009 people wanting to be entrepreneurs declined by 20% (GEM, 2009) and research has shown that after 4 years of entrepreneurship courses, interest in pursuing self-employment tends to dissipate (Whitlock & Master, 1996).

Entrepreneurship education is still in its infancy (Carayannis, Evans, & Hanson, 2003). Professors propose diverse teaching methods and set radically different teaching goals for their classes. For instance, DeTienne and Chandler (2004) aim to develop opportunity recognition skills while Shepherd (2004) aims to develop abilities to

manage emotions associated with failure. Fiet (2000) gathered 18 professors at the Rensselaer Polytechnic Institute (RPI) to discuss the learning aspects of entrepreneurship. The retreat's participants shared their syllabi to analyze the topics they covered and found that the range of content covered was diverse. One of the conclusions of this meeting was that entrepreneurship instructors are highly influenced by their own research streams when choosing content for their classes (Fiet, 2000).

For some reason, the teaching of entrepreneurship ignores the lessons learned from entrepreneurship research (Bechard & Gregoire, 2005). Five obstacles might prevent scholars from considering the educational implications of their research: (a) the need of the field for legitimacy which relegates entrepreneurship teaching to a secondary place, (b) the belief that research on entrepreneurship education does not generate the same professional rewards as research in business, (c) the scant pedagogical training of most scholars in the field, (d) the difficulty in pursuing interdisciplinary research, and (e) the teaching is done mostly by non tenure track adjunct instructors (Bechard & Gregoire, 2005).

Increasingly, entrepreneurship instructors are demanding more consistency about what should be taught and how (Maidment, 2009), but the appropriate content for entrepreneurship programs remains under constant discussion (Gibbs & Cotton, 1998; Solomon, 2008; van der Kulip &Verheul, 2002).

Problem Statement

Judith Cone (2008), the Vice President of Entrepreneurship at the Ewing Marion Kauffman Foundation, states that the emerging field of entrepreneurship is in need of curriculum and course work that is grounded in research in the field of entrepreneurship. The Kauffman Foundation is looking "to develop and disseminate an entire new learning sequence for students…to fill a key gap in the curriculum" (Cone,

2008, p. 1) and "at refining and disseminating a very promising new approach to teaching opportunity recognition" (p. 1).

A common explanation of the lack of consistency between instructors is that entrepreneurship is an emerging field; therefore, teaching goals and content vary as scholars develop entrepreneurship theory (Block & Stumpf, 1992; Solomon, 2008). This explanation though gives little attention to the role that instructors play in influencing the selection of different goals, content, and methods to teach entrepreneurship.

Scholars who research entrepreneurship education have focused principally on describing (Solomon, 2008; Gartner & Vesper, 1994) and analyzing (Garavan & O'Cinneide, 1994) what exists as teaching methods (Gibb, 2002; Politis, 2005; Young & Sexton, 1997; Pittaway, & Cope, 2007). Separate elements of the teaching process have been studied such as content (Fiet, 2000), teaching methods (Solomon, 2008), and teaching goals (Bechard & Toulouse, 1998). However, this research did not find any studies that investigate the teaching process as a whole; involving the instructors and how they select goals, content, and methods for their classes. For instance, asking students to write a business plan widely used by entrepreneurship professors as teaching method (Audet, 2004; Solomon, 2007). However, publications underscoring the presence of business plans as method rarely show how business plans are used by the teachers (Carrier, 2007). Carrier (2005) pointed out that the business plan is often used for the wrong teaching goal.

The Kauffman foundation is looking to disseminate an entire new learning sequence for students and redefine the approach to teaching entrepreneurship (Cone, 2008). The Kauffman Foundation's attempt is not new in the field. Kickul and Fayolle (2007) propose that, in order to prepare entrepreneurs to cope with the substantial

transformation in the business environment of the last two decades, non-traditional methods to teach entrepreneurship need to be created. "Entrepreneurship educators need to be more proactive in how they plan and organize their programs to develop entrepreneurs" (Kickul & Fayolle, 2007, p.1). If entrepreneurship instructors need to incorporate new approaches of teaching, then we need to understand how they plan their teaching practice. To modify how instructors perform, we must first understand the assumptions they use to define teaching and learning (Pratt, 2005). The first step to improve instruction is to clarify what faculty want students in their courses to learn (Angelo & Cross, 1993).

To understand how entrepreneurship instructors plan and create their curriculum is important to envision how to improve entrepreneurship teaching in the future. For instance, if instructors select methods and content according to what is more effective to achieve expected goals, then we need to identify the most effective methods to reach those goals and train instructors to do this. However, if instructors select methods and content according to their beliefs with regard to entrepreneurship education, then we need to understand instructors' assumptions to influence their teaching performance. To focus the attention on the instructors might be especially important because there is not agreement on the field on what constitute entrepreneurship education (Kirby, 2007).

Purpose of the Study and Research Questions

The purpose of this multiple case study was to understand how instructors design their curriculum for an entrepreneurship course in higher education. *Curriculum design* is defined as the selection of teaching goals, course content and teaching methods to be implemented and used during the course. The primary research question guiding this study was: How do instructors select teaching goals, content, and methods to teach entrepreneurship? Secondary research question were: Does entrepreneurial

experience influence how entrepreneurship instructors design their courses? Do teaching perspectives influence how entrepreneurship instructors design their courses? Does teaching experience influence how entrepreneurship instructors design their courses? Does student audience (whether engineering or business) influence how entrepreneurship instructors design their courses?

Conceptual Framework

The conceptual framework for this study was derived from concepts and theories from education literature related to what influence teaching practice and how teachers reflect on their practice. This section introduces (a) the General Model for Teaching (Pratt, 1998), (b) the concept of reflective practice, and (c) presents studies about what might influence curriculum design in higher education.

The General Model for Teaching

The General Model for Teaching (GMT) is an organizing framework for decisions made when teaching adults (Pratt, 1998). As educators show greater or lesser commitment to specific elements and relationships present in the teaching process, instructors adopt different perspectives to teach. A teacher perspective is "an inter-related set of beliefs and intentions related to knowledge, learning and the role of a teacher. It is a lens through which we view our work as educators" (Pratt, 2005, p.3). These perspectives correspond to five substantively different views of teaching that can be identified using the Teaching Perspective Inventory (TPI). The teacher perspectives are: (a) transmission, (b) apprenticeship, (c) developmental, (d) nurturing, and (e) social reform (Pratt, 2005). The elements present in the teaching process are teacher, learners, content, context, and ideals. The relationships present are learner-content, learner-teacher, and teacher-content.

The teacher perspective inventory reveals to which element of the GTM the

instructor feels more committed to. Commitment is defined "as a sense of loyalty, duty, responsibility, or obligation associated with one or more elements within the General Model of Teaching" (Pratt, 2005, p. 7). Instructors' commitment to specific elements affect instruction planning, implementation, and evaluation (Pratt, 1998). For instance, an instructor more committed to the learners will be more focused on helping students to gain confidence or prepare them for life's challenges. An instructor committed to the context would consider that significant learning only happens when learning is applied in the real world (Pratt, 2005).

Pratt (2005) labels as *action* the way that an instructor teaches, *intentions* what the instructor is trying to accomplish, and *beliefs* the statements of why those *actions* and *intentions* are reasonable, important, or justifiable. Understanding instructors' actions, intentions, and beliefs contributes to understanding what frames the teaching process (Pratt, 1998).

Reflective Practice

Asking instructors about what they what to teach (content), how (methods), and why (goals) implies to asking them to reflect about their practice. Reflection is different from thought, belief and imagination (Dewey, 1933). Reflection involves becoming aware about the assumptions that guide our practice. Assumptions are the taken-for-granted beliefs about how the world works (Brokkfield, 1995). There are three categories of assumptions: paradigmatic, prescriptive, and causal (Brookfield, 1995). Paradigmatic assumptions are the axioms or paradigm people use to organize the world. A paradigm is a set of assumed background questions, standards, and methods about what questions need to be answered and what would count as a good answer to them (Kuhn, 1970). Prescriptive assumptions are assumptions about how a good teacher should behave, what good education encompasses, and what are the teacher and

learners' duties in the classroom. Causal assumption refers to the effect that we attribute to a cause, the result that we expect from what we do as instructors.

Depending on their beliefs and values, practitioners have different orientations toward reflective practice (Wellington & Austin, 1996). Wellington & Austin (1996) have described five orientations toward reflective practice according to the belief and value system of practitioners: the immediate, the technical, the deliberative, the dialectic, and the transpersonal. These perspectives are not competing views but different ways of going about reflective practice.

Reflective practice can involve a situation while we are doing it or after it has happened (Schon, 1987). The first is known as *reflection-in-action,* the second as *reflection-on-action* (Merriam, Caffarella, & Baumgartner, 2007). *Reflection-on-action* is primarily analytical, the person consciously returns to the experiences he/she has had to reevaluate that experience and may result in "new perspectives on experiences, changes in behaviors, and commitments to action (p.175)". During this study, entrepreneurship instructors were asked to reflect on their experience after it has happened to identify how they go through the process of selecting what to teach, who, and to achieve which goals.

Curriculum Design in Higher Education

The discipline in which an instructor is trained has been found to influence the way how an instructor teaches. Teachers of a given discipline share a value system with respect to instructional goals that is significantly different from that of colleges in other disciplines (Angelo & Cross, 1993). In support of this hypothesis, Barnes (1998) found that, depending on the discipline instructors are trained, there are differences in the teaching goals that instructors considered most important. Pratt (2004) also demonstrated that teacher perspectives vary across disciplines.

Whether instructors are starting, ending or are in the middle of their career have also shown to influence instructors' belief about their role as teachers. Prospective elementary teachers beginning their introductory education were found to believe that teaching consists of reproducing what the teacher tells you (Feiman-Nemser, 1988). Instructors entering secondary teacher preparation were convinced that good instructors should treat their students like family, emphasizing affective and interpersonal aspects over content knowledge (Rathbone & Pierce, 1989). Leverenz and Lewis (1981) found that faculties whose educational background and professional activities are in a different field from their teaching assignment are primarily concerned with preparing students for life situations. Disciplinary background and seniority as teacher seems to influence teaching practice at some extent.

Significance of the Study

Entrepreneurship instructors and their teaching practices should be of interest to researchers because they have a role in producing the entrepreneurs needed to grow the economy and the classroom teacher is the most important factor in student achievement (Friedrichsen, et al., 2009). To understand entrepreneurship teaching practices represents a challenge because entrepreneurship instructors vary widely in terms of educational backgrounds, entrepreneurial experiences, and field of teaching. In addition to that, there is an increasing interest by governments in fostering entrepreneurship within their university system. The field of education, specifically adult education (i.e., Pratt, 2003), might contribute to understanding best practices in teaching (i.e., Cross, 1981; Merriam & Caffarella, 1999), content development, and teaching methods (e.g., Schön, 1987) for entrepreneurship education.

Delimitations of the Study

This study is delimited to entrepreneurship instruction in college and universities

and do not includes cases from other educational contexts such as high school or vocational education. In spite of this study focuses on college and university entrepreneurship instructors, because this is a qualitative study, the finding cannot be generalized to the larger population of college and university instructors. The finding and conclusions are circumscribed to the instructors included in the sample. Another delimitation of this study is the fact that it focuses on content that enable people to start businesses, not other type of activities such as to do research or teach entrepreneurship.

Definitions of Terms

Content. "Is the specific domain of knowledge, skills, abilities, processes, and affect addressed during the teaching and learning exchange" (Heimlish & Norland, 1994, p. 51).

Context. "This refers to the conditions that prevail during the learning that are not personal or psychological attributes of the learner or teacher" (Conti & Colodi, 2004, p. 189).

Entrepreneurship education. "The process of providing individuals with the concepts and skills to recognize opportunities that others have overlooked and to have the insight, self-esteem, and knowledge to act where others have hesitated" (McIntyre & Roche, 1999, p. 33).

Entrepreneurial experience. Is defined as the condition of being or having been an entrepreneur.

*Entrepreneur. "*A person who starts a business where there was none before" (Gartner, 1985, p. 234).

Entrepreneurship. "It is the process of getting into and operating your own business" (Meyer & Allen, 1994, p.46).

Ideals. "Images of excellences that are not yet realized and they [the images] are

aims or goals we deeply desire to realize" (De Ruyter, 2003, p. 468).

Firm birth. "A firm birth is the creation of a combination of productive factors that are not branches or subsidiaries of existing businesses; they are independent new ventures" (Reynolds, 2007 p.18).

Learners. "People who are developing expertise in new and unknown work domains" (Quintana, Krajcik, &Soloway, 2000, p. 256).

Post secondary teachers. Professionals who develop a lesson plan, present material to students, respond to students learning needs, evaluate student progress, do research in the subject they teach, and keep up with recent developments in their field (Bureau of Labor Statistics, 2009)

Teaching. "Facilitation of personal growth and development that impacts the professional, social, and political aspects of learners" (Galbraith, 2004, p. 3).

Teaching goals. "Cognitive constructs that describe (at various levels of detail) what the teacher wants to accomplish" (Aguirre & Speer, 2000, p. 332)

Teaching method. The techniques used to deliver the course content and achieve learning objectives (Conti, 2004).

Teaching perspective. A perspective on teaching is an inter-related set of beliefs and intentions that gives direction and justification to our teaching actions (Pratt, 1998, p.3).

Summary

This chapter provided the background of the study, the problem statement, the purpose statement, and the research questions. The conceptual framework, significance of the study, delimitations, definition of terms, and acronyms used in the study were also discussed. Chapter 2 provides a review of the literature that supports this study. Chapter 3 introduces and describes case studies as research method and procedures used

to conduct the study. Chapter 4 presents the study's data and findings. Chapter 5 summarizes the study and present conclusions, recommendations, and implications for HRD.

CHAPTER II

REVIEW OF THE LITERATURE

This section presents a review of the literature pertinent to the study of how instructors design their curriculum to teach entrepreneurship. The first section of this chapter provides an overview of entrepreneurship, contextualizing entrepreneurship historically and arguing that the field emerges as a consequence of a deep transformation in the business environment. Then, an overview of entrepreneurship education is presented, including different theoretical perspectives, school of thoughts, and differences between traditional business education and entrepreneurship education. Since curriculum design has been defined as the selection of teaching goals, course content, and methods, the section present a review of studies that implicitly or explicitly propose content, goals, and methods to teach entrepreneurship. Finally, a review of the adult education literature on teaching, GTM, reflective practice, and adult learning is provided.

Entrepreneurship

Entrepreneurship is the transformation of a product or service into a sustainable enterprise that generates value (Kauffman Foundation, 2008). An enterprise is "any entity, new or existing, that provides a new product or service or that develops and uses new methods to produce or deliver existing goods and services at lower cost" (Baumol, Litan, & Schramm, 2007, p.3).

Overview of Entrepreneurship

Entrepreneurship is a powerful force for job creation and innovation (Bygrave&Zacharakis, 2004; Reynolds, 2007). The more businesses exist; the greater is the competition for attracting clients. In the effort to attract clients, entrepreneurs innovate to improve products, services, and processes. Those who are not capable of

innovate become less competitive and disappear.

Entrepreneurship is a very common vocation. Over 370,000 people between 16 and 24 years old are considered self-employed in the occupational category that includes entrepreneurs (U.S. Bureau of Labor Statistics, 2007) and more than 11 percent of U.S. households own a business (Shane, 2008). One of every 150 adults in the U.S. participates in the founding of a new firm every year, and one out of twelve adults is involved in trying to launch a new firm at some point in life (Kuratko, 2005).

New firms also play a major role in any open market economy because they create jobs and foster economic growth (Shane, 2008). Between 1960 and 1983 the number of corporations and partnerships in the U.S. went from 2 million to 4.5 million. In 1999, almost 80 percent of American firms had less than 10 employees (McIntyre & Roche, 1999). The American economy has reinvented itself by fostering and promoting entrepreneurial activity. In the U.S., small firms account for the 80 percent of the new jobs created, 39 percent of all high tech workers, and produce approximately 14 times more patents per employee than large firms (Bygrave&Zacharakis, 2004).

Comparisons between nascent entrepreneurs and non-entrepreneurs have found that prior personal wealth did not significantly predict whether individuals would engage in entrepreneurial activity, but education and some forms of human capital such as prior self employment were highly correlated to business formation activity (Cross et al., 2002). In fact, 64 percent of business owners had at least some college education (Census Bureau, 2002) and 92 percent of the businesses founded in the U.S. in 2004 had at least one owner who had experience in the same industry as the new business (Shane, 2008). In terms of the rate of business creation, over 50 percent of new businesses will fail in the first year and 95 percent within the first five years of being created (SBA, 2007).

History of Entrepreneurship Education

In February of 1947, Harvard Business School opened its doors to the first entrepreneurial course. One hundred and eighty-eight out of 600 second-year Master of Business Administration (MBA) students took that entrepreneurship course as an elective (Katz, 2003). The class became popular over the next few years; however, tenure track faculty saw little future for the course content and instead focused students' attention on big corporations and their management philosophies (Vesper & Gartner, 1997). The study of entrepreneurship declined in the 1950's and 1960's (Vesper & Gartner, 1997). As interest in entrepreneurship declined, big corporations continued to grow in strength, revenue, and influence within the American economy. Entrepreneurship carried by the sixties an unfashionable connotation of gluttony, egotism, and manipulation (Vesper & Gartner, 1997).

In 1953, Peter Drucker offered *Entrepreneurship and Innovation* at New York University and a year later, Stanford offered the first small business course in its MBA program (Kats, 2003). For the next several years, universities such as Indiana, MIT, and the University of South Dakota were adding entrepreneurial classes to their curricula (Kats, 2003). In 1963, the *Journal of Small Business Management* was published. It was the first refereed journal of its kind to be devoted to entrepreneurial/ small business research (Kats, 2003). By 1970, 16 universities were offering courses in entrepreneurship. The first conference was organized at Purdue University in 1970. The year after, Babson started the Entrepreneurship Research Conference that has been in place until now. New publications dedicated to the field of entrepreneurship were emerging such as *Inc*., *Venture*, *In-Business*, and *Entrepreneur* magazines. Also, academic publication were given legitimacy to the field such as the Journal of Small Business Management created in 1963, the American Journal of Small Business created

in 1975, and the Journal of Business Venturing created in 1985 (Ireland, 2005). In 1987 the entrepreneurship interest group becomes a division of the academy of management. Perspectives in Entrepreneurship Research thorough History.

Reader and Watkins (2006) have identified twelve themes that entrepreneurship instructors do research about: corporate entrepreneurship, the economic role of entrepreneurs, organization change and development, start up and growth of new ventures, formal venture capital, strategic management in entrepreneurship, female/ethnic minorities and family business, characteristics of entrepreneurship, government policy and regional development.

Depending on which school of thought and theoretical perspective the researcher belongs to, the term "entrepreneur" has acquired different definitions. Entrepreneurs has been defined has people who start businesses (Gartner, 1985); promote innovation and creativity (Schumpeter, 1934); identify, exploit, and pursue opportunities (Peterson, 1985); or identify, develop and bring a vision to life (Johnson-Hunter, 2007). The definition that authors use to refer to entrepreneurs seems to be influenced by the school of thought they explicitly or implicitly follow and the theoretical perspective that guides their reflection. I consider an entrepreneur anyone who creates an organization to accomplish a vision.

Cunningham and Lischeron (1991) identified six schools of thought that have viewed entrepreneurship from fundamentally different perspectives: The Great Person School, The Psychological School, The Classical School, The Management School, The Leadership School, and The Intrapreneurship School.

The Great Person School holds that the entrepreneur as someone with a sixth sense, an intuitive ability s/he is born with. This school assumes that without the inborn intuition, the individual would be like anyone else. Under this vision, entrepreneurs are

born not made, so education would have little to contribute in this perspective.

The Psychological School sees the entrepreneur as someone with unique psychological characteristics, values, attitudes, and needs that drive them. This school assumes that people behave in accordance with their traits as do entrepreneurs. Cultivating the set of traits that drives entrepreneurial behaviors makes it possible to foster entrepreneurship. The foundation for this school was provided by David McClelland (1962) in his book *The Achieving Society*. McClelland posited that entrepreneurs had a higher need for achievement than non entrepreneurs and that they were moderate risk takers. After two decades of research, evidence supporting the separation of entrepreneurs from non entrepreneurs according to a set of psychological traits found only weak relationships (Aldrich &Wiedenmayer, 1993).

The Classical School of entrepreneurship implicitly posits that entrepreneurs are innovators. The critical aspect of entrepreneurs is that they are in the process of doing new things rather than controlling organizations or resources. Innovation, creativity, and discovery in this school of thought are the central features of the entrepreneurial action. If entrepreneurs are innovative, creative, and qualified to discover opportunities, the challenge for educators is how these skills can be taught.

The Management School posits that entrepreneurs are organizers of an economic venture. They are fundamentally risk-takers who organize, own, and manage resources. The main assumption of this perspective is that entrepreneurs should be trained in the technical function of management. Peter Drucker (1954) worked in developing the principles, practice, and discipline of entrepreneurship. For Drucker (1954), applying management concepts and techniques, entrepreneurs interpret what is valued for the market. Entrepreneurship, like any other discipline can be learned (Drucker, 1954).

The Leadership School of entrepreneurship understands entrepreneurs as

leaders. For this school, entrepreneurs have the ability to adapt their leadership style to the needs of people. The central assumption of the Leadership School is that entrepreneurs cannot accomplish their goals alone, but depend on others they influence. Under this view, entrepreneurship education would have a lot in common with leadership training.

Finally, Cunningham and Lischeron (1991) indentify the Intrapreneurship School which assumes that entrepreneurial skills can be useful in complex organizations, helping the organizations create and develop independent units to expand their services. In this view, organizations need to adapt to survive and entrepreneurship is what they need to accomplish adaptation.

Four major theoretical perspectives on entrepreneurship are also mentioned in the literature: The French tradition, The Modern Austrian tradition, The German-Austrian tradition, and The Chicago tradition (Westhead& Wright, 2000).

The French tradition is associated with the work of Cantillon (1931) and suggests that the entrepreneur is the key figure of economic markets because entrepreneurs bear uncertainty, pursue opportunities, and create profit. The Austrian tradition focuses on the entrepreneur as being alert to problems (Kirzner, 1973) to exploit unnoticed opportunities. In the Austrian tradition, "alertness" is what characterizes entrepreneurs, as opposed to the German-Austrian tradition (Schumpeter, 1934) where entrepreneurs innovate to introduce new goods or methods of production in unbalanced markets. The last theoretical perspective identified by Westhead& Wright (2000) is the Chicago school. In this perspective, entrepreneurs have special skills and competencies to take risks in uncertain environments and successfully coordinate scarce resources and create new firms (Knight, 1961).

Entrepreneurship Education

Kourilsky (1995) defines entrepreneurship education as opportunity recognition, the marshalling of resources in the presence of risk, and the building of a business venture. Benchard and Tolouse (1998) define entrepreneurial education as a collection of formalized teaching that informs, trains, and educates anyone interested in business creation. McIntyre & Roche (1999) use The Kauffman Foundation's proposal to define entrepreneurship education as the process of "providing individuals with the concepts and skills to recognize opportunities that others have overlooked and to have the insight, self-esteem, and knowledge to act where others have hesitated" (p.33).

Entrepreneurship has been understood as part of business education; however, it has profound differences with traditional business education. In the following section, it is argued that entrepreneurship education is the consequence of a deep transformation in the business environment that is pushing for a major revision in the way that business is taught, not only at business schools but also university wide and especially at engineering schools.

Entrepreneurship Education and a New Business Environment

There is a relationship between business education and the world of business; thus, forces such as international commerce, technological change, and how labor is distributed within organizations affect business education goals, content, and methods. Over the last 50 years, these factors (globalization, technology, and labor) have played a great role in the curricular changes seen in graduate business education in the U.S. (Friga, Bettis& Sullivan, 2003) and also have modified the role of engineering in society (Duderstadt, 2008). The increasing importance of entrepreneurship in the curriculum of business and engineering schools is the result of a deep change in the business environment. This change compelled business and engineering schools to

adjust their curriculum to respond to a more global, hyper connected, competitive, and fast paced ways of doing business (Chesbroug, 2006; Duderstadt, 2008; Gibbs, 2002; Klimoski, 2007).

A troubling economy, rapidly changing technology, and constantly evolving business models created a new context for business (Gibbs, 2002). As a consequence, there has been a pressing need from students, employers, and accreditation agencies to provide an education that empowers students to deal with uncertainty and globalization (Auken, Wells & Borgia, 2009;Fiet, 2000; Klimoski, 2007; Mintzberg 2004). Mintzberg (2004) illustrated this need for change asking business instructors to produce managers not theoreticians. Mintzberg (2004) posited that business instructors have to stop overemphasizing science and start promoting experiential learning to deal with an increasing uncertain business context.

The call to change from an analytical approach to a more practical one in business and engineering education was triggered by a revolution in the information and telecommunications' technologies (Henri, Hill &Litch, 2005; Gibbs, 2002; Klimoski, 2007). A technological revolution is "a powerful and highly visible cluster of new and dynamic technologies, products and industries, capable of bringing about an upheaval in the whole fabric of the economy and of propelling a long-term upsurge of development" (Perez, 2000, p.8). Consequence of the telecommunication revolution, a new system for creating wealth emerged and people knowledge become as important as machines and capital. Chesbroug (2006) labeled this change as the open innovation paradigm. In times of open innovation, knowledge worker are much more prone to create their own start up and leave their employers to implement own ideas. In this scenario, the skill set needed by business people and engineers demands a combination of political, market, and technological skills that enable them to offer innovative solutions (Duderstadt, 2009).

The revolution of telecommunications had therefore a major implication for the world of business.

The Emergence of Entrepreneurship Education.

As a consequence of the changes in the business context, students began to demand an education more consistent with the new environment emphasizing skills such as imagination, creativity, risk taking, uncertainty management, etc. (Gibb, 2000; Fiet, 2000). In this context, a particular type of business education, entrepreneurship education, began to receive more attention from policy-makers, students, and researchers (Lee, Lim, Pathak, Chang & Li, 2006). This change not only affected business and engineering schools but also, agriculture, arts and science schools (Green & Rice, 2007).

By 1995, over 400 courses were being offered in the U.S. at various institutions (Vesper & Gartner, 1997). It is estimated that in 2003, more that 2200 courses were being taught at over 1600 schools (Kats, 2003). Over 100 centers nationwide educate undergraduate, masters, and doctoral students in entrepreneurial activity (Kats, 2003) and 61 percent of U.S. colleges and universities offer at least one course on entrepreneurship (Bygrave, 2004).

Differences between Traditional Business Education and Entrepreneurship Education

Entrepreneurship education is broader that business education because it includes creativity, risk taking, and innovation (Jones, 2007). According to McMullan and Long (1987), Vesper and McMullan (1988), and Plaschka and Welsch (1990), entrepreneurship education curricula should be differentiated from traditional business education based on the stage of venture development. The challenge in entrepreneurship education is to more quickly generate a greater variety of different ideas for exploiting a business opportunity and to develop the ability to project a sequence of actions to

capture that opportunity successfully (Vesper & McMullan, 1988). Business education focuses on how to manage an existing business while entrepreneurship deals with the challenges of entry into a new market.

Business education uses experts for information gathering whereas entrepreneurship education tries to replicate, in the classroom, how entrepreneurs learn in the real world. In the real world, entrepreneurs learn very intuitively while business education does not promote the use of intuition. In business education critical evaluation is taught analyzing great amount of data while entrepreneurship education fosters decision making with limited information. Jack and Anderson (1998) suggest that teaching entrepreneurship is a bit of an enigma since the actual entrepreneurial process involves both art and science. The nascent part, which involves business and management functional skills, appears to be teachable using a conventional pedagogical approach. However, the art part, which relates to the creative and innovative attributes of entrepreneurship, does not appear to be teachable in the same way. Business education seeks "right answers" by analyzing information and does not aim to understand the emotions and values underlying real world decisions, while entrepreneurs make most decisions according to their own judgments about people and circumstances.

Kirznerian and Schumpeterian Views of Entrepreneurship

Kirzner (1973, 1979) and Schumpeter (1934) are two major authors in entrepreneurship who are considered intellectual opposite poles in the literature (Brännback&Carsrud, 2008). The distinction between Schumpeterian or Kirznerian view of entrepreneurship might influence entrepreneurship teaching because both perspectives understand entrepreneurial knowledge differently. In the following section, both views and its potential implication for teaching are explained.

Kirsner views of entrepreneurship. Kirzner (1973, 1979, 1997) viewed entrepreneurship fundamentally as the recognition of a business opportunity and entrepreneurs as somebody alert to opportunities. Entrepreneurs indent unnoticed opportunities and create business from that. In the process of creating new businesses, entrepreneurs restore the equilibrium of the market. Kirznerian entrepreneurship is implicitly seen by many as inferior, and not assumed capable of generating high growth companies as the Schumpeterian type of entrepreneurship (Brännback&Carsrud, 2008).

As is implicitly proposed by Kirzner, entrepreneurs notice and exploit opportunities that exist independent of the entrepreneur and before he/she notice the opportunity. Entrepreneurs create products for existing markets and their main challenge is to connect demand and supply through research. In this perspective, entrepreneurial learning is more logical and objective (e.g. Boland, 1982), context is important but not essential, and entrepreneurial practice would be a more conscious exercise of planning than practical coping in the everyday world (Oguz, 1996). Under the Kirznerian perspectives, what entrepreneurs do is to scan market needs and then develop, produce, and sell products to that market (Drucker, 1984).

Schumpeter perspective. Schumpeter (1950) understands entrepreneurship as creative destruction that produces chaos. Schumpeter (1934, 1950) views the entrepreneur as an innovator and entrepreneurship as the introduction of something new that destroys what is known. The market is created after the entrepreneur creates a radical innovation that destroys the old practices and replaces them with new one. The entrepreneurs' main distinguishable skill is to have the product and then to develop a market for it.

Under the Schumpeterian view, the set of skills needed to success as entrepreneur is a mix of technical and political skills. Either way entrepreneurs need

management skills to forecast sales, but the central challenge of entrepreneurs is to persuade others about the advantage of the product or process invented. In that sense, entrepreneurs are a sort of political agents and proficient readers of cultural contexts (Spinosa& Flores, 1997) who work at the intersection of technology and history. Entrepreneurship, in this lens, is a way of thinking; it is a way of viewing the world in response to the challenges it faces. This perspective understands entrepreneurial learning as practical knowledge, emphasizing "learning by doing" because the creation of something new is required.

Examples of the perspective where entrepreneurs create the markets for their products are from Saravithy (1998), and Acs (2009) who posit that entrepreneurs do not anticipate the future through market research but create a new market, displacing old human-device relationships with new ones.

Implications for Teaching

To some extent, the *Kirznerian alertness* is about capturing opportunities that already exist while *Schumpeterian innovation* implies producing an opportunity that did not exist. Alertness assumes that opportunities "live" outside the entrepreneur, independent from him/her and able to be captured by him/her. Under the Schumpeterian view, the opportunities are not there, the market is already in equilibrium and the entrepreneur creates the opportunity. In this sense, the opportunity is a creation of the entrepreneurial mind. In Schumpeters' view it is the entrepreneur who produces a new reality while in Kirznerian's view the reality was already there.

Educational programs in entrepreneurship may assume a reality independent of the observer (i.e. objectivism) or a reality dependent of the observer (i.e. subjectivism). This emphasis may drive instructors to design very different teaching activities. For instance, the Kirzneriansmight emphasize quantitative analysis and business plan

writing while Schumpeterian might emphasize creativity, team building, and therefore an education more focused on soft skills.

Teaching Entrepreneurship

The following section reviews the business literature that implicitly or explicitly proposes goals, contents, and methods that should be included in entrepreneurship education. Since the purpose of this study is to understand what guides instructors' selection of goals, content, and methods to teach entrepreneurship, this section presents a review of what, how and why entrepreneurship is taught currently.

Teaching Goals for Entrepreneurship Education

Teaching goals are the framework for the knowledge, skills, and values that students develop if they succeed in a given course (Angelo & Cross, 1993). Teaching goals communicate what the instructor is trying to accomplish, what students will be able to do as a result of the instruction, and how to measure the learning that has occurred. Teaching goals serve as a significant reference in assessing the effectiveness of the teaching efforts (Angelo & Cross, 1993). Without clear goals, there is not a reference point to help determine if the teaching activities implemented by the instructors are effective or not.

One popular categorization scheme for types of teaching goals in terms of learning objectives is Benjamin Bloom's (1956) taxonomy which includes five levels: (a) *knowledge*, which is primarily concerned with students' ability to memorize specific facts; (b) *comprehension*, which involves the ability to interpret, paraphrase, and extrapolate ideas; (c) *application*, which includes the ability to use concepts and principles in practical situations; (d) *analysis*, which implies breaking down a piece of information into parts and (e) *synthesis*, which includes the blending of elements to form a whole. It involves the creation of a structural pattern that was not previously

present. (f) *evaluation* is the last and the highest level in Bloom's taxonomy. At this level, students judge the value of a work, the logic of the data provided, and the adequacy of the conclusions presented. In most curricula, there is foundational knowledge and comprehension requirements that must be achieved before higher-order objectives can be addressed (Andrews, 1982). Most college instructors think they teach higher-level objectives when in fact they favor mostly lower-level learning (Andrews, 1982). Researchers (e.g., Béchard and Toulouse, 1998; Jamieson, 1984) who propose teaching goals for entrepreneurship education never used Bloom's or other categories from educational fields to structure their proposals.

In an effort to provide a framework to classify entrepreneurship education goals, Jamieson (1984) proposed that teaching goals in entrepreneurship education should be organized into three major categories: (a) education about enterprises, (b) education for enterprise, and (c) education in enterprise. Education about enterprises deals with awareness creation and would educate students about theories of how businesses are created and managed. Education for enterprise deals with the possibility of having a career as an entrepreneur and encourages students to start their own business: "Participants are taught the practical skills required for small business set-up and management, and the courses are often geared toward the preparation of a business plan" (Henry *et al*., 2005 p.102.). Education in enterprise "deals with management training for established entrepreneurs and focuses on ensuring the growth and future development of the business" (p.102). Hills (1988) surveyed 15 entrepreneurship educators in the U.S. to identify which objectives in entrepreneurship education they pursue. Hills (1988) found that entrepreneurship educators propose two major objectives: (a) increase awareness of entrepreneurship as a career option and (b) increase understanding of the process of creating a new business.

Garavan and O'Cinneide (1994) posited that the teaching goals for entrepreneurship education should be to undo the risk-adverse bias of analytical techniques, develop empathy for the unique aspect of entrepreneurship, encourage a positive attitude toward change, and stimulate entrepreneurial intention. Garavan and O'Cinneide (1994) differentiated between education for business creation and education for existing business. Education for business creation is the type of entrepreneurship education taught in higher education (Henry et al., 2005) and aims to educate students about the conditions that favor new business creation as well as the theories about the characteristics that make a successful entrepreneur (Garavan & O'Cinneide, 1994). In regards to education for existing business, three subtypes of business education can be distinguished: (a) *small business awareness*, which aims to increase the number of people who are sufficiently knowledgeable about small business to consider it an option at some point in life; (b) *small business education*, which aims to provide practical help to those seeking to make the transition toward self-employment; and (c) *continuing small business education*, which is designed to enable people to enhance and update their skills to run a business (Garavan & O'Cinneide, 1994).

Béchard and Toulouse (1998) identified four types of general teaching goals for entrepreneurship education: (a) entrepreneurship awareness, (b) business creation, (c) small business development and (d) training of trainers. Programs seeking to create entrepreneurship awareness provide general information about entrepreneurship and ask the audience to reflect on entrepreneurship as a career. Business creation programs train students in technical, human, and managerial skills to create a business. Small business development programs usually are created to match specific learning needs of small business owners. Training of trainers' type of programs teaches educators skills to do consulting, education, and follow up of small business.

The promotion of self-efficacy with regard to new venture creation would be the main teaching goal for entrepreneurship education (Cox, 1996). Self efficacy is an outcome of entrepreneurship education that is measured using the Theory of Planned Behavior (TPB) as a theoretical framework. Educational programs designed following the TPB (e.g., Galloway & Brown, 2002; Luthje&Franke, 2003; Zhao, Seibert, &Geralds, 2005) pursue the goal of developing the attitudinal antecedents that influence entrepreneurial intention, one of them is the perception of self-efficacy. The TPB assumes that human social behavior is reasoned, controlled, and planned, viewing people as rational beings who use information at their disposal to judge, evaluate, and decide actions. According to Ajzen, behavioral choice intentions are the best predictors of future behaviors. Behavioral intentions are determined by attitudes, subjective norms and perceived behavioral control (Ajzen, 1991). Education in entrepreneurship may influence these factors through socialization into entrepreneurship as a possible career path (Dyer, 1994).

An example of TPB used as a theoretical framework to conceptualize entrepreneurship education outcomes is the study of Al-Laham, Souitaris, &Zerbinati (2007) that tested the impact of entrepreneurship education on attitudes and intention. The study was conducted in two major European institutions, London and Grenoble universities, considering a sample of 250 science and engineering students (124 taking the program and 126 in a control group). A pretest–post-test control group design was adopted to measure the change of attitudes and intentions over a period of approximately 5 months. Results showed that students in the entrepreneurship program group increased their intention towards self-employment, whereas students in the control group did not. Intention towards self-employment though was not related to the creation of a new business at the end of the program. To explain the weak relationship

between the intention and the action of starting a business the authors argued that young students need to acquire experience before starting a viable business, therefore, longitudinal studies are the only way to test the intention–action link.

"To asses and improve instruction, faculty must first clarify exactly what they want students in their courses to learn" (Angelo & Cross, 1993, p. 13). Entrepreneurship instructors should ask themselves what they are trying to achieve through the course they deliver. In order to better match the learning needs of their students with the goals of the program delivered, entrepreneurship instructors need to be aware that different goals can be set under the wide umbrella of entrepreneurship education. Goals are far more than terminal points. They also act as a reference to assess the effectiveness of teaching efforts.

Little consistency across entrepreneurship instructors about what goals they should accomplish was found on the literature about entrepreneurship. Most instructors reporting their teaching activities in scholarly literature do not state what they are trying to accomplish through their classes. Even though previous work in entrepreneurship education has pointed out the existence of several possible teaching goals in entrepreneurship courses (i.e. Béchard and Toulouse, 1998; Garavan & O'Cinneide, 1994; Hills, 1988). Most of them simply describe what they did without further consideration of the goals behind the teaching activities described (e.g. Rae & Craswell, 2000; Cope, 2003; Rae, 2004; Shepherd, 2004).

Teaching Content in Entrepreneurship Education

In 1994, a research project sponsored by the Kauffman Foundation, surveyed a panel of 170 firms (making between five and twenty million in sales) about what the learning needs of entrepreneurs are at different stages of the venture. This study sought to know what kind of practical knowledge was useful to run a business. Entrepreneurs

were asked to rank, from one (least) to seven (most), the importance of four type of content: (a) finance, (b) marketing, (c) human resources and (d) growth management. The results yielded the following average needs: finance (5.193), marketing (4.857), human resources (4.876) and growth management (4.739) (Sexton, Upton, Wacholtz, McDougall, 1997). Even though finance was the most valued content according to this survey, the other three teaching contents received very similar scores. With different contents having similar importance for instructors, without a unifying theory of entrepreneurship, and considering the many possible teaching goals reported in entrepreneurship education, there is little guidance for instructors about to what content should be included in entrepreneurship education.

In 2000, 18 professors had a three-day retreat at the Rensselaer Polytechnic Institute (RPI) to discuss the learning aspects of entrepreneurship. The retreat's participants shared their syllabi to analyze the topics those syllabi covered. Six leading topical areas were identified as the content usually included in entrepreneurship classes: (a) strategy/competitive analysis, (b) managing growth, (c) discovery/idea generation, (d) risk and rationality, (e) financing, and (f) creativity. The range of content considered by those entrepreneurship instructors as important was diverse. Fiet (2000) suggested that three possible elements could influence instructors' selection of content: (a) academic autobiography, (b) lack of theoretical rigor and (c) entrepreneurship textbooks. Fifteen out of the eighteen instructors participating in the retreat used reading packets, which is a symptom that they are not satisfied with textbooks; however, there was little agreement on what should be included in the course reading packet (Fiet, 2000).

Independently of what content instructors or potential students could suggest, there are studies (Finkle 2006; Solomon 2007) that depict what is the state of the art in

entrepreneurship education. In 2006, Finkle surveyed 94 entrepreneurship programs across the U.S. asking what courses were included in their programs. Finkle (2006) found that 39% of the entrepreneurship programs surveyed offered a course called Business Plan Development, 33% offered Introduction to Entrepreneurship, 22% Entrepreneurial Finance, and 12% Entrepreneurial Marketing. While the Business Plan class was taught at most entrepreneurship programs, there is still a question about whether the contents under that course's name were similar across instructors. A Business Plan Development course is designed to help students to develop an effective written implementation plan for a new business venture. The course deals, in general, with the critical decisions and actions that entrepreneurs must make in both planning and executing a new venture (Finkle, 2006).

Another way to define what content is pertinent for entrepreneurship education is to identify in the literature the type of knowledge that helps entrepreneurs to perform better. However, for some reason, the entrepreneurship instructors ignore the lessons learned from entrepreneurship research and they do not teach based on research. The corpus of entrepreneurship education practice is not as complete as it could beat at least from the perspective of education theories (Bechard & Gregoire, 2005). For instance, counterfactual thinking has been shown to have impact on entrepreneurial thinking, but the exercise of counterfactual thinking in class has found few echoes in how entrepreneurship educators approach their teaching. The teaching of entrepreneurship may be ignoring elements that could enhance effectiveness (Bechard & Gregorie, 2005).

Entrepreneurship journals contain plenty of good examples of knowledge that would be beneficial to students but that knowledge seems not to be feeding entrepreneurship course programs. For instance, Van Auken (2005) surveyed 88 high tech small businesses to assess their knowledge about bootstrapping financing methods.

Nascent entrepreneurs were not familiar with the potential advantages of bootstrap financing. Results suggested that providing training about bootstrap financing would be beneficial for nascent entrepreneurs because they would be able to formulate strategies using alternative sources of capital, especially when traditional sources are difficult to acquire. Bootstrapping financing was a topic never mentioned in the surveys about the topics covered by entrepreneurship education. Five obstacles might prevent scholars from considering the educational implications of their research (Bechard&Gregoire, 2005). These are (a) the entrepreneurship field is still fighting for legitimacy which has relegated the question of knowledge transfer and education to a secondary place, (b) research at the inter phase of education and entrepreneurship does not generate professional rewards like research in interdisciplinary theoretical development, or empirical studies on real life business, (c) most scholars in the field of entrepreneurship have received little pedagogical training, (d) the difficulty in pursuing interdisciplinary research, and (e) a number of entrepreneurship scholars are not even teaching entrepreneurship, leaving the teaching to non tenure track adjunct instructors.

Teaching Methods in Entrepreneurship Education

Teaching methods establish a relationship between the learner, the instructor, and the content (Verner, 1959). A wide set of methods can be used to help people learn. Common teaching methods are lectures, discussions, simulations, case studies, panels, symposiums, role-playing, and games. The most common teaching methods in entrepreneurship are business plan writing, case studies, lectures by guest speakers (Kent, 1990; Gartner & Vesper, 1994; Vesper 1985), and consulting projects (Carroll, 1993).

Based on a survey of deans at 750 business schools and 226 engineering schools, Vesper and Gartner (1994) summarized descriptions of courses at 177 four-

year colleges and universities both inside and outside the U.S. Vesper and Gartner (1994) found that the standard entrepreneurship course in 1994 used teaching methods such as case studies, speakers, lectures, texts, and the writing of venture plans, both individually and as a team, often followed by judging panels including outside professionals for continual feedback (Vesper & Gartner, 1994).

Rae (2004) proposed to educate entrepreneurs based on opportunity recognition exercises. Rae (2004) argued that that identifying an opportunity is an act of learning itself and a source of motivation to learn entrepreneurship. Opportunity recognition efforts mirror the natural process of learning because the discovery and pursuit of an opportunity is stimulated by the natural human curiosity and motivation to complete what is incomplete (Rae, 2004). DeTienne and Chandler (2004) posited that opportunities emerge through action and imagination, and that an individual can create an opportunity from nothing. Contrary to the neoclassical view, where the environment is the source of all opportunities, DeTienne and Chandler (2004) considered opportunities a creation of students' minds, and opportunity identification a trainable competency very important in entrepreneurs. Identification is basically a creative process that constitutes the core of the entrepreneurial practice; methods to teach entrepreneurship should be based on opportunity recognition exercises (DeTienne& Chandler, 2004).

Another method to teach entrepreneurship is what Fletcher and Watson (2007) called *negotiated narratives*. This technique invites students to look into their stories, identity, and personal experience to find business ideas and recognize how business ideas tend to be developed in relationship to other people. The approach turns attention away from individuals displaying and manipulating personal characteristics and resources to search the environment and its relationship to the contextual world. The

technique was discovered, created, and developed from a fortuity experience. The authors were constructing, for an academic conference, a fictional drama about two people creating a business. In the process, they found themselves thinking entrepreneurially on their own account. Indeed, a real business idea emerged. They thus discovered that writing fictional scripts of conversation among entrepreneurs is a good way to show what happens during the opportunity identification process.

Pittaway and Cope (2007) analyzed a venture-planning course to develop methods to teach entrepreneurship. Sixty-four student reflections were analyzed, representing 15 student teams. Pittaway and Cope (2007) developed a list of conditions that need to be created through educational activities to foster entrepreneurial learning. Some of these conditions are uncertainty, ambiguity, and hands-on challenges. The data demonstrated that ambiguity and time pressures contribute in replicating the challenges and difficulties associated with starting businesses. Forcing students to take ownership for the business created during the class raises an unusual dimension of emotional commitment and exposure, simulating the passion and enthusiasm experienced by entrepreneurs in real life.

Adult Education and Entrepreneurship

This study focuses on higher education, therefore the learner are mostly adults rather children. Adult is someone who "perceives him or herself as essentially responsible for her or his own life" (Knowles, 1980, p.24). Unlike children, adults expect knowledge they judge essential to their stage in life and make little effort to acquire learning they consider irrelevant to the problems they are coping every day. The need to know, the idea of the self-concept, their experience, learning orientation, and motivations to learn are different in adults and children (Knowles, 1973). Understanding what those needs are it can help to improve the quality of adult learning.

The tradition of positivism has pervaded the understanding of entrepreneurial learning (Rae, 2000). There has been an inductive approach, stemming from a natural science model in which logic and analysis are deployed in order to validate theory (Gergen, 2011). Entrepreneurship researchers have tried to move out of the constraint of the positivist traditions. However, in doing so, they have developed eclectic proposals (e.g. Fiet, 2000) that mix different epistemologies of knowledge and use educational concepts interchangeably. For instance, what Johannisson (1991) labels *intuition*, (Legendre & Renald, 2005) labels it *situational learning*, Bechard and Tolouse (1998) *visionary process*, Kirby (2004) *balanced brain* and Cope (2005) *reflection*. In education, all these terms are very close to what Yang (2003) calls emancipatory awareness. Inconsistencies and misunderstanding hinder the effectiveness of instructional design and make harder to build upon what others have reflected. The following section provides an overview of adult education literature using entrepreneurship research to exemplify synergies and inconsistencies between entrepreneurship and adult education.

Experiential Learning

It is common to find in entrepreneurship literature the assertion that entrepreneurs learn by doing (i.e. Deakins & Freel, 1998; Cope, 2003; Young & Sexton, 1997). Experiential learning is, as Michelson (1996) suggests, one of the most significant areas for current research and practice in adult education. Experiential learning has its roots in Dewey's (1938) highlights of the importance of interaction and continuity in experience (Merriam &Cafarella, 1999). "The principle of the continuity of experience means that every experience both takes up something from those which have gone before and modifies in some way the quality of those which come after" (Dewey, 1938, p.27). Dewey expanded the notion of experience most often conceived

as direct participation in events to include the interactions between an individual and her/his environment (Gallager, 2006).

Built on the work of Dewey and Piaget, Kolb (1984) further developed the concept proposing that experiential learning happens through different phases within a cyclical process. These phases start with concrete experience and move to reflective observation, abstract conceptualization and active experimentation. Kolb's model has been widely used on entrepreneurship researcher (Deakins & Freel, 1998; Garavan & O'Cinneide, 1994; Gibbs, 1987). Jarvis (1987) expanded Kolb's model challenging the assumption that not all learning begins with experience and that experiential learning is never isolated from past experience and future applications. Experiential learning implies the active participation of the learner to connect the experience with his/her history, volition, and learning needs. Like Dewey, Jarvis believed that not all experience led to learning. To promote learning from experience, the learner needs to be engaged and go through a reflective process (Miller & Bound, 1996).

Reflective Practice

Entrepreneurship educators could benefit from adult education literature if they dedicate more time to understand what reflection entitles. Reflection is different from thought, belief and imagination (Dewey, 1933). It requires being present to the situation; a willingness to accept the newness of the circumstances (Rodgers, 2002). Through reflection, individuals can observe themselves and revise their paradigms. A paradigm is a set of assumed background questions, standards, and methods, comprises the assumptions about what questions need to be answered and some sense of what would count as a good answer to them (Kuhn,1970). Reflection implies challenging the paradigms in use, including beliefs of system and cultural heritage. By questioning, challenging, and analyzing a paradigm in use, a human being can change its

assumptions. Through reflection, individuals can access the type of knowledge that Yang (1994) identified as emancipatory knowledge.

The use of reflection to create meaning is pivotal in constructivist adult learning theories (Boud and Miller, 1996; Brookfield, 1995; Kolb, 1984; Mezirow, 1990; Schon, 1983). The ability to reflect from professional activity to find the appropriate way to behave in the future is what Schon (1983) called reflective practice. Reflecting in action is the ability to think about what one is doing and change one's actions simultaneously (Schon, 1983). Professionals engage in reflection-in-action to cope with the challenges of new situations that do not meet the requirements of accepted theory.

Schön (1983) established four movements in reflective practice: (a) reframing the problem, (b) imagining a repertoire or familiar exemplars, (c) formulating a new hypothesis, and (d) test the hypothesis. Boud, et al. (1985) identified three factors in extracting learning from experience: (a) return to the experience in a descriptive way without evaluation or judgment, (b) pay attention to the feelings surrounding the experience to recreates supportive feelings to remove obstructive feelings and (c) move forward with the learning process, and re-evaluate the experience. Re-evaluation included linking the experience with prior knowledge, integrating the experience with prior knowledge, validating the experience, and taking ownership of the learning produced.

Transformational Learning

The decision to change a career and financial security to pursue a business opportunity represents a big transformation on the adult's life. Coping with entrepreneurial challenges demands resilience, persistence, discipline, and confidence. Developing these psychological characteristics has been one of the main challenges of entrepreneurship education. Even though entrepreneurship education programs have

been effective in raising commitment, they have been weak on preparing students mind and to cope with the difficulties of running a business (Garavan& O' Cinneide, 1994).

In search of defining the core of entrepreneurship education, Rae and Carswell (2000) developed an entrepreneurial learning model. From the interpretation and analysis of thirteen entrepreneurs' interviews, Rae and Carwell (2000) found key themes through which the respondents developed their entrepreneurial capabilities. These are: (a) confidence and self-belief; self-efficacy, (b) personal values and motivation to achieve, (c) setting and achieving ambitious goals, (d) personal theory derived from meanings and learning episodes, (e) known capabilities - skills and knowledge, (f) social relationships through which learning takes place, and (g) the ability to learn quickly and actively from a range of sources and the ability to reflect on that learning process. Rae and Carswell's finding has similitude with the theory of transformative learning that Jack Mezirow has been developing since 1978.

Perspective transformation, key to understanding transformative learning, is defined as "the process of becoming critically aware of how and why our presupposition has come to constrain the way we perceive, understand, and feel about our world" (Merriam &Cafarella, 1999). This transformative process can be triggered by a single dramatic event, a series of unnoticed cumulative events, a deliberate effort to change life path, or by the natural developmental progression of maturing. The single dramatic events were labeled by Mezirow (1999) as *disorienting dilemmas* which is close to what Rae and Carswell (2000) called *learning episodes and* Cope (2003) *learning events.*

A disorienting dilemma is an internal or external personal crisis (Mezirow, 1978) or experience that make the individual to question what he/she previously believed to be unquestionable (Wiessner&Mezirow, 2000). A disorienting dilemma can produce critical self-reflection, dialogue with others, and cause a perspective

transformation. Transformative learning often follows some variation of the following 10 phases: (a) a disorienting dilemma, (b) Self-examination with feelings of fear, anger, guilt, or shame, (c) a critical assessment of assumptions, (d) recognition that one's discontent and the process of transformation are shared, (e) exploration of options for new roles, relationships, and actions, (f) planning a course of action, (g) acquiring knowledge and skills for implementing one's plans, (h) provisional trying of new roles, (i) building competence and self-confidence in new roles and relationships, and (j) a reintegration into one's life on the basis of conditions dictated by one's new perspective (Mezirow, 2000).

Types of Knowledge

Hisrich and Peters (1998) divided the type of knowledge that entrepreneurship programs include into three components: (a) technical (written and oral communication, technical management, and organizing skills); (b) managerial (planning, decision-making, marketing, and accounting); and (c) self-development (inner control, innovation, risk-taking, and innovation). Even though these categories might help to classify content for entrepreneurship education, there is still little uniformity among entrepreneurship instructors about which content should be included in each classification (Solomon, 2007). This may be a function of entrepreneurship being an emerging field with a growing and changing body of knowledge (Solomon, 2007) and/or due to the diverse educational background that entrepreneurship instructors have (Fiet, 2000).

Entrepreneurship research uses different names to categorize these three types of knowledge. Cope (2005) argues that entrepreneurial learning happens through an iterative process of awareness-reflection-association and application. Curran and Stanworth (1989) talk about *affective socialization* as the inculcation of attitudes,

values, psychological mind sets and strategies necessary perform the role of business owner effectively. *Affective socialization* should be taught by reflecting about the exceptional demands (i.e. performing an unstructured and highly isolated job) that entrepreneurs have to deal with.The attribute most difficult to develop from the perspective of the education system in general and business schools in particular is the ability to think both intuitively and rationally" (Kirby, 2004, p.516).

The knowledge developed in each component of an entrepreneurship program corresponds to distinct facets of knowledge when analyzed through the lens of Yang's (1994) Holistic learning theory. Yang (1994) defines knowledge as "human beings' understanding about the reality through mental correspondence, personal experience, and emotional affection with outside objects and situations." (p. 212). Mental correspondence, personal experience, and emotional affection represent explicit, tacit, and emancipatory knowledge respectively. Unlike Corbett (2005) who define one type of knowledge as "a static concept that is activated when we put it into use" (p.474), in the adult learning literature more than one type of knowledge is defined. For instance, technical knowledge allows us to manipulate and control the environment, predict observable physical and social events and take appropriate actions. Mezirow (1991) refers to the acquisition of technical knowledge as instrumental learning. Much of adult education practice has instrumental learning as a goal. Practical knowledge (Habermas, 1971) is based on the need to understand each other through language. Emancipatory knowledge derives from a questioning of instrumental and communicative knowledge. Emancipatory knowledge is essential to go through self-knowledge, growth, development and freedom.

Entrepreneurship researchers have spent a lot of energy trying to understand what provides the passion, resilience, and perseverance to entrepreneurs. However,

beside Rae (2000; 2003), entrepreneurship researchers do not use the field of education to gain a better understanding of the different facets of knowledge. Since entrepreneurship practice involves business concepts, negotiation skills, and passion, entrepreneurship educators should sophisticate their notion of knowledge.

Yang (2004) takes three classical definitions of knowledge to distinguish between three facets of knowledge. The explicit facet corresponds to the cognitive component that represents one's understandings of reality. This knowledge is transmittable in a formal and systematic format. In entrepreneurship programs, business concepts, finance, management theory, best practices, or how to write a business plan would represent the explicit facet of entrepreneurial knowledge. The tacit facet is the behavioral component that denotes the learning that is generally not openly expressed or stated. In fact, people know more than they think they know (Polanyi, 1967). What people know without noticing they know is what Yang calls tacit knowledge. For instance, most people do not know much about the grammar behind their primary language while they speak that language. Tacit knowledge is based on direct observation or involvement and usually comes from practice and accumulated experiences. In entrepreneurship programs, business plan contest or networking events seek to develop tacit knowledge.

Emancipatory knowledge is defined as “one's view of what the world ought to be, and it is the product of seeking freedom from natural and social restraints. It is normally reflected by one's internal affective and motivational states (Yang, 2004, p. 212). Emancipatory knowledge relates to the process of challenging the established order and envisions that there are more possibilities than what people have been trained to notice. In entrepreneurship programs, instructors appeal to the passion of their students. To mobilize passion, instructors invite successful entrepreneurs to motivate

students and tell histories to show how their lives can change becoming entrepreneurs.

The paradigm behind entrepreneurship education is still basically technical. These aspects are very important if totally unknown, but the entrepreneurship education needs to move beyond a basic insight in single disciplines provided by experts in each field (Garavan&Ocinneide, 1994).

Beliefs about Teaching

Aguirre &Speer (2000) argue that beliefs play a central role in a teacher's selection and prioritization of goals and actions. For instance, research has evidence that instructors entering secondary teacher preparation were convinced that good instructors should treat their students like family, emphasizing affective and interpersonal aspects over content knowledge (Rathbone & Pierce, 1989).

Feiman-Nemser (1988) found that prospective elementary teachers begin their introductory education course believing that teaching consists of reproducing what the teacher tells you. Reproducing what the teacher tells you is related to what Pratt (1998) identified as the transmission perspective of teaching. As Pratt (1998) argued, the transmission perspective has implications about how instructors present the material to students and what they expect from them.

Barnes (1998) asked a national sample of college faculty to rate the importance of six clusters of teaching goals in order to understand what goals they privilege and how this might be related with the discipline they were trained. A national sample of 442 undergraduate teachers responded a survey asking them the importance of six cluster teaching goals. The six clusters were related to: (a) high order thinking, (b) academic success, (c) discipline knowledge, (d) academic values, (e) career preparation, and (f) personal development. Data were collected in 1997 through a mail survey sent to 1200 faculty randomly selected. The academic disciplines used to classify faculties

were developed based on Biglan (1973) model. Biglan (1973) developed a classification scheme for academic disciplines categorizing into three dimensions: hard-soft, pure applied, and life-nonlife. Hard disciplines are distinguished from soft because hard disciplines have agreed upon theories and methods guiding their study. Pure and applied disciplines differ with respect to their emphasis on theory or practice. The life-nonlife dimension classifies disciplines with respect to their involvement in the study of life systems. The results indicated that, depending on the discipline they were trained, there were differences in the teaching goals that instructors considered most important. Faculties who viewed their primary role as one of teaching facts and principle believed more strongly in the selective function of grades. Faculties who viewed their primary role, as promoters of students' personal growth did not believed in the selective utility of grades. When professors were asked about how they see their primary role as a teacher, significant differences related to academic disciplines were revealed ($p<.01$). Except for faculties in the soft applied disciplines, the two most frequently selecting teaching role were "teaching students facts and principles of the subject matter" and "helping students develop higher-order thinking skills." For the soft applied non-life disciplines, the most frequent endorsed teaching role was "preparing students for jobs and careers". In light of entrepreneurship instructors possess diverse educational background, as Barnes (1998) found, the discipline in which they were trained could also influence teaching goals in entrepreneurship instructors.

Disciplinary major have been found to relate to teaching goals in many ways. For instance, faculties whose educational background and professional activities are in the same department as their teaching appointment are primarily concerned with discipline-oriented goal. Conversely, those faculties whose educational background and professional activities are in a different field from their teaching assignment are

primarily concerned with preparing students for life situations (Leverenz& Lewis, 1981).

Teachers of a given discipline share a value system with respect to instructional goals that is significantly different from that of colleges in other disciplines (Angelo & Cross, 1993). "Whether male or female, full time or part time, experienced or inexperienced, teachings in a public community college or a private four years college, teaching priorities are related more to academic disciplines than any other factor." (p.366)

Teaching Perspectives. Entrepreneurship researchers writing about entrepreneurship education seems to ignore adult education literature on teaching perspectives and teaching styles. For instance, Fiet (2000) assertively calls to use an approach he labels as *theory-based entrepreneurial competencies* to teach entrepreneurship. This approach is based on Fiet's assumption that "to the extent that a teacher is the initiator of knowledge transfer, students tend to practice less and acquire fewer competencies" (p.107). Fiet (2000) described in detail what he thinks should be the teacher's role in entrepreneurship education. The teacher's primary role, Fiet (2000) says, is "to achieve student approval of the learning contract and to identify the competencies to be mastered (p.107)". Although Fiet (2000) uses terms widely covered in education literature such as learning contracts (Knowles, 1986), knowledge transfer (Yang, 2004), and apprenticeship teaching perspective (Pratt, 1998); he does not refer to education literature. The description provided by Fiet (2000) to his approach of teaching matches consistently with what in education is known as learner centered teaching style in opposition to teacher centered teaching. The teacher-centered approach is the dominant approach used throughout all levels of education in North America and is closely related to the idea of operant conditioning of Skinner (1972). Within this

approach, instructors assume learners are passive and they become active by reacting to stimuli in the environment. In teacher centered approaches "the teacher's role is to design an environment which stimulates the desired behavior and discourages those that have been determined to be undesirable" (Conti, 2005, p.77). Contrary to the teacher-centered approach, the learner centered approach focuses on the learner rather than on the information. Activities seeking to develop problem-solving skills, interpersonal relationships, and self-efficacy fit better within the learner centered approach because learning centered styles conceive the student as the principal actor. In this approach to teaching, instructors trust students to be responsible for their own learning.

Fiet (2000) implicitly invites to treat students as adults rather than children, but he shows inconsistencies when analyzed through the lens of adult education. Fiet (2000) refuses the transmission perspective when he claims to make students do things rather than listen to information. Fiet (2000) points out about teaching entrepreneurship: "the question for educators faced with ensuring student mastery of competencies is *not,* "What am I going to teach today?" but "What am I going to have my students do today?" Moreover, the question of "What am I going to have my students do today" can be delegated to students and there are some advantages to doing so" (p.109). The call for making students to do rather than to listen, evidence that Fiet (2000) likes to teach from an apprenticeship perspective.

Instructors always privilege a perspective of teaching but there is no evidence that one perspective can be better than another (Pratt, 1998). After have studied more than 3000 teachers internationally, Pratt (1998) found evidence to support that teacher consistently privilege one of five perspectives: (a) transmission, (b) apprenticeship, (c) developmental, (d) nurturing, and (e) social reform. These perspectives usually overlap; however, one or two of them predominate in most teachers (Pratt, 1998). These

perspectives correspond to five substantively different views of teaching (Kember, 1997) that can be identified using the Teaching Perspective Inventory (TPI).

Transmission is perhaps the most traditional and long standing perspective on teaching. Instructors using this perspective believe that knowledge can be effectively transmitted to learners when instructors know the subject matter. The apprenticeship perspective seeks to embody the skills of the community of practice in students. Instructors identified with the apprenticeship perspective expect students to become masters of the discipline they teach. The developmental perspective seeks to model ways of being. Instructors using this perspective hope to develop increasingly sophisticated structures to enable learners to deal with their environment. Developmental instructors challenge learners' ways of thinking and help them to link knowledge and reach meaningful relationships between ideas. In the nurturing perspective, instructors seek to increase self-efficacy of students' regardless of the content. For nurturing teachers, students are essentially good. In the social reform perspective, instructors seek to promote a better society through the understanding and deconstruction of power relationships. The fundamental difference between perspectives rests upon the belief that some elements and relationships are more important than others (Pratt, 1998, p.7).

Most probably, Fiet (2000) favors an apprenticeship perspective of teaching, which is fine. The problem arises when Fiet ignores the perspective he privilege and believes that his perspective is the only and best perspective to be used (Pratt, 1998). "Perspectives are neither good nor bad. They are simply philosophical orientations to knowledge, learning, and the role and responsibility of being a teacher" (p.9). Performance can be diminished if teachers do not reflect on what they do, why they do it, and on what grounds those actions and intentions are justified (Pratt, 1998).

Assumptions about teaching and learning are determined by the importance that instructors give either to learners, contents, or contexts (Pratt, 2005). For some instructors, helping students to gain confidence or prepare them for the workforce is the central outcome of teaching; it is their goal. Other instructors expect learners to become committed to the discipline or subject matter they teach. Others consider that significant learning only happens when learning is applied in the real world. According to the relationships instructors establish with learners, contents, and contexts they adopt different perspectives on teaching.

Summary

This chapter presented an overview of entrepreneurship including definitions, school of thoughts, and theoretical perspectives. In addition, it included a literature review of studies that implicitly or explicitly identify teaching goals, content, or methods to be included entrepreneurship curricula. The section ends with a review of adult education literature including Pratt's (1998) classification of teaching perspectives, Yang (1994) Holistic Learning Theory, and Mezirow's (1990) transformational learning theory.

CHAPTER III

METHOD

This chapter opens with the purpose of the study and the research questions repeated from Chapter 1. Next, the research design is discussed, including a description of the population, sample, procedures for data collection and data analysis. Finally, a brief summary is provided.

Purpose of the Study and Research Questions

The purpose of this multiple case study was to understand how instructors design their curriculum for an entrepreneurship course in higher education. *Curriculum design* is defined as the selection of teaching goals, course content and teaching methods to be implemented and used during the course. The primary research question guiding this study was: How do instructors select teaching goals, content, and methods to teach entrepreneurship? Secondary research question were: Does entrepreneurial experience influence how entrepreneurship instructors design their courses? Do teaching perspectives influence how entrepreneurship instructors design their courses? Does teaching experience influence how entrepreneurship instructors design their courses? Does student audience (whether engineering or business) influence how entrepreneurship instructors design their courses?

Research Design

A case study method is effective when the questions are designed to understand "how" or "why" a particular phenomenon occurs (Yin, 1994). These phenomena might be programs, events, processes, activities, or individuals. In this case the question is how instructors design their curriculum to teach entrepreneurship. Yin (2002) distinguishes two types of case studies, one used as an educational activity and the other used as a research design. As a research design, a case study can be explanatory or

descriptive and include single or multiple cases.

A multiple case study design is appropriate for this research because it facilitates understanding instructors' perspectives related to their selection of goals, content, and methods when teaching entrepreneurship. Case study usually combines data collection methods such as interviews, questionnaires, and documents. The evidence may be qualitative, quantitative or both (Eisenhardt, 1989). Case studies can be used to provide descriptions of a phenomenon (Kidder, 1982), test theory (Anderson, 1983) or generate theory (Gersnik, 1998).

Population

The population for this study consists of college and university instructors who teach graduate level courses in entrepreneurship. In the U.S., there are approximately 800 instructors who teach any entrepreneurship related course and more than 1,500 colleges and universities offering some form of entrepreneurship education (Bantel, 2003). Further, there are 146 active university-based entrepreneurship centers (Finkle, Kuratko&Goldby, 2006) and 277 endowed positions in entrepreneurship (Kuratko, 2006). Colleges and universities have an academic curriculum in entrepreneurship with three or more for-credit courses aimed at an undergraduate degree or a graduate degree. Colleges and universities also have entrepreneurship centers that offer external outreach activities, and host faculty that perform research in the field (Finkle et al., 2006). An entrepreneurship center has an average 5.4 faculty members teaching in the program (3.9 Ph.D.'s and 1.5 MBAs) and an average number of tenure track equal to 3.2 and non-tenure track equal to 2.2. The average number of adjunct faculty who teach is 1.8 in these centers and the mean number of full time and part time entrepreneurship faculty who have started a business is 2.2 and 1.5 respectively (Finkle et al., 2006). In terms of location, entrepreneurship centers are mixed within colleges of businesses, constituted

independently (not related to a department), or associated to a department of management (Finkle et al., 2006). The most common classes taught by entrepreneurship instructors are introduction to entrepreneurship, business plan development, entrepreneurial finance, small business management, and entrepreneurial growth (Finkle et al., 2006). It is important to mention that in the referred study, Finkle and colleagues (2006) surveyed only business departments and not other schools such as engineering or computer sciences.

Sampling Strategy

In qualitative studies, the purposeful selection of participants represents a key decision point (Patton, 2002). In purposeful selection, sampling cases "are selected because they are 'information rich' and illuminative, that is, they offer useful manifestations of the phenomenon of interest" (Patton, 2002, p. 40). In this study, the phenomenon of interest is how entrepreneurship instructors create the curriculum they teach. Sampling cases need to be selected carefully to represent the greatest potential for learning about the phenomenon to be studied. A case in this study is an instructor teaching entrepreneurship at the graduate level at any colleges or universities in the US.

In case studies, cases may be chosen to fill theoretical categories or provide examples of polar types (Eisenhardt, 1989). This study utilized criterion and maximum variation sampling strategies (Patton, 2002) to select cases that potentially represent different kinds of entrepreneurship instructors. Criterion sampling involves selecting cases that meet predetermined criteria of importance (Patton, 2002). The criteria for inclusion in this study are (a) teaching experience in the field of entrepreneurship, (b) teaching at least one graduate level entrepreneurship course in one academic year (c) teaching either at the engineering school or at the business school, and (d) holding a terminal degree. A criterion for exclusion is teaching only at the doctoral level. The

reason to exclude instructors who teach at doctoral level only is that doctoral programs develop research skills rather than entrepreneurial skills which are the focus of this study. For the same reason, instructors in the sample need to be active as teachers and not pure administrators who are no longer in the classroom, even though they might call themselves entrepreneurship instructors.

Maximum variation is the sampling strategy that usually represents more advantages in case studies because it allows one to display multiple perspectives, giving the researcher a better chance to answer the research questions (Creswell, 1998). Maximum variation is defined as the selection of those cases that demonstrate the edges of the phenomena of interest (Patton, 2002). The edge of the phenomena in this case are represented by having or not experience as business owner, being a novice or an experienced instructor, and being an instructor at the engineering or business school. *Experienced instructor* was defined as having more than 10 years of experience (Varrella, 2000). A novice instructor will be someone who has less than 10 years of experience as teacher. The number of years teaching and entrepreneurial experience might influence how instructors produce their curriculum (Angelo & Cross, 1993; Fiet, 2000). *Entrepreneurial experience* was defined as the condition of being or has been an entrepreneur. An entrepreneur is someone who has started a business (Gartner, 1985).

Procedures

The procedures used to conduct multiple, descriptive case studies are detailed here. First, case selection, key informant, and sources of evidence are described, and then case construction and data analysis are discussed explaining each data collection method. Finally, data management is included followed by the researcher's role, integrity measures, and a brief summary.

Case Selection

Case studies should collect data on the lowest unit of analysis possible (Patton, 2002). The unit of analysis of this study was the individual instructor. This is consistent with the purpose of this multiple case study which is to understand how instructors design the curriculum for an entrepreneurship course.

Eight cases were selected. Each case corresponds to one instructor. There will be four instructors who teach at engineering schools and four who teach at business schools. The four instructors teaching at engineering schools will fulfill the following criteria: to have experience as an instructor and as entrepreneur, to have experience as an instructor and not as entrepreneur, to be a novice instructor and have experience as entrepreneur, and to be a novice instructor and not have experience as entrepreneur. The four instructors teaching at business schools will fulfill the following criteria: to have experience as an instructor and as entrepreneur, to have experience as an instructor and not as entrepreneur, to be a novice instructor and have experience as an entrepreneur, and to be a novice instructor and not have experience as an entrepreneur. Table 1 depicts how the sample was distributed in the sample.

Table 1: Distribution sampling

	Engineerin	Business	At least	Less than	Entrepren.	No entrep.
Case 1	✓	x	✓	x	✓	x
Case 2	✓	x	x	✓	✓	x
Case 3	✓	x	✓	x	x	✓
Case 4	✓	x	x	✓	x	✓
Case 5	x	✓	✓	x	✓	x
Case 6	x	✓	x	✓	✓	x
Case 7	x	✓	✓	x	x	✓
Case 8	x	✓	x	✓	x	✓

Key Informant

Alan Carsrud, one of the most cited authors in entrepreneurship (Reader & Watkins, 2006) will be the key informant. Using a list of the most cited authors (Reader

& Watkins, 2006), the personal knowledge of the key informant, and the Americas best entrepreneurship professors ranking (CNNMoney.com, 2007), participants that meet the criteria will be identified. The first eight instructors who meet the specific needs of this study and agree to participate will be interviewed independently where they are located. The researcher is willing to travel across the country to meet participants.

Sources of Evidence

The use of qualitative and quantitative data can be highly synergistic in case studies (Yin, 1894). Quantitative evidence can indicate relationships, strengthen conclusions made from qualitative evidence (Jick, 1979), and also prevent researchers from developing vivid but false impressions (Eisenhardt, 1989). This multiple case study will combine quantitative and qualitative data. This study will collect data from: documents (CVs and syllabi), surveys (TPI and TGI), and interviews.

Documents. CVs and syllabi will be collected. A CV includes a summary of educational and academic background as well as teaching and research experience, publications, presentations, awards, honors, affiliations, and other details. CVs are used primarily when applying for academic, education, scientific or research positions and when applying for fellowships or grants (Doyle, 2009). The CV provides information about instructors' research stream and the field in which they were trained. Obtaining information about research streams is important to see how research interests might relate with academic degrees and selection of course goals, content, and methods. To complement the information obtained through the CVs, the software *Publish or Perish* (Harzing, 2010)will be used to retrieve the publications of each instructor, and summarize citation statistics of these publications. The retrieved work can be read to enhance understanding of an instructor's research stream and its relationship to teaching. Publish or Perish is a software program that retrieves and analyzes academic

citations and presents the statistics related to total number of papers, total number of citations and average number of citations per paper. Publish or Perish software uses Google Scholar to obtain the raw citations and provide a list of all publications accessible to Google Scholar.

A syllabus is a document designed to describe instructor's and students' responsibilities, outline readings, methods, objectives, and provide guidance to the students in the course. Usually a syllabus contains a plan with assignments correlated with topics to be discussed in class (McKeachie, 2006). The organization and content of syllabi vary. McKeachie (2006) suggests including in a syllabi teaching goals, course readings, expectations, policies, and a general schedule of when each topic will be covered.

During the interview, each instructor will be asked to share additional syllabi from the same course reported during the interview but for previous years. If an instructor cannot or does not want to supply more than one syllabus, this still meets the criteria for inclusion as a case. However, additional syllabi are desired because they might provide an overview of the evolution of the course. The syllabi will be examined for evidence of goals, content, and methods. During the analysis phase, the participants may be sent follow up e-mails with questions about changes in goals, content, and method evident in the evolution of the syllabi or discrepancies between the transcribed interviews and the syllabi.

Surveys. Two surveys will be collected (see appendix B and C): The Teaching Perspective Inventory (Pratt, 1998) and Teaching Goal Inventory (Angelo & Cross, 1993). Authors of both surveys have authorized the use of their instruments.

Faculty who complete the Teaching Perspective Inventory benefit by being able of identify the perspective they adopt when teaching: (a) transmission, (b)

apprenticeship, (c) developmental, (d) nurturing, and (e) social reform (see Appendix D). A teacher perspective refers to "an inter-related set of beliefs and intentions related to knowledge, learning and the role of a teacher" (Pratt, 1998, p. 3). The Teaching Perspective Inventory (TPI) was designed to identify dominant views of teaching and help instructors to identify, clarify, and summarize their thoughts about teaching. It consists of 45 statements related to intentions, beliefs, and actions. The 45 items are constructed using a Likert scale with a range from one to five.

Participants will be asked to send the Teaching Goal Inventory (TPI) report to the researcher's e-mail account. The link to the TPI will be in the e-mail invitation and its completion must occur before the interview takes place. The TPI takes 10 to 15 minutes to complete at the TPI web site (Pratt & Collins, 2001). Participants are free to explore the information provided on the TPI web page.

Faculty who complete the TGI benefit by being able of identify and categorize their personal teaching goals into six goal clusters: (a) high order thinking skills, (b) basic academic success skills, (c) discipline specific knowledge and skills, (d) liberal arts and academic values, (d) work and career preparation, and (e) personal development. The TGI was developed by Angelo and Cross (1993) to help professors to identify and clarify their teaching goals. The TGI consists of 51 goal statements expressed broadly to be used across disciplines. Each instructor evaluates goals according to the importance they attribute to achieving specific goals in a specific class. The 51 items are assessed using a Likert scale with a range of 1 to 5.

The participants will be asked to complete the TGI in terms of one of the courses they teach. For instance, if an instructor teaches three classes, such as introduction to entrepreneurship, business plan writing, and entrepreneurial teams, the information provided should be focused on one class. The instructors will be asked to answer the

TGI thinking in the class that he/she feels more comfortable teaching.

After a face-to-face interview, the author will ask participants to complete the TGI in situ. The idea of asking participants to complete the TGI in person is to increase likelihood of answers (Biemer&Lyberg, 2003).

Surveys' reliability. The TPI evolved through successive stages of revision to strength validity. A 75-item, 6-point scale version of the TPI created in 1993 resulted in a streamlined 45-item, 5-point scale version in 1997. An item analysis on the TPI confirmed high test-retest reliabilities (0.88) and internal scale consistencies of 0.79, (Pratt & Collins, 2000). The TPI has reliability coefficients that meet commonly used criteria for reliability of measurement (Knapp, 2005).

Angelo and Cross (1993) computed alpha coefficients to test for reliability and internal consistency of each goal cluster included in the TGI. The internal consistency of the goal clusters was estimated with Cronbach's alpha coefficients of .71 or higher in all goal clusters (Angelo & Cross, 1993), an acceptable level according to Nunnally (1967).

Interviews. Semi-structured interviews will be conducted with each participant. Participants will be contacted by email to set up a mutually convenient time and location for the face-to-face interview. Interviews will be recorded with two digital voice-recorders for back-up purposes.

Interviews are conducted to understand what cannot be learned by simply observing a person or situation (Patton, 2002). A semi-structured interview "facilitates rapport/empathy, allows a greater flexibility of coverage, and allows the interview to go into novel areas, and it tends to produce richer data" (Smith, 2008, p. 59). Semi-structured interviews help to standardize data and facilitate the focus on the topic of inquiry (Rubin & Rubin, 2005).

The semi-structured interview guide (see Appendix E) contains questions about the participants, their definitions of entrepreneurship, educational backgrounds, work experience, beliefs about entrepreneurial learning and how teaching goals, content, and methods are selected. Two types of questions will be used to understand how instructors select their goals, content, and methods: (a) main questions, and (b) probes or follow-up questions (Rubin & Rubin, 2005). Probes will be used to gain clarity and depth to participants' responses to the main questions and to give participants cues as to the desired level of responses (Patton, 2002).

Interviews will be transcribed verbatim by a professional transcriptionist. Each transcript will be checked by the researcher, and because English is the second language of the researcher, a native American English speaker will also check the transcriptions. The researcher and American will listen to the audio and read the transcripts together to improve accuracy of the transcription.

The semi-structured interview guide was shared to the researcher's dissertation peer group to check whether the guide is consistent with the research questions. The interview guide was revised based on the dissertation peer group feedback. The revised guide was then piloted with an instructor at Florida International University to test if the procedure worked.

Pilot Study

A pilot study helps investigators to refine the data collection plans with respect to both the content of the data and the procedures to be followed (Yin, 2003). As part of the pilot, an instructor at FIU received an e-mail with an invitation to participate in the study and instructions for completing the TPI. CV and syllabus were obtained through the web. A preliminary analysis of the TPI, CV, and syllabus was conducted before the interview. The preliminary analysis of TPI, CV, and syllabus yielded that the instructor

had less than 3 years of experience and scored high on the developmental teaching perspective.

During the pilot interview, the researcher realized that questions related to personal history made the instructor feel more comfortable with the interview. Following this insight, the guide was revised to start with personal questions instead of questions related to the definition of entrepreneurship. Once the interview was completed, but before the meeting was end, the researcher and the instructor went through the TGI survey. To take the survey took about 15 minutes. The instructor's willingness to answer the TGI showed that the procedure worked on this regard. After an hour talking about quality of teaching, the instructor valued the research and was enthusiastic and cooperative.

Analysis of the TGI survey yielded that the TGI and TPI of this instructor were very consistent. In both instruments, the instructor showed a tendency to privilege objectives related to personal development of students. This might be related to the instructor´s background in psychology. This preliminary finding showed that TPI and TGI might be consistent with goals, methods, and content used by instructors.

Case Study Protocol

Yin (1994) suggests developing a case study protocol before the study. "Having a case study protocol is desirable under all circumstances, but it is essential for multiple-case design" (p. 63). The protocol contains the instrument, the procedures and general rules that the researcher should follow in using the instrument. Protocols help in increasing the reliability of case study research and therefore are important to conducting high-quality case studies. Following Yin (1994), the researcher developed a case study protocol that consisted of: (a) purpose of the study, (b) field procedures, (c) interview guide, and (d) a guideline for individual case study report (see Appendix F).

Data Analysis

The analysis of case study evidence is the least developed and most difficult part of doing case studies (Eisenhardt, 1989; Yin, 1994). Data analysis is the process of systematically searching and organizing transcripts, documents, and other material to develop findings (Bodgan&Biklen, 2007). Data analysis of this study will proceed in two stages: (a) preparation for within case analysis and (b) cross case analysis.

Phase One: Preparation of Data and Within Case Analysis

To start the data analysis, a coding system needs to be developed from the interview transcripts and documents. To develop a coding system, chunks of text that represents a concept or a theme are identified within transcripts and documents. C*oncepts* represent an idea important to the research question. *Themes* are statements and explanation of how things happen (Rubin & Rubin, 2007). To develop a coding system and prepare the material for within case analysis, several steps will be followed.

Step one: preliminary analysis of documents and instruments. Coding is the process of assigning labels to chunks of text (Rossman& Rallis, 1998). Before each interview, instructor's CV and syllabi will be coded and TPI and TGI scored. The objective of coding the CVs and syllabi before the interviews is to know something about the instructors and refine the interview guide if needed. After documents are coded and instruments scored, documents and instruments will be analyzed to explore how TPI scores, TGI scores, syllabi's goal, syllabi's method, research streams (CVs) and backgrounds (CVs) relate each other. For example, high TGI score in personal development could or not coincide with high TPI scores on developmental perspective. It is expected that teaching methods and goals are consistent between documents and instruments, if not; the interview guide will be adjusted to better understand why this difference might exist. These questions will be raised after the participant responds to

the semi structured interview guide that is the same for all participants. Along with the review of CVs and Syllabi during this step, preliminary codes and author notes will emerge.

Step two: preliminary analysis of interviews. Right after an interview, 30 to 60 minutes will be reserved to debrief and write what happened. In addition to the debriefing, the researcher will prepare the following interview listening the tape from the previous interview performed. As a result of the debriefing and the preparation for each interview, the researcher will craft concepts and themes. These preliminary themes will be part of the analysis later.

Step three: case construction. The unit of analysis in this study is the instructor. Before data analysis, cases must be constructed. For each instructor, the case will be constructed assembling for each instructor the previously coded CV, syllabi, and researcher notes plus the TPI report, TGI scores, and the interview transcript.

Step four: transcripts coding and coding system. Developing a coding system involves searching the data for topics and patterns; writing downs word and comments to represent those patterns (Bodgan&Biklen, 2007). With the set of preliminary codes in hand, the researcher will start coding the transcripts. Preliminary document codes will be revised to clarify and refine what is meant by each specific code and develop the coding system considering all material. Each code will be named, defined, and an example from the data will be provided in a codebook. While the researcher clarifies and synthesizes codes, new themes can emerge from the data (Rubin & Rubin, 2007).

Once the transcript, CV, and syllabi for a case have been coded, the data will be revisited to see if codes are redundant or are subsets of each other. This will be done by examining the different sources of data together. Codes will be clarified, possibly redefined, and examples from each data source will be placed in the codebook. The

software program NVIVO will be used with one case at a time, completing the coding of each case before beginning work on the next one.

*Step five: within case analysis.*Within case analysis also involves detailed descriptions of each case. The overall idea is to become intimate familiar with each case as a stand-alone entity and develop a descriptive framework for organizing the cases (Eisenhardt, 1989).

Within case analysis will explore the factors that influence how professors select goals, content, and methods to teach entrepreneurship. Influencing factors, decision points during the selection process, and reasons behind goals, content, and methods selection are also expected to be identified. Decision point is defined by the researcher as the instructor's resolution about goals to pursue, content to select, and methods to use.

Within case analysis also will explore how teaching experience, entrepreneurial experience, teaching appointment, and teaching perspective might relate to the selection of content, method, and goals. Relationships will be explored, defined, and data will be placed in the codebook to serve as an example of the how teaching experience, entrepreneurial experience, teaching appointment, and teaching perspective might influence how instructors design curriculum. This process will be repeated for each case. A case will be completely analyzed before the across case analysis begins.

Across Case Data Analysis

Cross case analysis looks for similarities and patterns that differentiate the cases (Eisenhardt, 1989). After transcripts and documents are coded and analyzed within case, they will be compared across cases to answer the research question and draw theoretical conclusions. Similarities and differences will be explored, clustered, and rearranged in an effort to further interpret the meaning of the data across cases. Two phases of

analysis will be performed (a) across groups and (b) across case analysis. Each phase involves one or more steps.

Phase Two: Across Group Analysis

The across case analysis should focus on the biggest issues (Yin, 1994) as outlined in the research questions, with the researcher's own knowledge and experience counting toward the strength of the analysis. The objective of the group comparison is to explore whether differences in teaching experience, entrepreneurial experience, or field of teaching (business or engineering) might imply differences in how instructors select goals, content, and methods.

Step one: across case analysis grouping by teaching experience. The first step will be to compare the codes that were created according to teaching experience. The instructors who have been teaching for more than ten years will be compared against the instructors with less than 10 years of teaching experience.

Step two: across case analysis grouping by entrepreneurial experience. The second step will be to compare the codes that were created according to entrepreneurial experience. Instructors who are or have been business owners will be compared against the ones without entrepreneurial experience.

Step three: across case analysis grouping by engineering or business departments. The third step will be to compare the codes that were created according to home department whether these are engineering or business. Instructors teaching at the engineering department will be compared against those teaching at the business department.

Phase Three: Across Case

The last stage is to compare all cases across. Comparing each instructor against each one will determine what similarities and/or differences exist between and among

the codes that were developed during the within case analysis. Similarities and differences might result in patterns, themes, and relationships. At the individual level, seven comparisons are possible considering there are eight cases and a case cannot be compared against itself.

Interpretation

Interpretation of the data will begin with an exploration of how instructors design their curriculum and how the data are consistent with previous research about what influences the selection of goals, content, and methods to teach. Further interpretation will be facilitated by creating, presenting and explaining a model which emerges from data demonstrating the interaction of teacher goals, teaching content, teaching methods with teacher perspectives, experience, and years of teaching experience. The model aims to explain the interaction of the variables that plays a role influencing decisions of teachers. The model will complement the description of the decision process that guides each teacher's selection of goals, content, and methods that was obtained through data analysis.

Data Management

All transcriptions, original tapes, documents, computer file backups, and notes will be maintained in a locked file cabinet in the researcher's home office. Access to any of the materials that can be identified with a specific individual will be limited to the researcher only. All files will be maintained for 3 years following the completion of the study.

A file will be created for each instructor. Each professor's documents will be then grouped together, using one file per participant. All tapes, interview transcripts, syllabi, CVs, survey answers, and TPI scores will be part of that file.

Quality of the Study

A major strength of case study data collection is the opportunity to use different sources of evidence (Patton, 1997; Yin, 1994). Several measures of accuracy and credibility will be undertaken throughout the inception, duration, and completion of this study. First, this study will triangulate around five data sources (interviews, TPI reports, TGI reports, CVs, and syllabi) to explore which elements might relate to the instructor's selection of goals, content, and methods. In this study, data will be collected from instructors teaching in different fields, with unlike teaching and entrepreneurial experience. Triangulation will occur through the comparison and contrast of opinions expressed by individuals with different experiences and at different home departments (triangulation across informants). The cross-case study design also allows the researcher to triangulate the data from eight different cases, and identify repeated themes across them (Miles &Huberman, 1994). The validity of the research increases because the multiple sources of evidence essentially provide multiple measures of the same phenomenon (Yin, 1994).

In addition to data triangulation, four criteria are commonly used to judge the quality of any empirical research: construct validity, internal validity, external validity and reliability. Since case studies are one form of such empirical research, the four standards are also relevant to case study research (Yin, 1994).

Construct Validity

Using several sources of information the potential problems of construct validity are diminished because the multiple sources of evidence essentially provide multiple measures of the same phenomenon (Yin, 1994). Establishing a chain of evidence is another effective way to address the construct validity issue. In this regards, the researcher provides rich descriptions of the evidence supporting the findings to enable

readers access to all relevant material used to support the findings of this study. Having the key informant review the case study's draft report also contributes to enhancing construct validity. This validity corresponds to expert judge validity. In this study, the key informant is part of the dissertation committee, so he will review the draft of this multiple case study. His corrections will enhance the accuracy and improve the construct validity of the study. Example how

Internal Validity

The intention of internal validity is to establish a causal relationship whereby certain conditions are shown to lead to other conditions, as distinguished from spurious relationships (Kidder and Judd, 1986). In order to have a sound chain of inference, the use of different source of information that produces converging results enhance internal validity (Miles &Huberman, 1994). Comparison with previous literature also improves internal validity (Eisenhardt, 1989).

External validity

In this study, external validity is increased by using replication logic as happens in a multiple-case study (Miles &Huberman, 1994; Yin, 1994), and through comparisons with previous literature (Eisenhardt, 1989; Miles &Huberman, 1994).

Reliability

Reliability or consistency demonstrates that the operations of a study, such as data collection procedures, can be repeated with the same results (Kidder and Judd, 1986). A study is reliable if minimize errors and biases and allow other researchers to replicate the case study. To increase reliability the data collection methods and instruments need to be well documented and described (Cakir, 2004; Dooley, 2002). In this research, all procedures will be well documented. The use of a case study protocol will be used complement the documentation of the study process (see appendix F). Case

study protocol helps in well documenting the study process (Yin, 1994). In addition to a case study protocol, a case study database also increases the reliability of the case study (Yin, 1994). A case study database involves organizing and documenting the data collected so that other investigators can review the evidence directly and not only the written reports.

Researcher' Role

I grew up in Santiago de Chile, South America. I am the first professional in my family. None of my relatives went to college before I did. My mother has a restaurant since 1999, my dad a small truck company since the 1981, and my brother successfully started a company in 2003. Today, the three family businesses employ almost 200 people.

In 1998, when I was senior in college, I ran for president of the student government association of my university. From that position, I received an invitation to participate in a 3 day leadership workshop. There, I discovered the entrepreneurial phenomena. Since then, I have been fascinated by the question about how people become entrepreneurs.

I graduated with a degree of psychology in 2002. Between 2002 and 2005 I taught entrepreneurship at the school of engineering at the University of Chile. At the engineering school I realized that entrepreneurship professors were very passionate about teaching, but they had limited understanding of entrepreneurial minds and teaching methods.

Since the 1990s, Chile has experienced an important economic grow. To maintain the country's competitiveness, the government has implemented policies to foster entrepreneurship. In 2005, I received the President's fellowship to pursue doctoral studies in entrepreneurship. In 2005, I traveled to Miami to pursue a master's of science

in business and then a doctorate in education, both at Florida International University. I selected FIU because its condition of being a Kauffman Campus. The Kauffman Campus Initiative (KCI) at Florida International University was established in 2004 through a grant funded by the Ewing Marion Kauffman Foundation. The overarching goal of the Kauffman Campus Initiative is to enhance the economic (Kauffman Foundation, 2004) development of the region by supporting an end-to-end process for establishing innovative enterprises. Other goals of KCI are: (a) contribute to the body of knowledge (BOK) on entrepreneurship. (b) Educate and develop students, faculty, staff, and members of the community from a broad range of disciplines on entrepreneurship. (c) Promote entrepreneurship in the university and the region (Kauffman Foundation, 2004).

During 2009 I was hired by the ministry of economy of the Chilean government as coordinator of national policies in entrepreneurship and human resources development. In 2010, I returned to Miami to continue working on my doctoral dissertation. During the same year, I received a work offer from the Chilean university Universidad del Desarrollo (UDD). In August 2010, I was hired as assistant professor at the school of business of UDD. I accepted the position because UDD is number one in entrepreneurship according to the America Economía magazine's rank 2010 and UDD gives me the opportunity to keep teaching and researching about entrepreneurship.

I am committed to use my experience as entrepreneur, psychologist, political leader, adult educator and student to go beyond the constraints of the rationalistic tradition to better understand what constitutes entrepreneurship teaching.

Summary

Using a descriptive multiple case study design, this qualitative study focuses on what guides entrepreneurship instructors' selection of teaching goals, teaching content,

and teaching methods. Using different data sources such as semi-structured interviews, analysis of CVs, analysis of syllabi and reports of the Teacher Perspectives and Teacher Goal Inventories, this multiple case study aims to understand entrepreneurship instructors' selection of teaching goals, content, and methods.

CHAPTER IV

RESULTS

This chapter describes the cases included in the study. Each case described corresponds to one entrepreneurship instructor who was interviewed and whose syllabus and vita were analyzed. Despite the fact that all instructors have taught entrepreneurship at institutions of higher education, all have a unique combination of characteristics in terms of teaching experience, entrepreneurial experience and home departments. Eight cases will be presented: four instructors who taught entrepreneurship at a business school and four instructors who taught entrepreneurship at an engineering school. Table 1 provides information about the criteria that each instructor met.

Table 2: Sample

Case number	Pseudonym	Engineering department	Business department	+ 10 years of teaching exp.	E-ship. Experience
Case 1	Daniel	No	Yes	Yes	Yes
Case 2	Donna	No	Yes	No	Yes
Case 3	Mary	No	Yes	Yes	No
Case 4	Ken	No	Yes	No	No
Case 5	Selma	Yes	No	Yes	Yes
Case 6	Bob	Yes	No	No	Yes
Case 7	Hector	Yes	No	Yes	No
Case 8	Kathy	Yes	No	No	No

Table 2 presents the case number, pseudonyms, teaching appointment, years of experience and whether the instructor has or does not have entrepreneurial experience. For instance, case 1 corresponds to Daniel who is an entrepreneurship instructor teaching at a business department and has more than 10 years of teaching experience. Case 6 corresponds to Bob who is an entrepreneurship instructor teaching at an engineering department and has less than 10 years of teaching experience.

Data presented in this chapter were collected through vitas, syllabi and interviews. The information obtained includes educational background and work

experience from vitas. From the interview, how participants became entrepreneurship instructors. Teaching goals, content, and methods were obtained from syllabi. In addition to providing a vita, syllabus, and interview, each instructor also completed two surveys: the Teaching Goals Inventory (TGI) and the Teaching Perspectives Inventory (TPI). This chapter also reports instructors' scores in those surveys. Considering that some instructors scored similarly on the surveys, to avoid repetition, results from the surveys will be presented after presenting each case. To provide a general overview to the reader, a short summary of each instructor and his institution is given in Table 3. Data to construct this summary was collected during interviews and was complemented with data from the official institutions web' pages.

Table 3: Summary of cases

Daniel	Daniel is about 60 years old. He holds a PhD in Strategic Management, a Master of Science in Communication and a Bachelor's in Education. His primary area of study is Organizational Behavior and his dissertation was in Strategy and Entrepreneurship. He teaches the course strategic entrepreneurship at a business school, 30-35 students at undergraduate level, of a private university with a total enrollment of 7,000 and an undergraduate tuition of approximately $55,000 annual (housing included). His research has appeared in top journals in the management and entrepreneurship fields. He was a partner in a business and a regional VP of a franchise operation.
Donna	Donna is about 38 years old, has a bachelor's degree in Nutrition Science, a Master's degree in Organizational Development and a PhD in Management and Organizations. She teaches the course introduction to entrepreneurship at a management school, of a private undergraduate university with a total enrollment of 5,000 and an undergraduate tuition of approximately $30,000 annual (housing included). She has coauthored papers with internationally known researchers in entrepreneurship. Before entering academia Donna was co-owner of a family business, a commercial construction company, and owned and operated a franchise restaurant. She has held leadership positions in health care and worked as an organizational consultant and trainer in private and public work systems.
Mary	Mary is about 41 years old, has a bachelor's degree in Economics and Literature and a PhD in strategy. She teaches entrepreneurship as an elective for the second year of an MBA program in a public research university with a total enrollment of 28,000 and an undergraduate tuition of approximately $25,000 (housing included). Her work has been published in journals such as *Strategic Management Journal*, *Strategic Entrepreneurship Journal*, *Academy of Management Journal*, and *Academy of Management Review*.
Ken	Ken is about 40 years old. He received a Bachelor's degree in biology, an MBA, and PhD in Strategic Management in 2003. He teaches new venture Planning for undergraduates as an elective. Ken works for a traditional, small private college attended by full-time students who live on-campus. Ken`s university has a total enrollment of 15,000 and an undergraduate tuition of $50,000 annual (housing included).
Selma	Selma holds a Bachelor's degree and a PhD in Neurosciences. Selma's priority is not research instead she leads the strategic planning of a teaching and research center focusing on high technology entrepreneurship. The center is affiliated with one of the most prestigious engineering schools in the world. She teaches creativity and innovation for undergraduate and graduate students at a private research university. Selma's university has a total enrollment of 15,000 and an undergraduate tuition of $40,000 annual (housing included).

Bob	Bob has a Bachelor's degree and PhD in Materials Engineering from MIT and worked for NASA for 4 years before he started an academic career in 2002. He was an Associate Professor in the Department of Mechanical and Industrial Engineering and does research on aerospace materials. He teaches introduction to entrepreneurship to undergraduate and graduates students. The format of the class models a students' club. The number of students ranges from 10 to 100. The class does not count toward his teaching load but students receive credit for the class. He has an impressive list of publications related to material properties. Bob' works for a public research university with a total enrollment of 27,000 students and an undergraduate tuition of $20,000 annual (housing included).
Hector	Hector is a tenure track Associate Professor at a technology school in the Northwest. He has a Bachelor's degree and a Master's degree in Engineering and a PhD in Strategic Management. He does research on strategic management of technology and innovation, new venture creation, and knowledge spillovers. He has published in major management journals such as *Strategic Management* and *Academy of Management*. He teaches technology and entrepreneurship as an elective course in a graduate course for science and engineering students. His institution is a small public teaching and research university devoted to engineering and applied science with a total enrollment of 4,000 students and an undergraduate tuition of about $15,000 annual (housing not included).
Kathy	Kathy has a Bachelor's degree in Industrial Engineering, a Master's degree in Industrial Engineering and Operations Research, a minor in Business and a PhD in Industrial Engineering. Kathy is an Associate Professor of the management information systems department and coordinator of the engineering entrepreneurship minor at an engineering school. Kathy's institution is a public 4 year Polytechnic Institute that serves 3,000 students with tuition cost of $27,000 (housing included).

Case 1: Daniel

Daniel is an entrepreneurship professor with more than ten years of teaching experience and who has experience as an entrepreneur.

The Instructor

Daniel is an associate professor and director of the Business and Enterprise Management degree program in a private college located on the east coast of the United States (U.S.). He has served as the Proceedings Editor for the United States Association of Small Business and Entrepreneurship (USASBE) and for the International Council for Small Business. He has served on the executive boards for both USASBE and the

Entrepreneurship Division of the Academy of Management. His research has appeared in top journals in the management and entrepreneurship fields and the Academy of Management and the National Federation of Independent Business has recognized him as an outstanding researcher. Daniel holds a PhD in Strategic Management, a Master of Science in Communication and a Bachelor's in Education. His primary area of study is Organizational Behavior and his dissertation was in Strategy and Entrepreneurship. He conducts research on strategic alliances of small to medium-sized enterprises looking at how small businesses form strategic alliances and what determines the positive or negative outcomes of those relationships.

Daniel received teacher training while pursuing the Bachelor's and Master's degrees and taught for one year at a high school. At the end of that year, he was invited to start an entrepreneurial company. He worked in that company for 7 years and founded 4 companies during that period. At the end of those 7 years, he sold the companies and started working for a large regional company in the same industry. He was the director of the franchise program working closely with entrepreneurs who owned franchises. After 8 years as director at the large regional company and fifteen years of industry experience, he went back to school to get a PhD. At the time of the interview in 2010, he was not running a company but was serving on the boards of several small businesses. Once Daniel obtained the PhD, he started doing research on entrepreneurial companies and teaching entrepreneurship. Three years later, he moved to a research university to start a program in technology entrepreneurship that was basically technology commercialization. He spent 6 years at that university teaching and researching how to move technology into the marketplace using entrepreneurial firms. That was during the year 2000 (ten years before the interview was conducted).

Since 2006, Daniel has been teaching strategy and entrepreneurship at the undergraduate level at a small private college on the east coast. His class is part of a four-year degree program that admits into the class approximately 30 students each term. The course was created before Daniel joined the faculty. Most of the students taking Daniel's class have family businesses. They plan to work in the family's business or start their own companies at some point in life. According to Daniel, there were significant demands from the students to add more entrepreneurship content to the curriculum.

Daniel's GCM

Daniel's course goals are to develop his students' knowledge and skills related to entrepreneurship. According to what is reported on the syllabus, Daniel's students will learn to explore strategic management issues for startup and growth-oriented new ventures. Students also learn how to critically analyze the attributes of the firm including strengths, weaknesses and capabilities. In addition to specific skills related to entrepreneurship, Daniel aims to develop skills to solve complex and ill-structured problems, synthesize diverse information into meaningful analyses, craft successful business strategies for entrepreneurial firms, and present well-supported oral and written arguments.

Course topics include the following: strategy in entrepreneurial ventures, environment of entrepreneurial ventures, industry and competitive analysis, value proposition, value chain analysis, resource-based competitive advantage, strategy and performance in entrepreneurial firms, business level strategies (generic), industry life cycles, and building strategic plans for entrepreneurial ventures.

Daniel's teaching methods reported in his syllabus included learning by doing, listening to speakers, lecturing, and discussions. Cases refer to real stories about

business that students read and discuss to learn about business successes and failures. Daniel also invites former students who have started companies to come to his classes as guest speakers. Alumni provide their business plans as cases to be analyzed. These cases complement Harvard University cases used in class as learning material. Students learn from cases how to write a business plan and start developing their own plans. Projects consist of startup strategy plans that students have to develop during the semester. Daniel designs projects to push students to learn how to do market research, competitive research and work as a team putting together a set of strategies. Students interact with real entrepreneurs. According to Daniel, lectures are broken up with a short case study or a short in-class exercise. A portion of the final course grade is based upon students' contributions to each class discussion.

Case 2: Donna

Donna is an entrepreneurship professor with less than 10 years of teaching experience and who has experience as an entrepreneur.

The Instructor

Donna has a bachelor's degree in Nutrition Science, a Master's degree in Organizational Development and a PhD in Management and Organizations. Donna became involved in entrepreneurship research and teaching after a business failure running a franchise restaurant. After the failure, Donna felt that people could avoid mistakes in business by learning entrepreneurship, so she decided to teach others how to run small businesses successfully. She went back to school to obtain a PhD and became interested in entrepreneurship education, especially entrepreneurial learning and entrepreneurship education for women. She does research today on how entrepreneurs cope when they do not have the knowledge and skills to deal with an issue.

Donna teaches Introduction to Entrepreneurship to students across the campus. She started teaching the class in 2001 at a different university. The name of the course she taught in 2010 was Foundation of Women's Entrepreneurship. That course was part of a program that won a national award as a model entrepreneurship program. Having received some recognition for women's entrepreneurship in the U.S., after she finished her PhD in 2007, Donna received a job offer from her current employer in Massachusetts. At the time of the interview in 2010, she had been working 2 years in her current job and had created a certified minor in entrepreneurship for all undergraduates. That minor included five courses. Introduction to Entrepreneurship was the first course of the minor. As a scholar, Donna's responsibilities were two-thirds teaching load and one-third administrative load. The administrative assignment was given to her because the college wanted to continue developing initiatives around entrepreneurship for students.

Donna teaches at a private women's school with a fair number of first generation college students. Most students there have part-time jobs. Often, two to three people in Donna's class are between 30 to 60 years old. Approximately half are business students with the other half majoring in sciences, liberal arts, humanities, and professions like nursing and physical therapy.

Donna's GCM

Donna's course goals are to (a) introduce students to entrepreneurship as an economic phenomenon, a behavioral process, and as part of a viable career strategy, (b) build students' understanding of entrepreneurial concepts and processes, (c) offer students opportunities to practice entrepreneurial behaviors and skills; and (d) develop students' capacity to think and behave entrepreneurially in any setting. Throughout the course, students acquire knowledge and skills that will help them be successful in

entrepreneurship. Donna wants students to think and behave like entrepreneurs in everything they do. Other goals identified in her syllabus are to (e) examine, investigate, and apply concepts of entrepreneurship, (f) evaluate entrepreneurial actions in multiple settings, (g) learn and apply a formal, transferable process for evaluating ideas and designing a plan of action, (h) develop the skills to articulate the value of one's ideas and (i) discover and enact one's own entrepreneurial potential.

Course topics identified in the syllabus include how to create a value proposition, knowledge, skills and experiences of entrepreneurs, how to write business plans, opportunity recognition, and presentation skills. The book used in this course is Essentials of Entrepreneurship and Small Business, 6th edition, 2010. Donna said that she typically covers the book and uses the book as a guide for students throughout the course. The book includes topics such as: The Foundations of Entrepreneurship; Inside the Entrepreneurial Mind, From Ideas to Reality; Designing a Competitive Business Model and Building a Solid Strategic Plan; Conducting a Feasibility Analysis and Crafting a Winning Business Plan; Forms of Business Ownership; Franchising and the Entrepreneur; Buying an Existing Business; Building a Powerful Marketing Plan; E-Commerce and the Entrepreneur; Pricing Strategies; Creating a Successful Financial Plan; Managing Cash Flow; Sources of Financing: Debt and Equity; Choosing the Right Location and Layout; Global Aspects of Entrepreneurship and Building a New Venture Team.

Reading, class exercises, and team assignments are designed to help students build competence and gain confidence in their entrepreneurial potential. The course uses a learning community format that draws upon students' creativity, communication skills, and inclination for collaboration to build a dynamic, supportive learning environment. Students are expected to share knowledge, test assumptions, practice new

skills, and challenge each other to succeed at the individual and group level. Blog posts are used to present a value proposition based on the movie *Waiting for Superman*(Guggenheim, 2010). A summary of the knowledge, skills and experiences of one entrepreneur is written based on an interview with an entrepreneur. Discussions among peers based on the book chapters are also used. Thoughtful, prepared participation in discussions about assigned readings is expected. Students are encouraged to fully participate and bring their knowledge to bear on the course content. Lectures, exercises, discussions, online assignments, personal assessment instruments, guest speakers, and multi-media presentations were reported in the syllabus as used in varying combinations throughout the semester.

Case 3: Mary

Mary is an entrepreneurship professor with more than ten years of teaching experience and who has no experience as an entrepreneur.

The Instructor

Mary is an Associate Professor at a Research One public university in the U.S. Her research focuses on knowledge intensive firms. Her work has been published in journals such as *Strategic Management Journal*, *Strategic Entrepreneurship Journal*, *Academy of Management Journal* (AMJ), and *Academy of Management Review* (AMR). She is also Director of a Doctoral program in Entrepreneurial Studies and is on the Editorial Board of AMJ and AMR. At the time of the interview in 2010, Mary was teaching entrepreneurship to full-time MBA students.

Mary has a Bachelor's degree in Economics and Literature. She went to a liberal arts college where there was no business degree, so she pursued a degree in economics and literature because she always loved to read and write. After Mary finished her undergraduate degree, she took a consulting job for about 7 years. In the consulting

firm, she observed how companies that implemented the same strategy had different results. She became curious as to why in some companies a strategy worked so well, while in other companies the same strategy was a disaster. While still working as a consultant, she realized that getting a PhD would allow her to study this phenomenon full-time. So she pursued a PhD in strategy. She did not do it in entrepreneurship because entrepreneurship did not exist at her university at that time. Students were admitted into the doctoral program either as strategy students or as organizational behavior students.

Mary became interested in startups after she worked as a consultant for hi-tech entrepreneurs in Boston's Route 128 area and in the Bay Area in San Francisco California. Mary's clients and friends were engineers working 20 hours a day, seven days a week trying to go to IPO with their start-ups. This is one of the reasons why Mary studied software developers for her PhD dissertation. She was interested in contingent workers who were not firmly employed by a company but who worked on projects. Mary was curious about how turnover affected knowledge flow between software companies.

Mary has been teaching strategy and entrepreneurship every year since she received her PhD. At the time of the interview in 2010, she was teaching entrepreneurship as an elective for second year MBA students. The average age of students was 26, and she had around 10 students each term in her class, two-thirds men and one-third women.

Mary's GCM

Mary's course goals include the following: (a) to understand the entrepreneurial process and the challenges associated with it, (b) to develop critical thinking to improve managerial judgment and decisions, (c) to organize and execute the tasks required to

bring a project to completion, taking into consideration due dates, task times, resource constraints, and customer expectations, (d) to manage time by realistic scheduling, effective communications, and good meeting management skills.

Mary's course content includes the entrepreneurial process, industry analysis, and competitive advantage. Teaching methods include experiential learning and action learning. The course is designed to provide students with first-hand experience working alongside executives in an entrepreneurial setting. The course is an innovative form of experiential learning in which students learn by doing with faculty guidance and through peer consultation. This type of learning has aptly been described as a "live" case study. Action learning allows students to practice their craft in real world settings with faculty guidance.

Case 4: Ken

Ken is an entrepreneurship professor with less than ten years of teaching experience and who does not have experience as an entrepreneur.

The Instructor

Ken received a Bachelor's degree in biology and an MBA with a concentration in management. Prior to obtaining a PhD in Strategic Management in 2003, Ken had about twelve years of experience mostly in financial services. Ken did not have a specific entrepreneurship concentration in his PhD program, but his dissertation was focused on entrepreneurship. His main research interests are technology entrepreneurship and strategic issues related to high tech entrepreneurship. As he works with entrepreneurs all the time, he has become interested in how they think differently from the average person. He also started doing research about entrepreneurial cognition. At the time of the interview in 2010, Ken was part of the management department of an urban university where he ran the entrepreneurship program. Ken's institution is a

traditional, small, private college attended by full-time students who live on-campus. Many students came from families who have become quite wealthy as entrepreneurs. As presented on Table 3 Ken's university cost around $50,000 a year including housing.

Ken became involved in entrepreneurship because of his advisor who encouraged him to do so. His advisor had important responsibilities as chair of entrepreneurship of his department. While working on his doctorate, Ken began participating in the university's business incubator and business plan competitions. These experiences motivated him to undertake responsibilities in extracurricular entrepreneurial activities that shaped his profile as a professional. His first job as faculty after completing his dissertation was supporting college entrepreneurs to pursue their businesses.

When his current employer was looking to fill the position that Ken holds today, they valued Ken's academic and administrative experience running entrepreneurship programs, helping entrepreneurs with startup, and developing entrepreneurship curricula. At the time of the interview in 2010, Ken was teaching two undergraduate courses. Both of them were for entrepreneurship majors. He said that entrepreneurship classes used to be very popular among business major students. One course he was teaching was a new venture planning class and the other course he was teaching was an entrepreneurial consulting class.

Ken defines entrepreneurship as a cognitive construct, a way of thinking that is context independent. Although people who start businesses are often entrepreneurial, Ken said that starting a business does not define entrepreneurship. For him, an entrepreneur is somebody who creates value within some context and does it in a certain way. The entrepreneur does it by a process of enacting some vision he/she has of a

future goal. This is a process of planning and then gathering resources to implement. Ken said that as long as people think entrepreneurially, they are entrepreneurs.

Ken's GCM

Ken's course goals include the following:(a) learn how to prepare a comprehensive strategy for launching a new business, (b) learn the business planning process and (c) learn to think strategically for any endeavor, including corporate and entrepreneurial settings.

Course content includes the following topics: business plan writing, elements of a successful venture, definition of entrepreneurship and how entrepreneurship is applicable to any career path, opportunity identification, protection of intellectual property, and legal forms for organizations. Ken also includes organizational concepts such as structure, team dynamics, boards and other outside advisors. Strategic issues such as competitive advantage, generic strategies, value propositions, industry analysis, market research, pricing, sales forecasts, and entry strategies. Planning for growth, change, outsourcing, exit strategies, cash flow, working capital management, and breakeven analysis are concepts also mentioned on the syllabus. Sources of funding, government programs, equity, financial statements and methods of valuing new ventures are part of the syllabus too.

Ken's teaching methods include project-based learning, learning by doing, classroom discussions, role-playing, participating in a community of learning, peer-to-peer feedback, and class discussion of issues which emerged in individual plans. Attendance is mandatory and participation significantly impacts students' grades in the course. To supplement the class discussion of readings and business plan topics, Ken created wikis in Blackboard on each course topic. The idea behind the wiki is to have a forum for asking questions, discussing issues, and exchanging ideas/information outside

of regular class hours. There are a minimum number of required postings on the wiki web each week. In addition to that, every week there is a mini case reading or an Inc. Magazine case to review.

Case 5: Selma

Selma is an entrepreneurship instructor at an engineering school. She has more than ten years of teaching experience and has experience as an entrepreneur.

The Instructor

Selma holds a Bachelor's degree and a PhD in Neurosciences. She manages a teaching and research entrepreneurship center focuses on high technology ventures. The center offers 25 courses, teaches 2,000 students each academic year, and hosts 15 PhD students. Selma arrived ten years ago as a center administrator, and from that position, she ended up teaching entrepreneurship. At the time of the interview in 2010, Selma was the instructor of two courses: creativity and innovation and entrepreneurial thought leadership. The course that she focused on during the interview and surveys was the creativity &innovation class because she believes she preforms better teaching that course.

Selma started a company and sold it before accepting the position at a prestigious research university in California. She accepted the position because she has always been interested in education. The course innovation andcreativity was created by Selma's former boss in the mechanical and engineering department. After her boss retired in 2003, a friend of Selma's began teaching the class, but the class was not a priority for him. Selma asked him if she could teach the class. Her friend and the department accepted. Since 2007, Selma has been teaching the class creativity andinnovation in the engineering department, but today the class is open to students

from different schools across the campus (i.e., engineering, medicine, education, business, and law).

According to Selma, the class has a very good reputation. Forty students are enrolled in the course every semester, but often 200 show up to participate for a specific class if someone very interesting is invited. The author of this study had the chance to attend two of Selma's classes. One of the sessions was based on games, for the other session Selma invited entrepreneurs and executives that run well-known companies in California to speak. Sometimes, when famous entrepreneurs are invited, students from different faculties attend the lecture. In fact, part of the requirement of the class is to attend seminars that are open to the public. Often, people known worldwide accept the invitation to bea guest speaker in Selma´s class.

Selma tries to make sessions interactive. For instance, one class witnessed by the author had about three guest speakers answering questions about how to run a business. Only one of the guests was telling the truth while students had to guess which one was.

The goal of the class is for students to see that every problem provides an opportunity for a creative solution. Students in the class range from 20 to 25 years old. Half the students are male and half are female; some are undergraduates but most are graduate students.

Selma's GCM

The course does not have a formal syllabus. Everything is posted on a weblog that is managed by a teaching assistant. From the weblog, it is possible to see that the course is designed to explore the variables that stimulate and inhibit creativity and innovation in individuals, teams, and organizations. The philosophy of the course is that every problem provides an opportunity for a creative solution.

Course content includes design thinking, creativity, and teambuilding. With this in mind, students are encouraged to try new approaches to creative problem solving in many different environments. In each class, students focus on a different variable related to creativity, such as team dynamics, creativity under pressure, or managing creative individuals.

Course methods include problem solving exercises and projects developed in teams. The class is highly experiential requiring each student to come prepared to participate actively. The course uses many techniques including classroom workshops, case studies, team projects, field trips, and expert classroom visitors. Experts are invited into the classroom to help lead discussions and activities focusing on creativity in different environments.

Case 6: Bob

Bob is an entrepreneurship instructor at an engineering school. He has less than ten years of teaching experience and has experience as an entrepreneur.

The Instructor

Bob has a Bachelor's degree and PhD in Materials Engineering from MIT and worked for NASA for 4 years before he started an academic career in 2002. At the time of the interview in 2010, he was an Associate Professor in the Department of Mechanical and Industrial Engineering. Bob's institution is a national research university, recognized for outstanding faculty and top-quality students. It has around 28,000 students including undergraduate and graduate students. The university campus sits on nearly 1,450-acres and is located 90 miles from a major American city.

Bob's first enterprise was an auto body repair company he started after he finished high school. He had taken vocational classes in auto repair when his neighbor asked Bob to refinish all of his trucks. He worked for a while as a contractor. Currently,

he is involved in a couple of small companies and also works with his wife, managing a small retail firm.

Bob has never received training on teaching. He became an entrepreneurship professor when one of his graduate students got involved in the entrepreneurship club and invited him to attend. At the club, Bob realized that students appreciated entrepreneurship. Students loved the activities organized by the club even though it was hard for them to justify the time spent there because they had homework to do. The following semester, the school offered an official entrepreneurship class and gave students the chance to participate in the club as an academic activity. The class was first offered as an independent study in the spring of 2007. By then, it had five student companies, and meetings were a mix of lectures and club meetings. The growth of the class has been exponential since it was formalized in 2008. In the spring of 2010, the class had 88 student companies, 110 students enrolled for credits, and about another 30 students coming to the lectures voluntarily without earning credits. In 2010, the class consisted of 50 percent male students and 50 percent female students. However, this has varied over time. Students also vary from freshmen students to post doc students. The 2010 audience was heavily weighted towards undergraduates and software engineers. However, the instructor does not control that; he takes anyone who wants to be part of the class.

Bob teaches this class because he has a great time doing it. It is exciting for him to be working with these passionate young people. He loves being around people who are so excited about what they are doing, and it has been very rewarding to watch the growth of the program.

Bob's GCM

The entrepreneurship course Bob teaches seeks to promote networking within students and teach them to identify and isolate problems that could be solved by business. Students also develop simple financial plans to evaluate whether or not the problems can be solved by business. Another important goal is for students to explore the entrepreneurial career path. Those with ideas will learn how to attract a team and turn ideas into reality. Those seeking ideas will be shown how to create and evaluate opportunities. Students will be encouraged to form real companies. The course is also designed to teach leadership skills that will be useful in any profession.

Course content includes the following: idea creation and evaluation, marketing for innovations, market segmentation and targeting, startup financials, income statements, projections, and calculating investment needs for a startup, and communication skills such as effective presentation and products' pitch.

Teaching methods include lectures, guest speakers, business plan writing, demonstrations, simulations, mentoring, project based learning, and teamwork. Students pitch their ideas to the rest of the class to solicit advice and recruit team members. The top five teams compete for cash prizes awarded by a panel of real-world entrepreneurs, investors and bankers.

Case 7: Hector

Hector is an entrepreneurship professor with more than ten years of teaching experience and who does not have experience as an entrepreneur.

The Instructor

Hector is a tenure track Associate Professor at a technology school in the Northwest. He has a Bachelor's degree and a Master's degree in Engineering and a PhD in Strategic Management. His research interests are strategic management of technology

and innovation, new venture creation, and knowledge spillovers. He has published in major management journals such as *Strategic Management*, *Strategic Entrepreneurship*, *Academy of Management*, and *Business Venturing*. Hector started teaching entrepreneurship once he completed the PhD. His audiences have always been engineering and science students who demand a technology component.

The first time Hector taught entrepreneurship was at a prestigious engineering school in the U.S. His office then was in the business school but the position was in the engineering school. He held half of an appointment in the engineering department and half of an appointment in the business school. Then, Hector was hired at another prestigious engineering school in the Southwest. At the time of the interview in 2010, he was teaching an elective course on technology and entrepreneurship there. The course was included in a fifth year Master's program for students who had just finished their undergraduate in engineering and were staying an extra year to get the Master's degree. Everybody who takes that program has a science or engineering undergraduate degree. Fifty percent of the students had just finished their undergraduate degrees and were about 22 years old. The other 50% were students who were two or three years older that might have finished their undergraduate, worked sometime, and returned for this degree. Occasionally, older people are enrolled. In the Master's program, 80% of the students are male and that percentage is sustained in the course as well. There are about 50 students in the program per year, and 10 to 20 of those are taking the technology entrepreneurship course.

Hector's GCM

Hector's course goals include the following: (a) identify and determine what entrepreneurs need to know about the critical driving forces of the new venture success, (b) identify how successful entrepreneurs and investors create, find and differentiate

profitable and durable opportunities, (c) evaluate and determine how successful entrepreneurs and investors create and build value for themselves, and others, (d) identify and determine the necessary financial and non-financial resources necessary for new ventures, (e) identify the criteria used to screen and evaluate proposals and (f) apply venture opportunity screening techniques to an actual start-up idea.

Course content includes concepts and theories relevant to the management of new and/or small technology based businesses. The class covers the start-up process with particular emphasis being placed on market issues, intellectual property, and entrepreneurial finance. Also included are opportunity screening, market analysis, market segmentation, high tech marketing, intellectual property, venture funding, new venture teams, and small business management.

Hector's teaching methods include class lectures, site visits, and case analyses. Invited speakers participate in several of the class discussions and an external expert is invited to judge the work of students.

Case 8: Kathy

Kathy is an entrepreneurship instructor at an engineering school. She has less than ten years of teaching experience and has no experience as an entrepreneur.

The Instructor

Kathy has a Bachelor's degree in Industrial Engineering, a Master's degree in Industrial Engineering and Operations Research, a minor in Business and a PhD in Industrial Engineering. At the time of the interview in 2010, Kathy was an Associate Professor of the management information systems department and coordinator of the engineering entrepreneurship minor at an engineering school located in Pennsylvania. Kathy graduated from her PhD program in 2002 and started working in her current job in 2003. Kathy's institution serves 3,000 students.

Kathy became part of the entrepreneurship faculty when the engineering school decided to start an entrepreneurship minor. Kathy became coordinator of the minor and started teaching the Entrepreneurial Leadership course that is the third course in a sequence of four core courses that includes the minor. The minor was adopted from another minor already developed for the whole university.

Talking to other faculty who taught this course at the university, Kathy realized that there were two different teaching styles. One was teaching leadership during the first half of the semester and then teaching business plans during the second half of the semester. Then there were other instructors who did not teach leadership at all and focused the course on business plans only. Kathy decided to focus half of the semester on teaching leadership and half of the semester on business plans. The business plan worked around zero waste projects or electronics recycling projects that could be implemented in undeveloped countries of Africa.

Kathy has 21 students in the class that she has grouped into teams of six or seven students. Students come from different schools. She has 6 engineering students, 2 computer science students, 1 communications student, and 12 business students. Four of the students are female business majors. The age range is 22 to 23 years old.

This Fall 2010 is the second time that Kathy has taught this course. The first year she taught it was in 2009, at that time the theme was green entrepreneurship so students came up with three ideas about going green. They presented the three ideas in class and former students who have businesses voted for the best ideas. Kathy then selected the best ideas for students to pursue during the semester.

Kathy's GCM

In Kathy's course, students learn how to predict risks, rewards, and challenges of entrepreneurial work. They also analyze how and why individuals become successful in

the business world and will develop skills in problem solving and decision making in a business context. Students likewise develop critical thinking skills, develop communication skills, and learn how to identify opportunities and customer needs.

Course content focuses on the following: leadership, conflict resolution, problem solving, interpersonal skills, client relationship management, team forming, leadership, speech presentations, innovation portfolio idea pitches, introduction to business plan writing, industry analysis, target market trends, strategic positioning, competition analysis, risk assessment, marketing plan, sales strategy, and exit strategies.

Kathy uses numerous teaching methods including journal reflections, case analysis, peer reviews, in-class activity reflections, guest speakers, and term projects. Throughout the semester, students read journal articles and write reflections about the general message. Students read and interpret selected cases thoroughly. Students also exchange assignments and critique each other's work. Kathy asks her students to type up brief reflections about the in-class activities. Activities range from group work to individual activities and even include guest speakers. Several guest speakers visit the class throughout the semester. These guests have extensive experience and expertise in topics such as marketing, owning and operating a business, technology-based product development, leadership, and communications. The term project is completed as a team.

Survey Results

The TGI is a self-assessment questionnaire of instructional goals whose purpose is to help instructors understand their teaching and learning goals. The TPI is a self-assessment questionnaire used to know instructors' beliefs, actions, and intentions about teaching a specific course.

Entrepreneurship Instructors' TPI Scores

The survey provides information about how the instructors view their work as educators (Pratt, 2005). These views are considered teaching perspectives. Teacher perspectives are instructors' beliefs about what their roles are as instructors and how adults learn. Following his/her beliefs, a teacher may feel more or less committed to some elements of a teaching practice (Pratt, 2005). Commitment is defined "as a sense of loyalty, duty, responsibility, or obligation associated with one or more elements within the General Model of Teaching (GTM)" (Pratt, 2005, p. 7). The elements of the GMT include content (what is to be learned), learner (the nature of the learner and the learning process), ideals (the purpose of education), teacher (roles, functions, and responsibilities), and context (external factors that enhance learning).

After 25 years of experience as an instructor and after investigating 253 instructors from different countries, Pratt (1992) concluded that all instructors emphasize at least one element of the GMT. An instructor who is more committed to learners, focus more on helping students to gain confidence or on preparing them for life's challenges. An instructor who is more committed to the context would believe that significant learning only happens when learning is applied in the real world (Pratt, 2005). The commitment toward a specific component of the GTM (which is related to a particular set of beliefs, intentions, and actions) constitutes a particular type of teacher. Pratt (1997) proposed five distinctive perspectives for teaching that are not mutually exclusive, even though some might be more dominant than others.

The TPI is a 5-point Likert scale with 45 items created to identify how much the instructor believes in certain way to teach. The survey yields five scores corresponding to the five teacher perspectives: transmission, developmental, apprenticeship, nurturing, and social reform. The TPI is built upon three subscales that include 15 questions each.

The three subscales ask about what the instructor believes about teaching, what tries to accomplish while teaching, and what the instructor does when teaching. Scores provided by the instructor answering the survey range from 15 to 45, with 45 being the maximum score that an instructor could attain on a perspective. The analysis looked at maximum and minimum scores to identify each instructor's most dominant perspectives. Table 4 shows how each instructor scored on the five teacher perspectives.

Table 4: Teaching Perspectives Scores for each Instructor

Instructors	Transmission	Apprenticeship	Developmental	Nurturance	Social Reform
Daniel	37	37	39	30	22
Donna	34	37	35	29	16
Mary	36	36	38	27	24
Ken	31	35	39	26	25
Selma	30	44	42	42	32
Bob	30	38	37	30	17
Hector	35	33	37	29	21
Kathy	38	40	43	42	39

Two teacher perspectives were predominant among the instructors interviewed: the Developmental Perspective and the Apprenticeship Perspective. All instructors, except Kathy, had at least one of these two perspectives as either their first or second dominant perspectives (see Table 4).

The Developmental Perspective was the most common teaching perspective reported with five out of eight instructors scoring highest on this perspective and three of eight scoring second highest on this perspective. The Developmental Perspective aims to change a person's approach to a problem or situation. Instructors using the Developmental Perspective seek to change mindsets. Fundamental to the Developmental Perspective is the instructor's intention to develop increasingly complex and sophisticated forms of thought (Pratt, 1997).

Instructors scoring high on the Developmental Perspective believe that learning lies in finding effective bridges between present and desired ways of thinking. They

believe that instruction must be planned and conducted from the learner's point of view. To change cognitive structures, Pratt (1997) suggested that instructors using the developmental perspective combine two skills: (a) the art of effective questioning and (b) "bridging" old student knowledge to new, desired student knowledge. Questions, problems, cases, and examples are the bridges that the teacher uses to move learners from simpler to more complex ways of thinking (Pratt, 1997). Types of items included in this perspective include the following: "Most of all, learning depends on what one already knows," "My intent is to help people develop more complex ways of reasoning," and "I link the subject matter with real settings of practice or application."

The second most common teaching perspective was the Apprenticeship Perspective (see table 4). Three of eight scored highest and four out of eight instructors scored second highest on the Apprenticeship Perspective. The Apprenticeship Perspective aims to develop a new set of practices to allow apprentices to transform their realities. Instructors using the Apprenticeship Perspective seek to incorporate new skills. The key belief of the Apprenticeship Perspective is that expert knowledge is best learned through application and practice. Effective teaching is a process of transferring to students a set of norms, standards, and ways of doing. Therefore, good teachers must be highly skilled at what they teach. For instructors using this perspective, learning proceeds from simple to complex. Teachers know what their learners can do and guide them toward mastery. As learners mature, progress, and become more competent, the teacher's role changes giving students more responsibility. Types of items included in this perspective include the following: "To be an effective teacher, one must be an effective practitioner," "My intent is to demonstrate how to perform or work in real situations," and "I link the subject matter with real settings of practice or application."

The Transmission Perspective was common to three instructors (Daniel, Mary, Hector) as their second dominant perspective. The central belief in the Transmission Perspective is that a relatively stable body of knowledge and/or procedures exists that learners must reproduce. Instructors who score high on this perspective usually are very committed to the content knowledge they are in charge of transmitting to students. Instructors who use the transmission perspective structure their classes having clear goals to achieve during each lesson. They try to cover everything before moving to the next unit keeping focused on what was planned to be learned during that session. Types of items included in this perspective include the following: "Learning is enhanced by having predetermined objectives" and "My intent is to prepare people for examinations."

Kathy and Selma also scored high on the Nurturance Perspective. The Nurturance Perspective is based on the idea that students are productive when they practice without fear of failure. Teachers using this perspective privilege a climate of caring and trust, helping students to set challenging but achievable goals along with clear expectations. Instructors within this perspective tend to not sacrifice a student's self-esteem to obtain demonstrable achievement and focus instead on the individual student's progress more than on his/her accomplishments. Types of items included in this perspective include the following: "I find something to compliment in everyone's work or contribution" and "I encourage expressions of feeling and emotion."

No one scored Social Reform as a dominant perspective. Instructors using Social Reform as a dominant perspective believe that good teachers work to make students aware that there are values and ideologies embedded in texts and common practices within their discipline and to critique these ideologies and values. Good teachers challenge the status quo and encourage students to consider how learners are positioned

and constructed in particular discourses and practices. Types of items included in this perspective include the following: “I emphasize values more than knowledge in my teaching” and “My intent is to challenge people to seriously reconsider their values.”

Entrepreneurship Instructors’ TGI Scores

The TGI is a self-assessment questionnaire of instructional goals whose purpose is to help instructors understand the teaching and learning goals they pursue. The TGI consists of 52 goal statements that are broadly expressed so they can be used across disciplines. Each instructor evaluated the goal statements using a 5-point Likert scale to identify the importance he/she attributed to the statement with respect to how he/she achieved a specific goal in the entrepreneurship class taught. The respondent is asked to rate the relative importance of each goal on a five point scale: essential (5), very important (4), important (3), unimportant (2), and not applicable (1). A score of one meant the goal was not relevant at all to the instructor and a score of five meant the goal was essential to the instructor. Respondents are asked to select one course they are currently teaching and to respond with that course in mind. Angelo and Cross (1993) grouped the 52 teaching goals into six goal clusters: Higher-order Thinking Skills (8 teaching goals), Basic Academic Success (9 teaching goals), Discipline-specific Knowledge and Skills (8 teaching goals), Liberal Arts and Academic Values (10 teaching goals), Work and Career Preparation (8 teaching goals), and Personal Development (9 teaching goals). Table 5 describes the percentage of goals rated as essential by each instructor.

All instructors except for Daniel and scored Higher Order Thinking Skills as the cluster they considered most essential to focus on in their courses. Daniel, however, scored this cluster as second highest in importance. Kathy, on the other hand, barely

discriminated on the clusters she declares as essentials. Kathy's scores will be further analyzed on the data analysis section.

Table 5: Percentage of Items Rated as Essential by Instructor by Cluster

Instructors	Higher Order Thinking Skills	Basic Academic Success Skills	Discipline-Specific Knowledge and Skills	Liberal Arts and Academic Values	Work and Career Preparation	Personal Development
Daniel	13%	0%	0%	10%	25%	11%
Donna	50%	11%	38%	10%	38%	11%
Mary	75%	0%	13%	10%	13%	22%
Ken	50%	0%	0%	20%	0%	22%
Selma	88%	11%	25%	10%	25%	22%
Bob	88%	11%	13%	20%	0%	0%
Hector	38%	0%	0%	0%	25%	0%
Kathy	100%	100%	100%	80%	100%	100%

The Higher Order Thinking Skills cluster consists of eight goals that focus on developing students' abilities to synthesize and integrate information and ideas and develop analytical skills. Faculties who rate these goals as essential tend to develop methods to measure a student's ability to integrate what he or she has learned and apply these principles to problems. This cluster includes eight goals: (a) develop ability to apply principles and generalizations already learned to new problems and situations, (b) develop analytic skills, (c) develop problem-solving skills, (d) develop ability to draw reasonable inferences from observations, (e) develop ability to synthesize and integrate information and ideas, (f) develop ability to think holistically--to see the whole as well as the parts, (g) develop ability to think creatively, and (h) develop ability to distinguish between fact and opinion (see complete survey in appendix E).

The Work and Career Preparation cluster also received high scores with two instructors rating it highest and three instructors rating it second highest (see Table 5). The eight goals in the cluster focus primarily on the student's ability to work with others productively. Skills such as "develop a commitment to accurate work," "improve ability

to follow directions, instructions, and plans," and "develop ability to perform skillfully" are some of the items in this cluster (Angelo & Cross, 1993, p. 21).

The third cluster that received considerable attention from the instructors was the Discipline-Specific Knowledge and Skills cluster. This cluster consists of eight goals that concentrate on the knowledge and values specific to the discipline. Goals such as "learn terms and facts of this subject," "learn to appreciate important contributions to this subject," and "learn to understand perspectives and values of this subject" are some of the goal statements included in this cluster (Angelo & Cross, 1993 p. 20-21).

The Basic Academic Success Skills cluster refers to skills that are at the core of learning such as listening skills, reading skills, or concentration skills. The aim is to enhance areas that contribute to improving students' overall study habits and strategies. The nine goals in this cluster include: improve skill at paying attention, develop ability to concentrate, improve memory skills, improve listening skills, improve speaking skills, improve reading skills, improve writing skills, develop appropriate study skills, strategies, and habits, and improve mathematical skills.

The Liberal Arts and Academic Values cluster refers to skills that assist students to be open to new ideas and to appreciate traditions that are different from their own. The 10 goals in this cluster include: develop an appreciation of the liberal arts and sciences, develop an openness to new ideas, develop an informed concern about contemporary social issues, develop a commitment to exercise the rights and responsibilities of citizenship, develop a lifelong love of learning, develop aesthetic appreciations, develop an informed historical perspective, develop an informed understanding of the role of science and technology, develop an informed appreciation of other cultures and develop capacity to make informed ethical choices.

The Personal Development cluster refers to those abilities that contribute to developing the student as a person, making him or her someone who makes intelligent decisions and who becomes a responsible citizen. The nine goals in this cluster include: cultivate a sense of responsibility for one's own behavior, improve self-esteem/self-confidence, develop a commitment to one's own values, develop respect for others, cultivate emotional health and well-being, cultivate physical health and well-being, cultivate an active commitment to honesty, develop capacity to think for oneself, and develop capacity to make wise decisions.

Table 6 provides information about the total score that instructors assigned to each cluster. Table 5 provided the percentage of scores that instructors considered essentials for their course.

Table 6: TGI Scores by clusters

Instructors	Problem Solving	Academic Skills	Disciplinary Knowledg	Liberal Art	Managerial skills	Personal Dev
Selma	42	31	31	30	32	36
Kathy	40	45	40	53	40	45
Ken	33	9	29	28	33	31
Donna	36	9	30	25	31	25
Mary	38	22	25	26	29	27
Daniel	29	20	21	27	32	26
Bob	39	18	25	26	22	25
Hector	34	30	23	22	34	32

As we can see in Table 6 academic skills received the lowest scores while problem solving, managerial skills, and personal development received the highest scores.

Summary

This chapter has provided information about each instructor including instructors' educational background, work experience, how he/she became an entrepreneurship instructor, his/her teaching goals, content, methods, and some information about the institution where he/she works. This chapter also reported

instructors' scores in the TGI and the TPI. To allow the readers to become fully familiar with each case, cases were described in detail before beginning the within case and across case analysis in the next chapter.

CHAPTER V

WITHIN CASE ANALYSIS

In case study research, it is difficult to tell exactly when the data analysis begins because the researcher constantly handles data in his or her head (Uusitalo, 1986). However, the analysis can at least be divided into two parts: the organization of the data collected and the interpretation of the results. Coding and thematic analysis are major tools in both processes (Eriksson &Koistinen, 2005). The process of coding precedes the thematic analysis.

Coding

Developing a coding system involves searching the data for topics, patterns, and writing down words and comments to represent those patterns (Bodgan&Biklen, 2007). To develop a coding system, chunks of text that represents a concept or a theme is identified within the data sources. Concepts represent an idea important to the research question. Themes are statements and explanation of how things happen (Rubin & Rubin, 2007).

After reading the documents and transcripts several times, a preliminary set of codes was created. The process of creating the first set of codes used general theoretical orientation to guide the search of concepts and themes relevant to the study. In this study, the theoretical orientations are based on the literature review about entrepreneurship education curricula (i.e., Fiet, 2002), teaching decisions (i.e., Feiman-Nemser, 1988), and the general model for teaching (Pratt, 1997).

As anticipated in step 4 of Chapter 3, a preliminary set of codes needs to be developed before starting the thematic analysis. The first coding process yielded 63 codes. To give the readers an idea of the type of themes and concepts recognized during the first read of the documents (transcripts, syllabi, and notes) the codes are listed in

Figure 1. Definitions and examples are not provided at this time. The order of the codes is presented as they emerged while reviewing the data.

Figure 1:First list of preliminary codes

Accreditation demands	Ideals	Experiential learning
Department needs	Individual preferences	Learning by doing
Student demand	Institutional mission	Lectures
Competitive analysis	Learning from others	Mentorship
Human Resources	Networks at hand	Reflective learning
International business	Personal preferences	Speakers
Market research	Random discovery	Alumni feedback
Operation management	Research	Audience
Opportunity recognition	Story telling	Teaching goals
Teamwork	Teaching Experience	Believes about teaching
Career path	Theoretical influences	Learning implies to manage
Entrepreneurial process	Textbooks	MBA learn different
Entry strategy	Bookmark internet	Beliefs about the students
Strategic management	Listing	Colleagues feedback
Integration	Magazines	Institutional needs
Opportunity assessment	Post it	Time constraints
Small business	Internet	Entrepreneurial experience
Cases	Becoming an	Methods
Community of practice	Becoming an e-	Academic background
Discussion	Commitment in	Educational background
Career path	Transformational	Contents

After documents, transcripts, and notes were coded (using the 63 codes presented above), within case analysis started by using the research questions as guide to explore how professors select goals, content, and methods to teach entrepreneurship. The goal during within case analysis is to identify influencing factors, decision points and reasons behind the instructors' selections of goals, content, and methods (GCM). Within case analysis also explored how teaching experience, entrepreneurial experience, teaching appointment, and teaching perspective might relate to the selection of GCM.

During the second review, many of the 63 preliminary codes were redefined, expanded, or merged to become in a new list of 15 codes. In addition to answering the research questions, the author was careful to identify other themes and concepts relevant to this study that might emerge. Fourteen families of codes emerged during the second review. Through this second revision and first recoding, within case analysis began.

These families of codes become preliminary themes aiming to provide the first ideas of what might answer the research questions. These preliminary themes are named, defined, and an example from the data included in Table 6. When data includes quotes from transcripts, participant's pseudonym and line number(s) from his or her transcript are cited (e.g., Mary, 33-36). Pseudonyms are used to protect instructors' confidentiality. These preliminary themes constitute the codebook used as a frame and starting point for the across case analysis.

With the coding system in hand, the researcher made the first effort to answer the research question based on information from one case. The result of that analysis is presented case by case in the following section and constitutes the within case analysis.

Daniel's Selection of GCM

Three preliminary codes came up during the interview that might be related to Daniel's selection of GCM: (a) learners, (b) academic background, (c) beliefs about teaching and learning, and (d) the institution he serves.

Learners. Daniel reported that he adept the goals, content, and methods of his classes incorporating students' feedback. Students become therefore important influences on who Daniel design his class.

> The one thing about [my] students, they're good about giving feedback. And so they write pretty extensive evaluations. And so I sit down and look those and say, you know, what do I think is legitimate and what do I think is not legitimate in terms of the kind of feedback they're giving. And I do adjust. Every semester I adjust based on you know, if they say, "Well, we felt like we just did too many cases. We'd rather have done fewer cases and really spent more time on the cases." Then, I'll listen to that and I'll adjust. Or if I feel like they say, "We felt like this part of the project worked, but this part didn't" then I'll adjust the project (Daniel. 534-546).

Beliefs about the subject matter. Daniel chooses teaching goals by thinking about the specific concepts, knowledge, and skills that students will need to succeed in

entrepreneurship. This is the Daniel's answer to the question how he decides what to teach:

> It is something that I sit down and I think through. I start with here are the specific kind of set of concepts and knowledge and skills that I want the students to have by the end of that course. So, I'll list for myself, here are the core concepts I want to cover. Here are the specific skills that I want them to have mastered by the end of the course whether it's their ability for example to go out and do in depth business research. So I want them to know what are those tools and those sources that they can use. What are the sources through the library, what are the databases, you know, that they can use to get market research to do company competitive research. So it's a set of core concepts I want them to understand, a set of skills that I want them to have achieved by the end of the course (Daniel, 480-491).

As we can see in the quote above, Daniel decides what to include in class doing a contemplative exercise. What guide part of his decisions therefore it is the beliefs that he has about the entrepreneurial practice. Daniel defined entrepreneurship as: "any type of valued creation where we're creating value, bringing something into existence that was not there before" (Daniel, 309-311).

Academic background. Daniel spends more time teaching what he masters: "My background [and] research is on international [business] so I don't spend as much time with the course focusing on product development as I do international entrepreneurship kinds of ideas" (Daniel, 263-266). Academic background seems to influence the content Daniel selects and also influences his teaching methods. As we can see in the following statement, Daniel uses the methods he learned when he was a student

> Almost every entrepreneurship course I've ever taught, seen taught, observed, uses projects. There is this assumption by every entrepreneurship faculty member I know that there is some aspect of entrepreneurship that you can learn through doing. So that's just the way I learned coming through the PhD program (Daniel, 597-601).

Beliefs about teaching and learning. Daniel believes that experience is needed to link concepts and real life. "I think MBA students learn differently than undergraduates (Daniel, 363)…because most of them have had fairly significant work experience

(Daniel, 368-369)". Daniel believes that experience facilitates learning. Experience enables students to learn more effectively because they can connect theory and practice. In fact, Daniel created an internship because he believes that without experience it is too hard for young students to grasp what entrepreneurship encompasses. Daniel feels he needs to be much more directive with undergraduates because of their lack of experience.

> For many of the undergraduates, they've had no work experience at all. And so, it's more difficult in my mind for them to actually go out and do it, and then to link what they're doing to what they're learning. So I feel like I have to be much more directed in helping them link the theory that they're reading about in class, the case studies that we're doing in class to what they're physically doing in terms of their internships and that sort of thing (Daniel, 376-382).

Institution. Daniel's institution is a private college that encourages their instructors to be great teachers. Therefore, it provides instructors with time to refine their curricula. As Daniel said during the interview:

> [Daniel was comparing the institutions where he had worked] …this is the first place I've been that people spend a lot of time talking about teaching, teaching processes and… course content. And so we do spend a lot of collaborative time. And so the final syllabus that I will end up with in August will be one that I will determine, but it'll only be done after I've had a number of discussions with the other faculty (Daniel, 490-496).

Donna's Selection of GCM

Five preliminary insights came up during interview that might be related to Donna's selection of GCM: (a) entrepreneurial experience, (b) learners, (c) beliefs about teaching and learning, (d) beliefs about the subject matter (e), research and (f) teaching experience.

Entrepreneurial experience. Donna's decision to become an entrepreneurship instructor was triggered by her own failed experience as an entrepreneur. Donna thinks that if someone would have taught her what entrepreneurship encompassed, she could

have avoided her own failure as a restaurant owner. The content that Donna includes in her classes seems to be highly influenced by what she did not know while trying to be an entrepreneur.

So, my research interest was: once people are in business, what do they come up against that they had no preparation and even clue that they were going to face? And if I could figure out some of those things, I knew they happen from my own experience, could we then turn around and see if anybody's teaching them in entrepreneurship education or begin to make sure that that stuff is getting covered? (Donna, 76-80).

The learners. Donna believes that her students have some generational characteristic that makes them different. She also thinks that this characteristic combined with the fact that they are all women creates a specific context that influences how she teaches. As we can see in the following statement, Donna emphasizes some topics because she believes her audience needs that special emphasis.

> And I teach them that it's okay to fail. I also think that's an important part of the curriculum. And that they [the students] should build a little resilience up around that and gen Y is just. Gen Y women are so perfectionist. They can barely say the word fail. It's fascinating. So that's the "a-ha moment" – I can do this too. (Donna, 251-255)
> There's this expectation that in order to keep their attention, we have to be really good at what we do. So, I have to be master pedagogical genius and interesting and engaging and use enough technology and media to keep it jazzy to really -- for me to really think that it's a success. And anyone of those pieces can get shifted around if it doesn't work (Donna, 405-409).

Beliefs about learning. Donna thinks entrepreneurship is a way of thinking. It is the ability to create something where there was nothing. According to Donna, a way to make students more entrepreneurial is by showing them people who act like entrepreneurs.

> They get that this is a way of being in the world -where you're open to be creative from new opportunities-. You kind of get a better sense of scanning and more hone the antenna for what gaps exist and what could be, what should be. And they have a little bit of a skill set and a bit of confidence, Oh, I could do something here (Donna, 244-246).

Beliefs about entrepreneurship. For Donna, entrepreneurship is different from any other topic because there is not a stable body of knowledge that can be transferred. As a guide, she uses a textbook that provides a body of content to cover. Therefore, textbooks seem to be related to the content Donna covers.

> I've often said "I wish I taught accounting" because accounting seems like it doesn't change and entrepreneurship to me is a constant moving target. I redesign every session of every class, every semester. There are some things that hold true. I do anchor the Intro class currently with a textbook. So in some ways, I do at least have a parallel content stream of some of the basics that I think are important (Donna, 278-282).

Beliefs about entrepreneurship also seem to influence content by determining the scope of examples that can be used. In Donna's classes, examples do not come only from business because for her, entrepreneurship is not only about businesses.

> So I want them to understand to me, the way I teach entrepreneurship, it's not just about venture creation. It's about being entrepreneurial in any career setting (…) This is K-12 education in the public school systems, and I would say in any city, probably in any country of the world, there are problems that need to be solved (Donna, 689-694).

Research. Donna says that she uses data from sources that are very common in the entrepreneurship field such as the Center for Women's Business Research and the GEM project. For instance, she uses the GEM.

> So, if I'm going to talk about women's entrepreneurship I make sure that I go and I get the latest stats on both domestically and global. What do we know and you know the Center for Women's Business Research puts out updated figures about every other year. You know, the GEM Study has some nice data around women (Donna, 288-292).

Teaching experience. Donna says that she used what learned about pedagogy to guide her teaching. "At least in my experience, doctoral students weren't taught how to teach. So I feel fortunate that I had some instructional design, adult learning, and adult methodologies" (Donna, 518-520).

Mary's Selection of GCM

Four preliminary insights came up during the interview that might influence Mary's selection of GCM: (a) academic background, (b) beliefs about the subject matter, (c) evidence from research, and (d) beliefs about teaching and learning.

Academic background. Academic background was related to what Mary teaches about entrepreneurship. As she recognized, she uses the theories leaned during her training in strategic management. This is important to consider since entrepreneurship instructors come from different disciplines and curriculum might be vary according to the academic background of instructors. "Part of that is my fundamental training and orientation was in the field of strategic management. And so I tend to draw from the theories in that context and theories in that field and apply them to entrepreneurship context" (Mary, 180-183).

Beliefs about the subject matter. Mary believes that it is very hard to teach entrepreneurship because of the unexpected issues that people in business cope with daily. "Nothing ever goes as planned and how do you teach about that? It's a very difficult thing to teach about that" (Mary, 514-516).

Research. Mary knows that research provides evidence to believe that "what leads to succeed in entrepreneurial companies is prior experience as an entrepreneur" (Mary, 555-556). However, research does not provide a method to replace experience in entrepreneurship education "it is impossible to deliver with in a curriculum so [entrepreneurship education] is kind of a way to get some of that experience second hand and they see it" (Mary, 555-558).

Beliefs about teaching and learning. Previous teaching experience is defined as what the instructor has learned in the past that he/she is applying today. Mary, for instance, mentioned that she had experience working with action learning pedagogy. "I

really saw that the learning outcomes [from action learning] were tremendous" (Mary, 505). So she applies the same methodology in her classes.

> I had this experience teaching from an action learning pedagogy. And then when I came to Colorado, you know Colorado has always had a big focus on entrepreneurship and so they were looking to kind of revitalize a class that had used in action learning pedagogy but then kind of never really went that well but you know there was some interest in trying to reinstitute it. And so I volunteered to do that and I essentially developed the curriculum for this course (Mary, 202-209).

Ken's Selection of GCM

Four preliminary insights came up during the interview that might influence Ken's selection of GCM: (a) the learners, (b) beliefs about the subject matter, (c) beliefs about teaching and learning, and (d) academic background.

The Learners. Ken mentioned that students' interests influenced his teaching. As students are interested in starting businesses, he focuses also on developing skills rather than only focusing on the academic side of the entrepreneurial practice.

> The students are interested in starting their own business …a lot of them come from family backgrounds where their families are entrepreneurial. In a lot of cases, their families have become quite wealthy being entrepreneurs. So they're very focused on kind of learning the skills. But on the other hand, of course, we are an academic institution so we're also trying to kind of teach them the theory behind what they're doing. (Ken, 619-626).

Beliefs about the subject matter. Beliefs about entrepreneurship also seemed to be related to what and how Ken taught entrepreneurship. For instance, Ken believes that some students are cognitively better to do certain things, in this case, to behave entrepreneurially. Ken talked about natural entrepreneurial thinking, and he believes that some students are naturally motivated to become entrepreneurs. "I think there is something to that since I see entrepreneurship as a cognitive thing. I definitely think some people are better at it than others or more suited to it than others" (Ken, 540 -543). "So that's what I'm trying to do is just sort of supplement people's natural motivation to be an entrepreneur and desire to be an entrepreneur and their natural entrepreneurial

thinking, just trying to kind of supplement it with a process that can help them along the way" (Ken, 562-566).

Beliefs about teaching and learning. Ken believes that learning need to be fun and teaching entrepreneurship requires to be updated. He also believes that participative learning is more fun and effective.

> I'm a big believer in participant-centered learning. That comes from my strategy background where I use the sort of Harvard case discussion method pretty extensively. I don't like to just put up slides on the board and lecture, particularly not for an entrepreneurship class. So it's all going to be about -- it's going to be about discussion, maybe discussion of the readings or it could be, in some cases, there'll be guest speakers and there'll be interaction that way or student presentations, students will present part of their business plans and get feedback from the class (Ken, 356-364).

> I hope I never get to the point where I'm just teaching the same stuff over and over again. It's just too boring. If it's boring for me, it's going to be boring for the student and it's going to get stale. Plus it's just not reflective of, things change. I mean there's new knowledge and new ideas and you have to bring stuff out there. I mean if I was using the articles I used when I first started teaching, I mean they would all be dot-com articles about new internet companies and the students will be looking at me rolling their eyes thinking I was an idiot (Ken, 457-466).

Academic background. Academic background was related to Ken's teaching decisions since he based his classes on strategic management concepts. Strategic management is Ken's academic background. "I really bring in a lot of strategic management concepts…concepts about how you segment markets and how you think about growth and expansion from a marketing point of view" (Ken, 338-340). To bring strategic management concepts to the class, it is necessary to know the literature of strategic management. Ken also recognized the relationship of his academic background on his teaching when he posited, "I'm a big believer in participant-centered learning. That comes from my strategy background where I use the sort of Harvard case discussion method pretty extensively. I don't like to just put up slides on the board and lecture, particularly not for an entrepreneurship class" (Ken, 356-358).

Selma's Selection of GCM

Three preliminary insights came up during the interview that might influence Selma's selection of GCM: (a) beliefs about teaching and learning, (b) entrepreneurial experience and (c) personal preferences.

Beliefs about teaching and learning. Selma believes that people are influenced by their backgrounds. So since few people have received the same training in entrepreneurship, they teach very differently.

> Most people come in from a different path and what happens is that the way they teach is very different because everybody teaches differently based on the path that they have come from. Some people have come from a technology background, so there had huge technology influence on their teaching (Selma, 21-25).

Selma believes that experiential teaching is the best way to teach. "I think everything is experiential. So when I say you should teach entrepreneurship in an experiential way, I also think you should teach science and math and history like that" (Selma, 418-420).

Entrepreneurial experience. Selma thinks that entrepreneurship professors come from different paths with motivations that shape their teaching perspectives. In her case, she wanted to make something useful from her research, but she did not know how to do this. This problem encouraged her to learn about entrepreneurship.

> When I was a scientist, I desperately wanted to know how to make my products something different, products that might work something different than research papers, I wanted my research to come to life in things that actually help people. But nobody would help me to do that. I couldn't go and take classes to business schools, they wouldn't let me. I would go and hang out at the business school, try to absorb as much as I could but it was not available. So, I realized there was a huge need for people like me who were scientists and engineers to know how to take the things that come out of the labs and turn them into products (Selma, 29-40).

Personal preferences. When asked if she modified her syllabus every year, Selma said that she does because it keeps her entertained. "Because to keep me

entertained...[laughing] and because I am always trying to make it better" (Selma, 138-139). For Selma, what she finds interesting is crucial when deciding if it is included as content or not. "I just take whatever is interesting to me (Selma, 342-344)."

The inner voice as teacher is important for Selma "Each person needs to find their sort of genuine voice as a teacher" (Selma, 413-414). Selma also likes the way she teaches because it is easier for her.

> It's actually easier. Because if I create an experience most of the time in the class the students are doing something and I get to respond to it. So the material generates itself in the class. My goal is just to set something up. Its much less work, I mean once you have thought of the idea, once you come up with creative idea its much less work than if I have to lecture the whole time (Selma, 424-428).

Bob's Selection of GCM

Five preliminary insights came up during the interview that might influence Bob's selection of GCM: (a) colleagues (b) alumni, (c) audience, (d) network at hand and (e) textbooks.

Colleagues. A source of learning for Bob was to see what other professors were doing with one source being the business plan competitions where he observed students that were well trained by other entrepreneurship instructors. Another source he mentioned were the instructors from other disciplines that he invited to his class.

> So one of our early matrix for our success that we identified was how the students were doing in business plan competitions that weren't ours and so we started with the elements that were important in those competitions as a not exhaustive but at least as a starting point for the sort of things we should be teaching our students in this early stage so we tried to basically build on the wisdom of others. (Bob, 262-268).

That's how I got to giving this lecture on building financials so the first time we brought in the professor of the accounting she gave an interesting lecture of accounting, but it wasn't about using accounting reports to run your business and so I had been to a few things including in CIAs advanced invention intervention and pulled from different sources to build a lecture that was about so you get this report from your accountant and then what? (Bob, 314-320).

Alumni. Bob said that his program is in an early stage; therefore, feedback from alumni has been important. This alumni feedback was a natural source of teaching goals because many alumni have grown with their companies and know what students might need.

> So lots of other people who are a lot more experienced than I am think that this is what's important and so we started with that and as some of our other companies have gotten older and have gone through different stages, we have gotten a lot of feedback from our own alumni from the club and the class. (Bob, 271-275).

Audience. One filter that Bob uses to decide if the content should be covered in class is the learning needs of students another filter is whether what the invited instructors know can be transferred to the classroom. "For example, we have very few students whose businesses would be built on a patent portfolio and so we are giving patent attorneys the term off" (Bob, 304-306).

Network at hand. Bob mentioned that after identifying the learning need, entrepreneurship instructors at his university use their network to bring someone to the class. "It really depends on what the [student's] need is and then we look at who is available in our network who can do a great job in teaching on that" (Bob, 300-302).

Textbooks. Bob uses a free book from the Internet that helps him to structure the course.

> We started using the textbook for the first time this term. It's a wiki book and the link is on the syllabus; so it's free and online. We all read the book *Getting Started as an Entrepreneur* just released. I am very good at collecting business books but not so good at reading them because this is all a volunteer effort and so I have got whatever 5 hours a week that I can spend, spend it with students or reading and the balance is very clearly skewed to one way (Bob 429-435).

Hector's Selection of GCM

Six preliminary insights came up during the interview that might influence Hector's selection of GCM: (a) audience, (b) beliefs about the subject matter, (c) network at hand, (d) random discovery, (e) existing syllabus, and (f) beliefs about

teaching and learning.

Audience. Hector's primary goal is to teach science and engineering students to think about customers because he thinks these types of students are more fascinated by technology and not by what the technology does for people.

> My primary goal I would say for science and engineering students is to really think about markets or consumers because we tend to be enamored with technologies, the latest greatest technology and it does not matter how good the technology is if nobody needs it, they are not gonna pay for it. The stake that I see a lot of science and engineering people trying to start a business is they focus too much on the technology and they ignore the market. (Hector, 230-236)
> The things like accounting, finance I mean these guys they usually have strong quantitative skills so its not gonna be a problem for them to understand a spreadsheet. But to think about markets, for some of them it is a totally new sphere of something to think about and I actually believe that even if you don't go out and do entrepreneurship practice having taken the technology entrepreneurship class will make you a better engineer because you are thinking about the capability of whatever R & D you are working on (Hector, 241-248).

Beliefs about the subject matter. Hector believes that entrepreneurship makes engineers better engineers because it allows them to think about the usability of whatever they are developing.

> I actually believe that even if you don't go out and do entrepreneurship practice having taken the technology entrepreneurship class will make you a better engineer because you are thinking about the capability of whatever R & D you are working on (Hector, 244-248).

Network at hand. Hector uses his network to bring speakers to his class. "What I try to do is sort of supplement myself as I bring in a lot of outside people either entrepreneurs, venture capitalists, just here there people on the frontline and even the patent attorney focuses is small start ups" (Hector, 526-529).

Random discovery. Hector discovered the perfect example to use with his students by meeting a physician who was pursuing an MBA. This person showed him that the technology to use as an example with students needed to be a technology with

real potential and that this type of technology was not the same as the technology that students were developing for some courses. “I started at XXX University I met an Executive MBA student … he invited me to listen to a presentation ... I went to his presentation…and I thought this would be a perfect technology for the students to evaluate doing a business (Hector, 578-592).

Existing syllabus. Part of Hector’s experience was arriving at a school where the curriculum was already designed so he had to adapt to that.

> And they also said we want it to work this way [talking about the entrepreneurship course he was hired to teach]. I don’t think it would have been a problem to change it at XXX, it was just the kind of their mind set going in and they had to be and one is I had not done this before so I didn’t know, it sounded good to me but I didn’t know it wasn’t gonna work (Hector, 679-685).

Beliefs about teaching and learning. Hector reported that the way he believes learning happens biases him toward selecting certain types of material to teach with. “I would say I am biased, that I think the course would work really well when you have a good technology. It doesn’t work nearly as well if you have a bad or not so good technology” (Hector, 696-699).

Kathy’s Selection of GCM

Five preliminary insights came up during the interview that might influence Kathy’s selection of GCM: (a) conferences, (b) academic background, (c) personal preferences, (d) beliefs about entrepreneurship and (e) beliefs about teaching and learning.

Conferences. For Kathy, conferences are a source of learning and provide information on how to teach entrepreneurship.

> REE Stanford was my first conference and I never seen so many people leaving that much. In my research conferences usually the people did not even talk about their research so deeply. But in this one, you tell them something and they were telling you the names… I made some good friends and they gave me some stuff, I just got some parts of it, changed some parts of it, and also created some new

activities. (Kathy, 118-124)

Academic background. Kathy includes in her content what she knows best. After talk to her what she included as content and after asking her how her background as an engineer is included in her classes, she said:

> Maybe I will not explain too much of my industrial engineering or operational research part, but I have like plant layout and how to design facilities. I have telecommunication network and I have reliability, so those are all my operational research related areas(Kathy, 217-219).

Personal preferences. Kathy is interested in social entrepreneurship. She teaches entrepreneurship using project-based learning and the project has a social component.

> I am also involved with female participation in STEM [Science Technology Engineering Math] areas. I do write a grant on that…what is the gender stereotyping, informational science majors, etc. So I have been working with one in engineering, one in information science & Technology, that's STEM area, and together with this social entrepreneurship part (Kathy, 221-227).

Beliefs about the subject matter. Kathy believes that entrepreneurship is not just about money. The assignments given in classes can be approached and completed in different ways according to what value means to each student. "When I assign sometimes assignments in class, I tell my students, 'I am not asking you to generate money, but value. And then you can define what value is to you.' I want them to see not everything is money" (Kathy, 255-260).

Learners. Kathy believes that her students need to know the traits they hold as a person and learn how to work with different people. This belief, as we can see in the following statement, guides her choices of building teams randomly.

> I want them to first of all get to know themselves because some of them they don't even know what type of personality they do have or if someone in their team is introvert, doesn't mean that person is not a good teammate, I want them to learn how to work with anybody, everybody. That's the reason I most of the times I support random assignment of the teams (Kathy, 285-293).

Beliefs about teaching and learning. Kathy believes that she can teach by example. If

students see the behavior from her, it is easier to teach that behavior.

> I tried to show them in each opportunity like if I promise something, I do. Even if I am sick, I do post my homework and they know that. So they know that we all are busy. If I keep my commitments, they learn to keep their commitments as well. (Kathy, 324-327)

CHAPTER VI

WITHIN GROUP ANALYSIS

This chapter presents a discussion of the comparison of cases grouped according to entrepreneurship experience, academic background, and teaching experience. The cases are gathered together in groups of 4 to explore differences and similarities between the instructors who shared one attribute. As explained in Chapter 3, cases were selected following maximum variation criteria seeking to have instructors with and without teaching experience, with and without entrepreneurial experience, and instructors teaching at business and engineering schools. *Experienced instructor* was defined as having more than 10 years of experience (Varella, 2000). A *novice instructor* will be someone who has less than 10 years of experience as a teacher. *Entrepreneurial experience* was defined as the condition of being or has been an entrepreneur. An entrepreneur is someone who has started a business (Gartner, 1985). The *teaching appointment* refers to whether instructors teach at business or engineering schools. Table 8 provides the classification of each group of instructors.

Table 7: Classification of Instructors for within Group Analysis

Instructors with teaching experience	Instructors without teaching experience
Sharon	Bob
Pat	Kathy
Selma	Susan
Hector	Ken
Business instructors	**Engineering instructors**
Mary	Selma
Pat	Bob
Donna	Hector
Ken	Kathy
Experienced Instructors	**Novice Instructors**
Pat	Hector
Donna	Kathy
Selma	Mary
Bob	Ken

The section is organized under three major headings: teaching experience, teaching appointment, and entrepreneurial experience. Three analyses are presented under each heading: within group analysis for the instructors with the attribute, within group analysis for the instructors without the attribute, and between group analysis of the two groups. For example, the 4 instructors with teaching experience are analyzed as a group. Then, the 4 instructors without teaching experience are analyzed as a group. Finally, the group with teaching experience is compared against and the group without teaching experience.

To perform the analyses, the raw data for each group was analyzed but also the within case analysis presented in Chapter 5 was used to support the examination. The goal was to understand what and how emergent themes related to the instructors' selection of goals, content, and methods. For each group (teaching experience, school of appointment, and entrepreneurial experience) common emergent themes are presented and discussed.

Teaching Experience

This section compares entrepreneurship instructors according to whether they have more or less of 10 years of teaching experience. First, instructors with more than 10 years of teaching experience are analyzed. Then, instructors with less than 10 years of teaching experience are analyzed. Finally, the two groups are compared to explore differences and similarities attributable to the teaching experience.

Instructors with Teaching Experience

According to the TGI, within the instructors with more than 10 years of teaching experience (Mary, Daniel, Selma, and Hector), the goals that received higher scores in the TGI were problem solving and managerial skills (see table 9, 10 and figure 2). Table 9 provides information about the total score of each experienced instructor in the TGI.

Table 8: TGI scores for experienced instructors

Instructors	Problem Solving	Academic Skills	Disciplinary Knowledge	Liberal Art	Managerial skills	Personal Development
Mary	38	22	25	26	29	27
Daniel	29	20	21	27	32	26
Selma	42	31	31	30	32	36
Hector	34	30	23	22	34	32

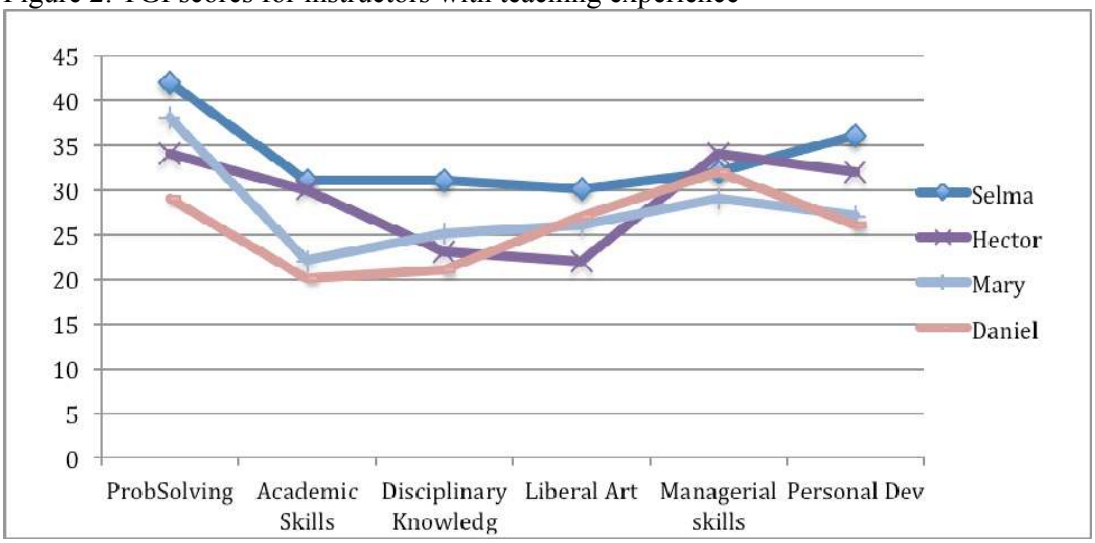
Table 10 provides information about the percentage of goals that experienced instructors scored as essential. Consistently with the overall scores, problem solving and managerial skills were considered essential goals of this group of instructors.

Table 9: Goals considered essential in the TGI by experienced instructors

Instructors	Problem Solving	Academic Skills	Disciplinary Knowledge	Liberal Art	Managerial skills	Personal Development
Mary	75%	0%	13%	10%	13%	22%
Daniel	13%	0%	0%	10%	25%	11%
Selma	88%	11%	25%	10%	25%	22%
Hector	38%	0%	0%	0%	25%	0%

Figure 2 shows that the pattern of scores was similar among this group of instructors.

Figure 2: TGI scores for instructors with teaching experience



During the interview, Mary and Daniel said that their learning outcome was making students think about entrepreneurship as a career path. Selma wanted talked about increasing students' creativity and Hector taught students how to understand

customers and create a successful business.

Two types or spheres of entrepreneurship education were identified during the interviews that are somehow evidences in the TGI scores. Selma, Daniel and Mary did not tie the course's outcomes to the action of creating a business but they had the intention to also develop overall skills in students. As we can see in table 10, Selma and Mary considered 20% of the goals in the cluster of personal development as essential to their course. During the interview, Daniel, Mary, and Selma, talked as important learning outcome the students' self-confidence to create value and legitimize entrepreneurship as a possible career path.

On the other hand, Hector's goal was reported in the interview was to teach students how to start a real company. In the TGI scores Hector included essential goals to his course only those related to problem solving and managerial skills cluster. In syllabus, Hector included as a goal "to apply venture opportunity screening techniques to an actual start-up idea" (Hector, syllabus). For Hector, the goal was to identify the right market to create a successful business.

According to the TGI and the interviews, Mary and Daniel had similar teaching goals. Several factors might explain that finding. Mary and Daniel had a PhD in strategic management and mastered similar content related to entrepreneurship and business. Both participants do research in entrepreneurship and attend similar conferences such as the Babson Entrepreneurship Research Conference or the Academy of Management. Both publish in similar journals such as Strategy Management or Academy of Management. In addition to that, both teach entrepreneurship to business students. Selma and Hector's teaching goals differed from each other and from the group of experienced instructors. Selma focus on people skills, creativity, design, and liberal art while Hector focused on business, clients, and technology. The different

audience may explain why Selma and Hector had different teaching goals. Hector taught engineers and Selma teaches students from any major across campus.

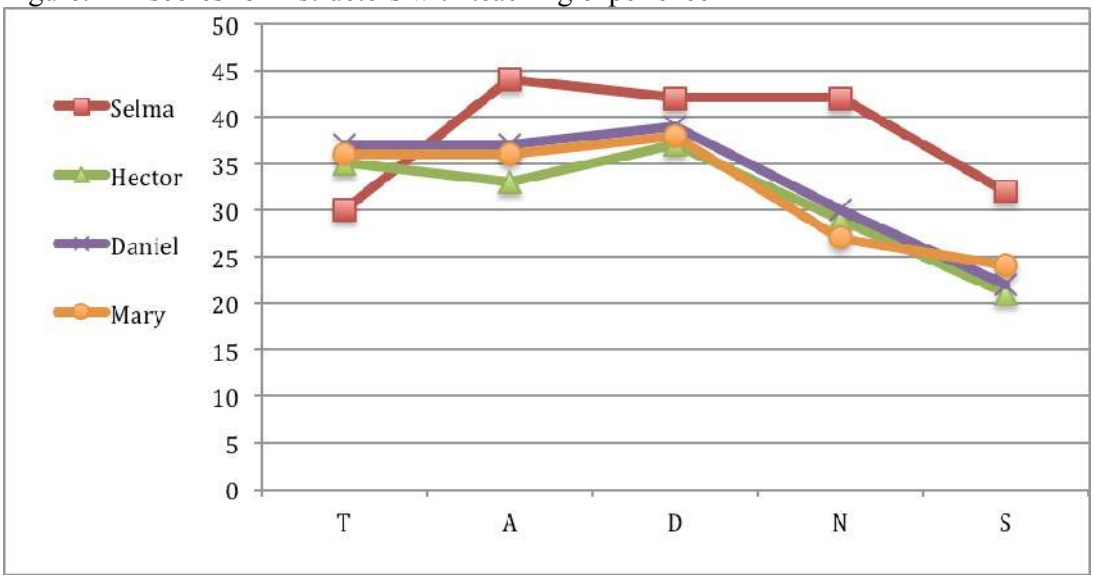
In terms of teaching content, all instructors within this group included content related to customer analysis and how to build competitive advantages as a new player in a specific market. Selma had a slightly different emphasis on selecting content because she primarily focused on creativity. Even though the instructors could emphasize business creation or entrepreneurial skills as a teaching goal, concepts related to new venture management were common to all courses within this group.

Teaching contents were similar among the experienced instructors while goals were not. A good metaphor to depict the idea of having different goals but similar content is comparing a psychological therapy course and a session of group therapy. A psychological therapy course would explain principles and techniques of therapy expecting students to develop skills as a therapist. Group therapy would aim to fix people's psychological problems, expecting students to become happier with their lives. As in a class for group therapy, Selma, Mary, and Daniel reviewed the challenges of starting a business to develop entrepreneurial skills. Hector reviewed the challenges of starting a business trying to convert an idea into a real business. The content were similar while the goals different. In terms of what might influence curriculum design, common themes were identified. Those themes are presented next.

The Role of Academic Background and Institutional Context. Figure 3 shows the scores that instructors with teaching experienced obtained in the Teaching Perspective Inventory (TPI). The horizontal axis provides letters representing each perspective: T (transmission), A (apprenticeship), D (developmental), N (nurturing), and S (social reform). Hector, Daniel, and Mary obtained very similar TPI scores. Selma scored higher than the rest of the group in the apprenticeship perspective. That is very

consistent with what she reported in the interview as her teaching philosophy. Selma defined her teaching philosophy as highly experiential, if the students do not have the experience they do not learn, she asserted.

Figure: TPI scores for instructors with teaching experience



The dominant teaching perspectives were similar for those instructors with the same background. Mary, Daniel and Hector had a PhD in strategic management and publish articles on entrepreneurship. Selma had a PhD in neurosciences and was the only one in this group who had apprenticeship as dominant teaching perspective (see table 11).

Table 10: TPI scores for experienced instructors

Instructors	Transmission	Apprenticeship	Developmental	Nurturance	Social Reform
Mary	36	36	38	27	24
Daniel	37	37	39	30	22
Selma	30	44	42	42	32
Hector	35	33	37	29	21

Instructors with background in management also did research in entrepreneurship, attend similar conferences, and included in the syllabus similar type of content. Selma scored lower on the transmission perspective an important difference

from the group. As presented in figure 3, Selma scored 30 in Transmission (T) while Hector, Mary and Daniel scored over 35. A reason why Selma scored low in transmission could be the context in which Selma taught her course. Selma's course was an elective and taught in a very informal setting. Selma did not consider the bureaucracies of teaching relevant, such as grades, syllabus, and accreditation demands. However, if Selma would have been teaching a required course, her transmission scores might have been higher. Selma was the only professor who did not provide a formal syllabus but instead provided a web link to a blog used for the course. Selma had more flexibility in terms of what she taught. Selma was not teaching entrepreneurship under the umbrella of a faculty or school but under an autonomous initiative led by a group of professors from the schools of engineering, design, and business. This group of professors jointed another group of practitioners who had vast experience as business consultant in how to unleash innovation and entrepreneurship. Selma's course therefore was not a typical academic effort. Partnering with professors from other faculties and business consultants, Selma offered her class to any students on campus interested in entrepreneurship and innovation. Selma and others fifteen university instructors founded around seven years ago a center specialized in teaching entrepreneurship. The center started as an experiment within the facilities of trailers in the margins of the university. Today, the specialized center for teaching entrepreneurship and innovation that Selma helped to found serves hundred of students every term but is not a required course for any major. Selma, as an administrator, was not under the pressure of peer legitimacy that a tenure track faculty might have. In this sense, and as shown in the following quote, Selma had the freedom to teach whatever she found interesting.

> I just take whatever is interesting to me like ok I start these, what are the questions. I have to tell you I don't use any text, I use a lot of articles, I do have some books. I use "Weirdest Use of Work" by Bob Satin, "The Art of Innovation" by Tom Kelly but I mostly use a lot of articles that are provocative

> for example there is one article that is very funny that I just read on the plane in the New Yorker, I use a lot of New Yorker articles. Now this is going to crack you up, so you think why I would do this. I was on a plane with [a friend of mine] and we found an article about how to teach sex to kids and its really interesting history of the way sex was taught to kids and I thought this is kind of funny article but I was thinking I could use this article in my class about point of view, about framing problems (Selma, 340-346).

Training as Teachers Matters. The group of instructors with more than 10 years of teaching experience shared having received training on how people learn. Mary received training in action learning pedagogy while creating an entrepreneurship program at a former institution. Daniel used to teach at a high school and Selma writes books on how to foster creativity in children and adults. Selma was an active developer of teaching activities. Hector was the only one of this group that did not have any training as teacher. Hector had the highest score in the transmission perspective within this group. Considering that transmission is the most common teaching perspective (Pratt, 1998), a teacher who received training in how people learn will probably change his or her approach to teaching because modern adult learning theories place more emphasis on the learner than on the expert. Some who receive training in how to teach adults will incorporate the learner's perspective. Hector was a teacher who trusted what he knew and believed that good teachers are those who present the best material to students. The following quote is from Mary who received teaching training years ago.

> I had this experience teaching from an actual learning pedagogy. And then when I came to [this university]. You know [this university] has always had a big focus on entrepreneurship. They were looking to revitalize a class that had used action-learning pedagogy but then never really went that well. There was some interest in trying to reinstitute [that entrepreneurship class]. I volunteered to do that and I essentially developed the curriculum for this course that we run as an Honor Seminar, it is for 2nd year MBAs (Mary, 202-209).

Mary, Selma, and Daniel were more sophisticate in their approach to the learning process than Hector. Hector trusted external factors such as finding the right technology to make the course work.

Instructors without Teaching Experience

Instructors without teaching experience (Donna, Ken, Bob, and Kathy) showed important variance on what they expect from their courses. Donna wanted to make students to think as an entrepreneur. Ken sought to give students the practical tools and the theoretical concepts of entrepreneurship. Bob's teaching outcome was to succeed in business plan competitions and 50% of Kathy's course was about leadership. Ken and Donna scored similarly on the TGI, but they had different emphasis after a close look to syllabi and interviews. Ken learning outcome reported in the interview was helping students to start business ideally right after the course or even better if it was during the course. His learning outcomes were created around the experience of participating in business plans competitions. Bob wanted his students to win those types of students' competitions and get seed funding for students to start a business. This is Bob's report about what the learning outcomes should be:

> One of our early matrix for our success that we identified was how the students were doing in business plan competitions that weren't ours and so we started with the elements that were important in those competitions as a not exhaustive but at least as a starting point for the sort of things we should be teaching our students in this early stage so we tried to basically build on the wisdom of others and there is an enormous amount of similarity in the requirements for these kind of competitions (Bob, 258-264).

Donna's learning outcome was to make students to think as entrepreneurs. As we can see in the following quote from Donna, her outcomes were more general and started with awareness and ended with a business plan. Business plan in this setting was not a tool to really start a business, although it might happen. The business plan for

Donna was a learning tool to understand the process and the concepts associated with entrepreneurship.

> I think it's first introducing the phenomenon of entrepreneurship and the economic role it plays in the country and the world. The various forms of entrepreneurship that are recognized so you know, high growth entrepreneurships, small business, social entrepreneurship. And so letting folks see that entrepreneurship comes in all different shapes and sizes. Exposing the students to near-peer entrepreneurs, so people young enough that they can identify with and entrepreneurs in any shape or form. So they could be social entrepreneurs, they could be high tech, they could be growth, they could be professionals. They could be entrepreneurs. And then having them actually play out the entrepreneurial process by coming up with their own venture idea, doing a mini feasibility, pitching that feasibility plan. So those are the core objectives, which I think they learn about it, they see it. You're building self-efficacy, right? They're getting the competence, they're getting confidence, they're trying it out. And they're getting exposed to how it plays out in the world (Donna, 185-202).

An important difference between Donna and Ken was the students' audience. Ken was teaching an elective while Donna a mandatory course. Ken students where attending this class because they already had product they wanted to sell. Donna was immersing students to the world of entrepreneurship.

Instructors without teaching experience emphasized problem solving and liberal art as essential teaching goals of their courses. The liberal art cluster of goals included items such as: develop an appreciation of the liberal arts and sciences, develop an openness to new ideas, develop an informed concern about contemporary social issues, develop a commitment to exercise the rights and responsibilities of citizenship, develop a lifelong love of learning, develop aesthetic appreciations, develop an informed historical perspective, develop an informed understanding of the role of science and technology, develop an informed appreciation of other cultures, and develop capacity to make informed ethical choices.

The Table 12 shows TGI scores for entrepreneurship instructors of this group. As we can see in Table 12, problem solving had the higher scores if added each

instructor's score in an overall score. Problem solving sum a total of 148, followed by liberal arts with 132, managerial skills with 126 and personal development with 126. However, if we do not consider Kathy, who was an outlier in the TGI scores, the higher scores of this group became: problem solving sum a total of 108, managerial skills 86, disciplinary knowledge 84 and personal development with 81.

Table 11: TGI scores for novice instructors

Instructors	Problem Solving	Academic Skills	Disciplinary Knowledge	Liberal Art	Managerial skills	Personal Dev
Bob	39	18	25	26	22	25
Kathy	40	45	40	53	40	45
Ken	33	9	29	28	33	31
Donna	36	9	30	25	31	25

In terms of the clusters of goals considered essential: problem solving, disciplinary knowledge and liberal arts received more attention (see Table 13).

Table 12: Goals considered essential in the TGI by experienced instructors

Instructors	Problem Solving	Academic Skills	Disciplinary Knowledge	Liberal Art	Managerial skills	Personal Dev
Bob	88%	11%	13%	20%	0%	0%
Kathy	100%	100%	100%	80%	100%	100%
Ken	50%	0%	0%	20%	0%	22%
Donna	50%	11%	38%	10%	38%	11%

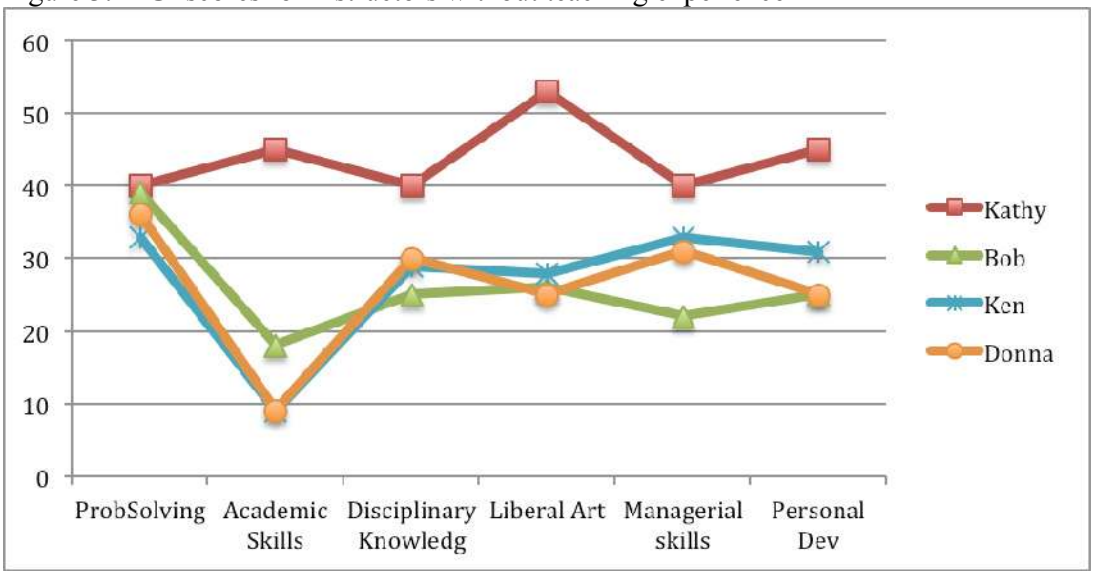
Kathy's teaching goal was to increase awareness about leadership styles and explore whether students could find the entrepreneurial desire in them. As we can see in the following quote Kathy was working on students' personalities.

> I want them to first of all get to know themselves because some of them they don't even know what type of personality they do have or if someone in their team is introvert, doesn't mean that person is not a good teammate. I want them to learn how to work with anybody, everybody (Kathy, 283-290).

That might explain why Kathy became the outlier of this group. She was not teaching entrepreneurship as defined by the creation of a business. She had important element of self-development and general management skills.

Figure 3 shows that Bob and Donna had a similar pattern of scores while Kathy was very different. Bob was different to the rest of the group in managerial skills. Unlike the rest, Bob managerial skills were the second less important teaching goal.

Figure 3: TGI scores for instructors without teaching experience



In terms of teaching content, instructors in this group were similar. All of them included value creation, entry strategy, competitive analysis, market segmentation, etc. Ken provided a good summary of what all instructors reported as core concepts included as teaching content

> In some cases, some marketing concepts about how you sort of segment markets and how you think about growth and expansion from a marketing point of view. But for new ventures a lot of it really basic strategy 101 like how -- what is your distinctive competence or your distinctive capability? How are you going to take that and create a competitive advantage? How are you going to differentiate yourself some meaningful way from your competition? (Ken, 324-334).

The Relevance of Students' Participation. A common theme identified in the group of instructors without teaching experience was their permanent concern for including the students in the design and implementation of their classes. In the following paragraph Ken mentioned his participant-centered preferences and describes what participant-centered learning means to him.

> Yeah, I'm a big believer in participant-centered learning. That comes from my strategy background where I use the sort of Harvard case discussion method pretty extensively. I don't like to just put up slides on the board and lecture, particularly not for an entrepreneurship class. So it's all going to be about -- it's going to be about discussion, maybe discussion of the readings or it could be, in some cases, there'll be guest speakers and there'll be interaction that way or student presentations, students will present part of their business plans and get feedback from the class (Ken, 356-364).

In the following quote, Donna explains how she thinks students learn. A common theme within this group was how students need to participate in the learning process to allow them to succeed as a teacher

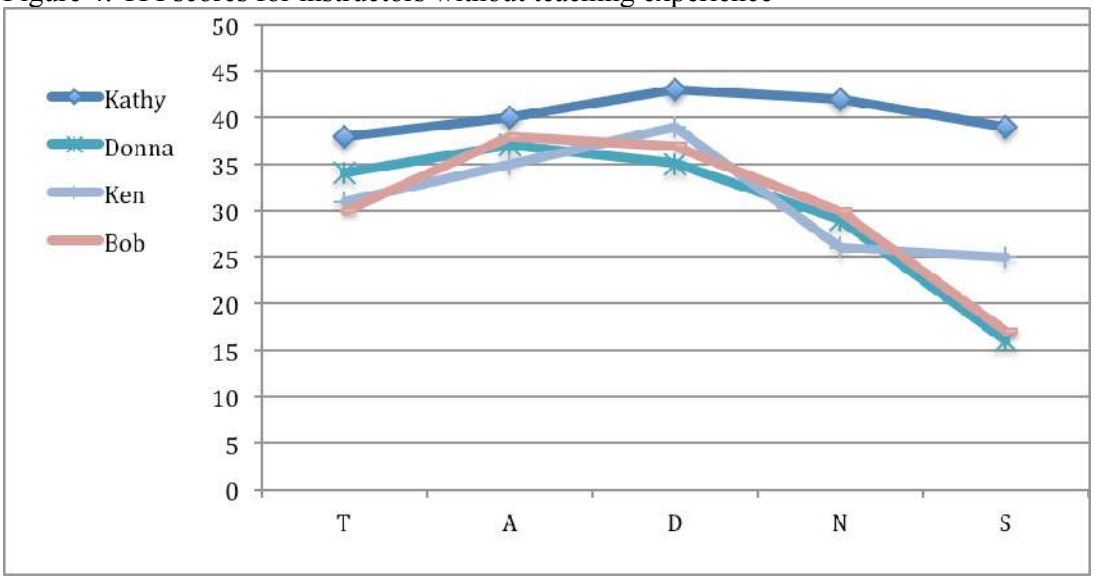
> Here's what I think happens. I think that they read and in the beginning of the semester they really do read. And they engage in class. They start to get familiar with terminology, both because they're hearing it, by reading it, they're hearing me, they're watching either a speaker or some sort of media, they interview an entrepreneur. So they begin to see multiple examples of a concept in entrepreneurship and they have some basic understanding. If it has a theoretical basis, then they have some applied examples. And I believe they start learning when they start enacting it themselves. So they start using the language, they start asking the speakers questions about a value proposition or a target market. And to me, I'm watching them start getting comfortable in this world of concepts and language around certain entrepreneurship phenomena (Donna, 521-534).

Bob also designed his course attending to the learning need to the students. The following quote was Bob's answer to the question how he decides what to include in his class.

> So it really depends on what the need is and then we look at whose available in our network who can do a great job in teaching and that, and what things are readily adaptable to the classroom exercises and what things are not, and what things are going to be common to the student businesses we have this term and which are not so for example we have very few students whose businesses would be built on a patent portfolio and so we are getting pattern attorneys the term off (Bob, 296-302).

TPI scores showed that all inexperienced instructors scored lower in the transmission perspective than in developmental or apprenticeship (see figure 4). A low score in transmission perspective may indicate lack of mastery in the subject matter taught and it might indicate that the learning outcome pursued did not require a highly structured curriculum. Transmission perspective represents structure and commitment to review all units included in a syllabus.

Figure 4: TPI scores for instructors without teaching experience



Comparison between Experienced and Inexperienced Instructors

Experienced instructors seem to have a higher mastery of entrepreneurial concepts. This might be because the group of inexperienced instructors had administrative duties (Donna, Ken) or their research was in other areas while experienced instructors were recognized researchers and/or practitioners in the entrepreneurship field.

TPI scores showed that inexperienced instructors scored consistently lower in transmission perspective demonstrating that the content, for the group of instructors with less than 10 years of experience, was not as important. Scoring lower in transmission suggests that an instructor might lack structure for the class or may be

more centered on the learner rather than the content. Since the author of this study did not visit classrooms it is not possible to say which is the case for this group of instructors.

Another important difference detected between experienced and inexperienced teachers was the sensitivity to the students' differences that inexperienced instructors had. Note that inexperienced instructors were also younger. Instructors with an apparently lower mastery in the subject matter were also more sensitive to the students' interactions. It seems that, the lower the instructor mastery about the subject matter, the higher the chances of focusing attention on the students' individualities.

Experienced instructors also attributed more importance to the students' experience. The more experienced instructors claimed that experience is necessary to understand entrepreneurial concepts.

Teaching Appointment

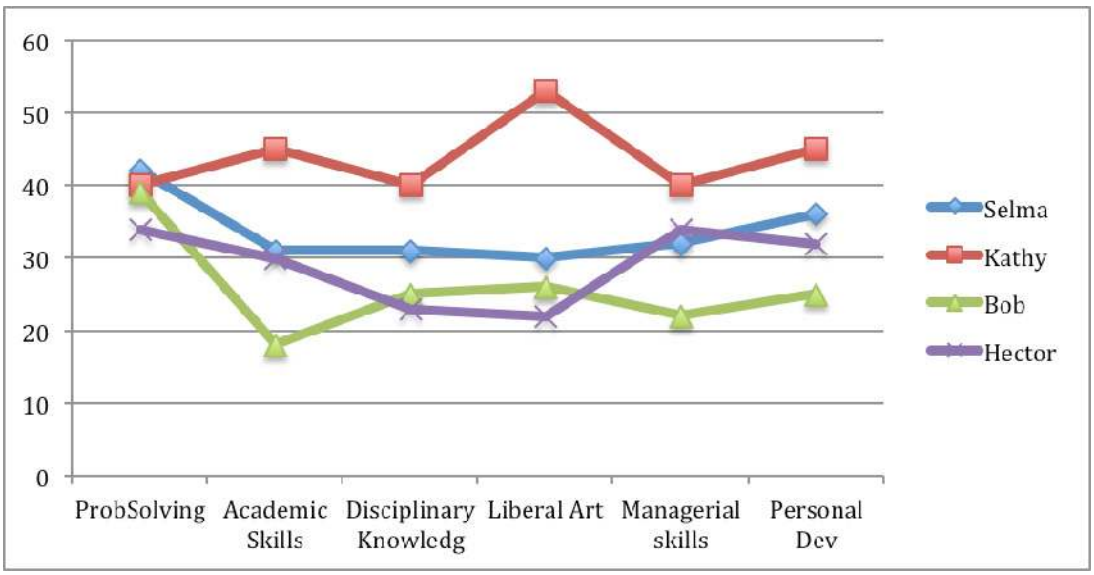
This section compares entrepreneurship instructors according to whether they teach at engineering or business schools. First, instructors teaching in engineering schools are analyzed followed by instructors teaching in business schools. Finally, the two groups are compared to explore differences and similarities attributable to the teaching appointment they had.

Engineering Instructors

In terms of teaching goals reported in the interview, Selma and Kathy worked increasing students' awareness and self-efficacy while Hector and Bob sought to help students to start a business. The content within the group showed differences. Selma focused on creativity and new venture management. Kathy emphasized business plan and leadership. Hector and Bob focused on high tech start-ups.

The scores on the TGI showed that problem solving was a similar teaching goal while differing for all others (see Figure 5).

Figure 5: TGI scores for engineering instructors



The beliefs about teaching and learning within this group were also diverse. For Selma, learning is contextual and experiential. Bob's lectures were determined by who was available as guest instructor. Kathy worked on identifying learning styles and Hector used communities of learning as an important teaching method. All of them taught differently. Selma used simulations, Bob used lectures, Hector used business plans, and Kathy used team projects.

This group also taught in different institutional contexts. Hector was a researcher in entrepreneurship hired as tenure track faculty to teach and conduct research on high tech entrepreneurship. Bob was a former scientist at NASA who volunteered as an entrepreneurship instructor. Selma and Kathy were not housed in the engineering school. Instructors at engineering schools were very different in terms of expertise with the topic, the support they received from their schools, and the type of students they taught.

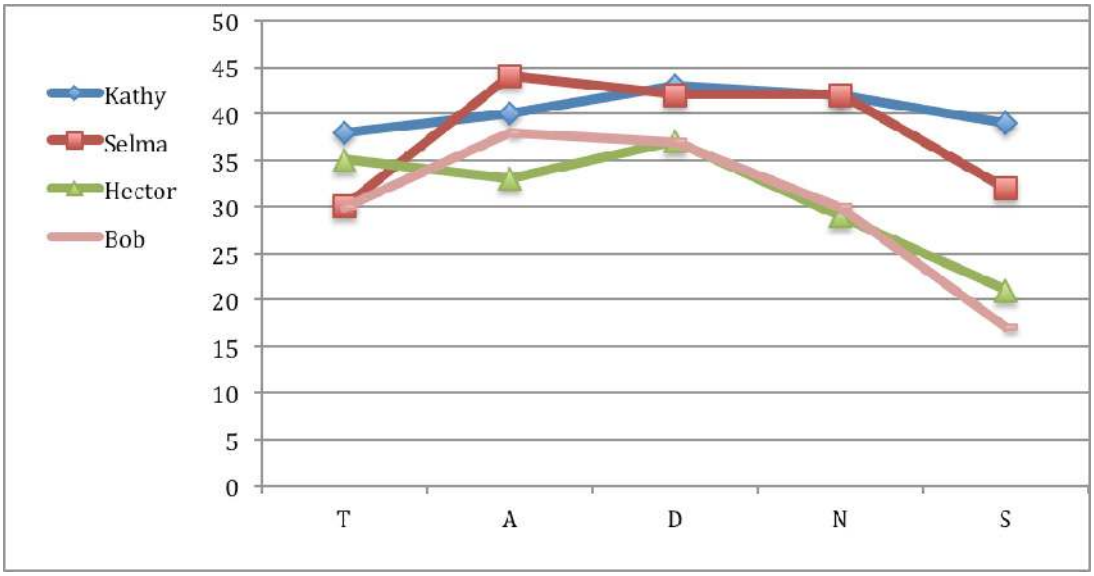
Hector was a traditional tenure track faculty who teaches and research about high tech entrepreneurship. Selma was an administrative who, along with business consultants and professors from different schools, launched an initiative to teach entrepreneurship and innovation across campus. Bob and Kathy are young tenure track faculties who received a grant from the National Collegiate Inventors and Innovators Alliance (NCIIA) to create an entrepreneurship course. NCIIA's goal is to bring instructors with strong background in technology to the field of entrepreneurship. With support from The Lemelson Foundation, NCIIA awards almost $2,000,000 annually in grants to US-based faculty and student technology innovators. NCIIA grants support courses, programs, products, and ventures with positive social impact. Course and Program grants help faculty strengthen existing curricular programs or build new courses in invention, innovation, and technology entrepreneurship. Bob and Kathy became entrepreneurship professors in part because of the NCIIA award. Bob and Kathy were new in the field of instructors and had little training in teaching. Selma and Hector instead had more than twenty years involved in the field of innovation and entrepreneurship.

Kathy and Selma did not tie entrepreneurship education to the action of business creation as Bob and Hector did. Kathy and Selma emphasized personal development. Hector' syllabus included as a goal to apply venture opportunity screening techniques to an actual start-up idea. Bob's syllabus included learning how to attract a team and turn ideas into reality. Kathy and Selma did not talk in the interview or in the syllabus about having the goals of creating a real business. This finding opens an interesting question about whether different teaching perspectives are used while pursuing specific learning goals. Figure 6 reposts the TPI for this group of instructors. Hector and Bob, and, Selma and Kathy had similar scores in the teaching perspective inventory. It could be that

when professors aim to teach personal development a nurturing perspective works better because to reinforce and develop self-confidence, support and encouragement from the role model is require (Bandura, 1977, 1986). To challenge mind frames, the instructors will need to produce tension, critique, and contradiction on the students' set of beliefs (Mezirow, 1997).

Selma and Bob were the two in this group who were entrepreneurs. Selma and Bob scored higher that Hector and Kathy in the apprenticeship perspective (see figure 6). The reason for Hector and Bob scoring higher in apprenticeship could be that these two professors had entrepreneurial experience. Former practitioners in a specific field of practice might tend to score higher in the apprenticeship perspective (Pratt & Collins, 2001).

Figure 6: TPI scores for engineering instructors



As figure 6 shows, Selma and Kathy had a humanistic approach to teaching. This is consistent to what they reported in the interviews, both wanted students to explore inside them whether they want to become an entrepreneur. Hector and Bob, on the other hand, were more pragmatic. Bob taught what students need to start their

business or to perform better as business founders. To do that, Bob engaged alumni entrepreneurs or local entrepreneurs who could teach the topics students needed to learn. In the following quote, Hector explains how he built his course and the criteria he used to select the teaching material.

> The big part was me selecting the technology and trying to select a platform technology that had lot of utility in different markets. I also typically try to select technologies that have applications in consumer markets because consumer markets are easier to find information about, because if you have a technology and turn into a business, it is just harder to find information. Actually I would say the best technology that I found out are medical based or technologies that have medical application in a lot of different areas because at the end of the day we are all consumers for medical products or we know somebody who is a consumer for medical products and so it's easier to relate to that market (Hector, 213-223)

Characteristic of the audience (engineering). In terms of students' demographics, the audiences of instructors teaching at engineering schools were somewhat different. Kathy, Hector, and Ken taught undergraduates. Selma taught graduate students. In the following quotes each instructors describe their audience with more detail.

> 50 percent were what you call 5th year seniors and that's like they are just finishing their undergraduate and staying, they would be about 22-23 and then the rest are probably 2-3 years older. They might have finished their undergraduate, worked for a year or two and then come back for this degree. And occasionally I have an older person may be in the late 40s or early 50s (Hector, 421-430) at least 80% male (Hector, 447-451)

> Students are across the entire campus from the engineering school, the med school, the educational school, the business school, the law school (Selma, 103-104). They range from – some undergrads, but mostly grad students. So I am supposed to have grad students but I let a few undergraduates - So between 20 and 25 (Selma, 149-151)

> Last spring we had 88 student companies were meeting in a giant lecture hall. We have 110 students enrolled for credits and may be another 30 that come most weeks. (Bob, 76-80). Students will come from all sorts of backgrounds and be trained to do all sorts of different things (Bob, 245-253)

> I have 21 right now so 7 groups of 3, 21 and I have mostly business again but not quite mostly. So its I believe like I have 5 engineering students if not 6 and one even communication degree so like profession writing and I believe I have 2 IST (information Sciences technology) students. So I have a better mix this year (Kathy 179-183)

Kathy, Selma, and Bob were teaching entrepreneurship under the umbrella of specific centers or programs that hosted their entrepreneurship course. The following descriptions that introduce those interdisciplinary institutions were pulled from Internet.

> The division of Engineering, Business, and Computing launched the new Engineering Entrepreneurship (E-SHIP) Minor This interdisciplinary minor provides students with an entrepreneurial supplement to their academic major. It is designed to foster entrepreneurial creativity and leadership (pulled from Kathy's institution).

> The center offers no degree. Students are imbued with a mindset and a problem-solving approach that augments the knowledge and skills they acquire in their degree programs at the different schools. This program operates in conjunction with the art department and dedicates itself to innovative (pulled from Selma's institution).

> Program allows students to pursue their educational goals in areas not available within an existing departmental curriculum on campus. The area of study must be interdisciplinary, drawing from at least three fields or disciplines, and it may not duplicate an existing major. Courses may be chosen from any of the departments within the University (pulled from Bob's institution).

All instructors with teaching appointment at engineering schools were hired by engineering schools but, except for Hector, other institutions were used to deliver their entrepreneurship courses. This might happens because entrepreneurship education within engineering schools is seen as something external that should not be part of the core engineering curriculum. Delivering entrepreneurship courses by centers especially created for that reason or as it is in the case of Bob, within existing that were created for other reasons, indicate that engineering schools are adapting their curricular offer. Depending on the character of the institution that hosts the course students taking the course may vary. Selma was teaching the course within an institution focus on creativity

and design. Kathy was teaching under de umbrella of a joint venture between the schools of engineering, business, and computer sciences. Bob was offering his course through a special major available to any students who wanted to build their own major.

Hector's students were all engineers because Hector's institution offers technical degrees only. Hector and Bob had students interested in creating business.

> We try to focus the class on students who either have identified a problem but are looking for a team to help them find the solution or that have an idea and don't know how to evaluate different possible ways of building business around it (Bob, 98-107)

Hector also raised the point that he prepares a class for high potential entrepreneurship and not for any type of business. "So what they are looking for in those courses is building a business around new technological development and not looking at somebody who wants to start a sandwich shop" (Hector, 96-104). Hector sought for students who want to be entrepreneurs "if you think you might want to be an entrepreneur, this is the course that you would take" (Hector, 252) although he might have some who "take the elective because it fits with their schedule" (Hector, 262). This is Bob description of his students.

> ok, so they want to, they are a huge range. We have students from over 30 majors on campus, almost all of the colleges in the university. And so we have students who come because their roommate said it was fun and we have students that are already running businesses and want to meet people to help them to go to next level and everything in between. We try to focus the class on students who either have identified a problem but are looking for a team to help them find the solution or that have an idea and don't know how to evaluate different possible ways of building business around it (Bob, 98-107)

Selma and Kathy on the other hand had an audience more diverse in terms of their interest in business creation. The center that hosted Selma and Kathy courses had an important emphasis in developing creativity and innovation in students not only to teach them business creation but also to prepare them to go to the corporative world.

Business Instructors

Business instructors had a more consistent curriculum in terms of teaching goals as well as teaching content.

Entrepreneurship is as a means rather than an end. Daniel, Donna, and Ken taught entrepreneurial expecting to help students perform better in the corporate world. These instructors did not understand entrepreneurship education necessarily as a business creation. Entrepreneurship for them was something more than starting a business; it was the opportunity to integrate the different disciplines of management and learn to think as an entrepreneur, which is not the same as founding a company.

The following quote reflected Ken's answer to the question about what were his learning outcomes.

> So to me, the balance with all these courses is giving them some pragmatic skills that they can actually use particularly because they're seniors and they are going out into the world. So in a way, we're trying to apply all the different things they've learned up until this point which I think is appropriate particularly for these capstone experiences (Ken, 301-305).

As we can see in Ken's quote, and in the following quote from Daniel, these instructors were equally concerned for the future performance of their students as employees and entrepreneurs. It is an interesting balance that Daniel and Ken pointed out.

> If we had an entrepreneurial strategy course that the university would count in place of that traditional strategy course, then students would have an option. If they were planning on going into the corporate world then they could take the traditional strategy course. If they were planning on going into a family business or going on to eventually become an entrepreneur that they could take the entrepreneurial strategy course and count either one towards their core requirements for the degree.

Daniel and Ken, the two business professors teaching at the undergraduate level raised as a theme the fact that business schools prepare people for the corporate world. Some of the students may start a business, but not soon after graduation. Therefore,

these instructors adopt a different angle for entrepreneurship education. As important as starting a business, it is an opportunity to integrate others' disciplines such as finance or marketing as well as how to manage organizations in the hectic business environment of the 21st century. In addition to that, entrepreneurship education is the opportunity to show that entrepreneurship can be a legitimate path in the future.

> At the undergraduate level, it's much more inception. It is I think first and foremost to help them see entrepreneurship as a legitimate career path. Because when they're taking their accounting classes and they're taking their financial classes, primarily all that they get with this corporate life, corporate work and that's the only legitimate career. That you go to work for a bank. You go to work for a Fortune 500 company. In the entrepreneurship classes, I want them to come out of the class understanding that entrepreneurship is a legitimate career path. And that while they may go work in the corporate world for four, five, or six years, that it is very legitimate for them to have a long-term life plan that at some point they will focus on starting their own businesses (Daniel, 599-617).

Value creation, opportunity recognition, and making things happen. Instructors teaching at business schools had very close ideas about what entrepreneurship should encompass. They believed that entrepreneurship should include value creation, opportunity recognition, and making things happen. For Daniel, entrepreneurship was "any type of value creation, where we're creating value, bringing something into existence that was not there before" (Daniel, 314). For Ken "An entrepreneur is somebody who creates value within some context and they do it in a certain way. They do it by a process of enactment. They do it by a process of enacting some vision they have of a future goal" (Ken, 217-224).

Mary did not provide an academic definition of entrepreneurship but her thoughts about the topic were revealed while justifying why scholars can be considered entrepreneurs. In the following quote Mary unveils her implicit understanding that entrepreneurship is about recognizing opportunities and making things happen to create value.

> For me, I think our job is very entrepreneurial. Especially in the research side because what do we do? We are trying to recognize gaps in our understanding recognize these opportunities for knowledge creation and then act on those. So, I think that basic function that we do as scholars in many ways is an entrepreneurial kind of an action, like identifying in many ways an opportunity, what are the gaps in what we know and what we understand and then try to figure out how can I fill that gap. How can I come up with a way to really create knowledge around this question that no one knows the answer to or this assumption that everyone just believes is true that no one's really looked at (Mary, 622-631).

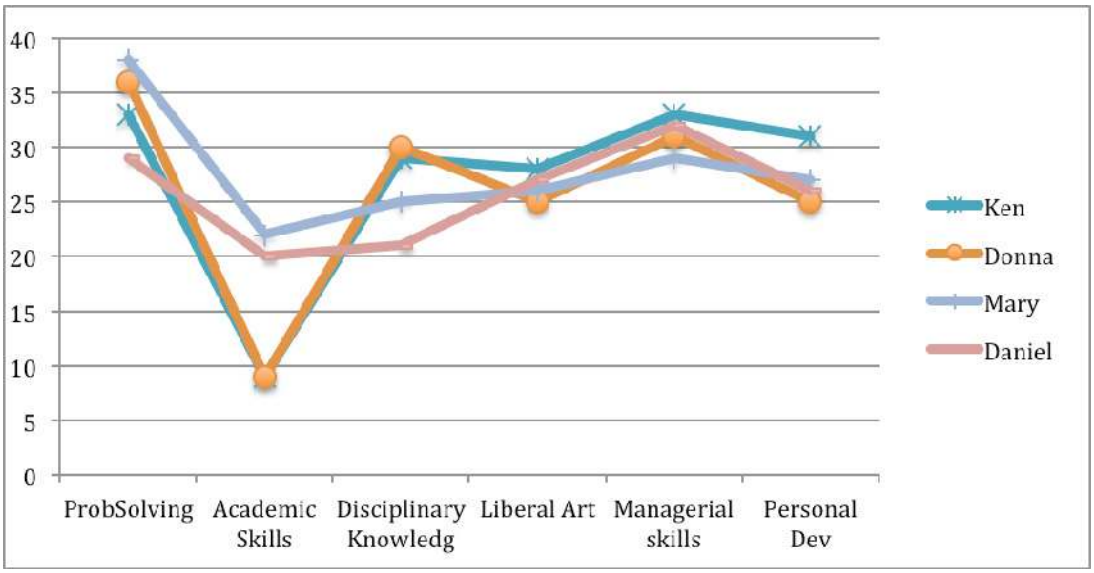
Donna also defined entrepreneurship in terms of value creation and making things happen.

> I think for me it is seeing what is, seeing what could be, and the process that closes that gap. It's creating something of value that takes the current into the future and better state. So to me, entrepreneurship is an act…it's the difference between what is and what can be. And you know finding the right resources, the right people, or the right strategy to get to the end goal. And that can play out as small or big as the individual entrepreneur decides is required for whatever given situation (Donna, 249-255).

A common understanding of what is entrepreneurship is the starting point to consolidate common teaching standards. Instructors teaching at business schools were consistent in their definitions about entrepreneurship. Consistency was found not only in their definition but also in the goals, methods, and content used to teach. This group of instructors also had in common their training in business, their publications in entrepreneurship, and their audience. All their students were business students pursuing programs in business. The TPI scores showed in Figure 6 shows that instructors teaching at business schools had a similar pattern of scores.

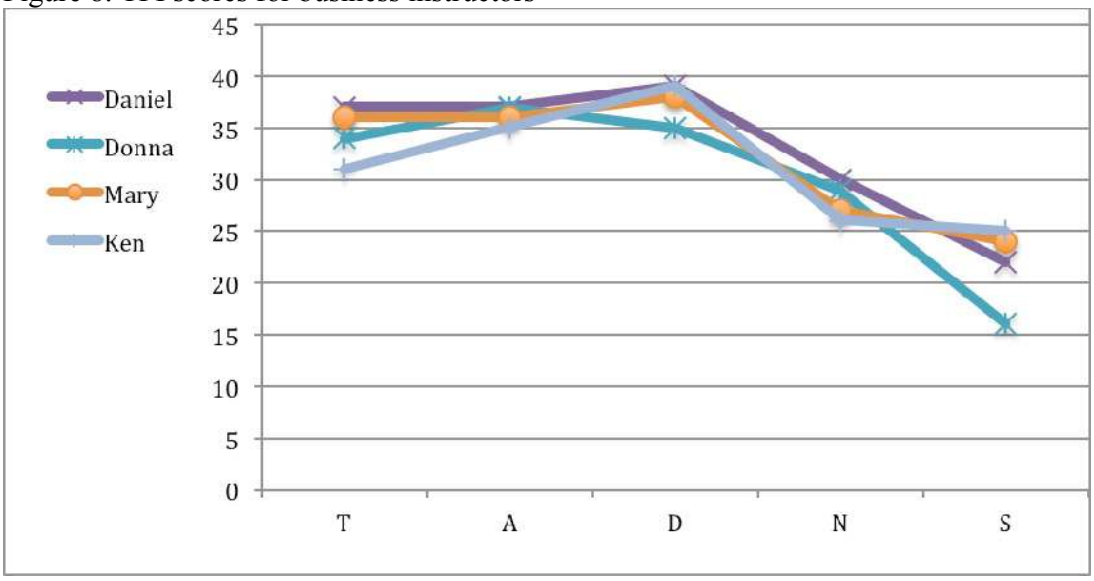
Ken and Donna had similar scores in problem solving, academic and disciplinary knowledge. Ken and Donna shared the characteristic that both had administrative responsibilities and belonged to the group of instructors with less than 10 years of teaching experience.

Figure 7: TGI scores for business instructors



Entrepreneurship education as a moving target. Business instructors believed that entrepreneurship is not about teaching the right answers but instead about teaching a process of thinking. Shaping students' ways of thinking is the most difficult part of teaching entrepreneurship. Instruction cannot be static and curriculum needs to be adjusted as long as students grasp the reasoning. Business instructors scored high in the developmental perspective. This seems consistent with the desire to develop increasingly more complex ways of thinking in students. Except for Donna, three out four business instructors had developmental as their dominant teaching perspective (see figure 8). Developmental is the teaching perspective used by instructors who believe that effective teaching is about improving student's ways of reasoning.

Figure 8: TPI scores for business instructors



Consistent with the beliefs that entrepreneurship education is about shaping mental processes, business instructors did not teach exactly what the syllabus said. Business instructors revised content according to how instructors and students interacted along the term. For instance, a lecture that was designed to cover entry strategies of a new business could ends talking about communication of team members. This process-oriented curriculum did not mean that the class had not structure at all. Instructors collected a repertoire of activities to start the semester but the order to present the content varied.

> We select about 10 students each year and we pair them up on one with the entrepreneurial company and community and they do some project for the company and the specifics of that project are not really that important in terms of course outcomes but what's important is that they are in a position where they are interacting regularly with the key decision makers in the company and the whole point of the course is to give them a window on to the entrepreneurial process because they have all had plenty of classes on writing a business plan, feasibility and all that stuff by the time they are in their second year and so the course is designed to kind of complement of a content perspective with the process perspective. So then in terms of how the course is run, I deliver specific content for may be the first month of the course and from then on its really run like a doctoral seminar (Mary, 211-226).

As Mary posited, content always varied: "specific content varies at times so it's

not like there is a baseline here and I wanted to get them to there. It's more giving them a window on to the process and the important issues related to that process" (Mary, 653-654). As also described by Donna, content is modified every class. You know, it's hard because I've often said, "I wish I taught accounting" because accounting seems like it doesn't change and entrepreneurship to me is a constant moving target. I redesign every session of every class, every semester" (Donna, 264).

Students' Characteristics and Interests (business). Daniel audience was undergraduate students pursuing four years business degrees. The class was required in the sense that students had to take either Daniel's entrepreneurial strategy class or the typical strategy class offered by the school. The male/female ratio was 55/45. Mary was teaching graduate second year MBA honor students. Honor students refer to the fact that Mary selected ten students each term to teach them entrepreneurship. The male/female ratio was 2/3 males with an average of 26 years old. The following quote provides further details about Mary's audience:

> What they have to do is they have to apply to get in the course and they get selected based on commitment to entrepreneurship, their grades, their academic performance and then also leadership potential (Mary, 211-213).

The following quote correspond to a Ken's description of his audience.

> I teach two sections, I probably have around 70 students roughly. The students that I have, again, they're going to be senior entrepreneurship majors so I get everyone at some point who's majoring in entrepreneurship which is a very popular major here among business students. So yes, they're seniors. They're entrepreneurship majors (Ken, 238-244) I think the students we have are pretty traditional college students. They're full-time. They're on-campus. They're busy. They've got a lot going on (Ken, 256-258)

Donna's audience was from all type of major who were pursuing a certificate in entrepreneurship. The following quote provides further details about Donna's audience.

> We have a fully certified minor within the whole institution for all undergraduates. That is five courses (Donna, 152). This is a cross-campus effort so I've got nursing, I've got chemistry, I've got pharmacy, I've got art, history and management all together. It's an elective, yeah (Donna, 275-277)

> Introduction to Entrepreneurship class that I teach to students across the campus (Donna, 101).

Mary, Ken, and Daniel had business students only. Mary had students from any major. The others professors in this group had students who had to choose a major within the field of management (i.e., marketing, finance, entrepreneurship). This difference in the type of programs that instructors' courses were inserted should have an impact in the type of students they received. Some business students could be interested in the entrepreneurship major not because they will start a business but just they want a broader view of the world of business. Other could be interested either in starting a business or getting training to assume responsibilities within the family business. As Ken mentioned:

> We're not going to do any restaurant deals." But here I might have five students whose parents own restaurants, and they're interested in doing a restaurant deal because they're going to go back and help their parents. So I've had to kind of relax those restrictions and kind of go with what they're interested in (Ken, 275-285)

When Donna talked about his students she did not referred to their interest in business but in other characteristics. For instance, Donna explained about the special characteristic of the Y generation of students.

> And I teach them that it's okay to fail. I also think that's an important part of the curriculum. And that they should build a little resilience up around that and gen Y is just… gen Y women are so perfectionist. They can barely say the world fail. It's fascinating (Donna, 238-240).

Comparing Instructors at Business and Engineering Schools

The group of business instructors (Ken, Donna, Mary and Daniel) taught students the mindset to succeed in the corporate world and preparing them for an eventual entrepreneurial career in the future. Kathy and Selma, two engineering instructors, focused their entrepreneurship classes on creativity and leadership. Bob and

Hector's teaching goals were to help students to start their businesses. The differences between the teaching goals of the two groups (engineering and business) may be related to the audience and the context. The audience for Daniel, Ken, and Mary's courses was business majors. The audience for Hector and Bob was engineers while Donna, Selma, and Kathy had more students from other disciplines.

All business instructors were hired as entrepreneurship professors and the entrepreneurship class was part of their course load. Donna, Selma, Kathy, and Bob were teaching within cross campus programs. Engineering instructors had different realities. They were hired as instructors in their respective fields and they converted to entrepreneurship. Bob, for instance, volunteered as instructor for the student entrepreneurship club. Kathy taught entrepreneurship for a joint venture between the schools of business, information technology, and industrial engineering. Selma had administrative responsibilities mostly.

Business and engineering students seem to be different. Ken pointed out the differences between engineering and business students. He believed that engineering students could be more creative while business students more pragmatic and therefore, these two groups need different emphasis when trained in entrepreneurship. "Tech students can be very creative in terms of the technology and everything, but they don't really understand the pragmatic aspects of how you go about turning some cool technology into a real business" (Ken, 637). Similar to Bob, Donna made the point about how she needs to work hard to get student attention. "I'm always looking for innovative ways to get the students' attention" (Donna, 264).

The type of audience might be related to the teaching choices that instructors

did, but teaching appointment in one school does not mean instructors have students from that school only.

An important finding when looked the instructors according to school of appointment was the mix that may exist in term of teaching goals of courses, programs, and audiences. Within the group of instructors studied the teaching goals of the program where the course is inserted seems to have a myriad of learning goals. One type of program was Selma's program which was designed to teach creativity and innovation skills needed to perform at any work environment independently if students are thinking in get a corporate job or become self employed. Selma's teaching goals and program goals seemed to be consistent. The second type of program was Kathy's which seems to be focused in high potential entrepreneurship. Kathy's course was part of a minor called engineering entrepreneurship, which suggests that high potential entrepreneurship is expected. Kathy was teaching leadership within a program that aimed high tech entrepreneurship. Consistent with Kathy's teaching goals, she scored high in nurturing teaching perspectives and placed important emphasis in the reflective process that students had (similar than Selma). Further data would be needed to explore whether Kathy course complemented well the program or she was teaching what she liked most. A third type of program was Daniel and Ken's which was inserted in a business school and was targeted to develop entrepreneurial skills but conscious that most students will go to the corporate world or they will work in the family business. Family business may or may not be considered entrepreneurship. A fourth type of program was Donnas' which was a cross campus program targeted to people from any major who wanted to start business at any field. This was different to Bob who was also for any major but was targeted mostly to high potential business. Finally, Hector was teaching high technology entrepreneurship as an elective for engineering students.

The wide type of teaching goals in entrepreneurship is not new. There are different type of entrepreneurs (life style, serial, high potential, high tech) and different teaching goals for entrepreneurship programs (awareness, start up, management of growth). Hills (1988) found that entrepreneurship educators propose two major objectives: (a) increase awareness of entrepreneurship as a career option and (b) increase understanding of the process of creating a new business. Taking Hills (1988) classification we could allocate Kathy, Selma, Daniel, Ken, Mary and Donna in the group that tried to increase awareness while Hector and Bob in the second group. Kathy's program was designed for self-employment but Kathy's course was based on awareness and leadership. Further research is needed to know whether the course was consistently designed to complement the whole program.

Instructors' teaching goals can be reviewed in the light of the students demand for entrepreneurship education: there are students seeking to learn how to think entrepreneurially to succeed the corporate world and students seeking to become self-employed. Between the groups who want to become self employed there are high potential entrepreneurs (eventually serial entrepreneurs) and life style entrepreneurs. Donna did not seem to be teaching life style entrepreneurship because her students were not great in technology nor had the experience to start a business soon after graduation. Daniel, Ken, and Mary were teaching entrepreneurship to students who most probably would go to the corporate world for six or seven years before to become entrepreneurs. Selma and Kathy were not teaching business creation but other important skills that entrepreneurs seem to have. Bon and Hector were teaching high potential entrepreneurship.

In the following quotes, Daniel, Hector, and Ken referred to the different types

of entrepreneurship students they have found along their career and how they adjust their teaching to these different realities. In the following quote Daniel refers to this:

> My former institution was an engineering school, and so many students came into the class with the germ of an idea, but they didn't know think about commercializing it or monetizing that idea, and so, a lot of what I focused on at the entrepreneurship class at XXX Tech was how you turn an opportunity, how you think of it from a commercialization standpoint. So, how do you take it from this idea of this geek technology to thinking about how do we really build a business around that? (Daniel, 748-754).

Daniel also referenced to the differences between graduate and undergraduate students.

> So, in my experience with the undergraduates, you just have to be much more helpful in terms of them making that linkage than you do with the MBAs. I think the MBA students tend to get it more quickly than the undergraduate students. Because unfortunately at this university the majority of our undergraduates have never had any work experience at all (Daniel, 367-372).

It is probable that interest and capacities of students conditioned the type of teaching goals that Daniel preferred when teaching at an engineering schools. Ken also mentioned the differences between teaching engineering and business students.

> I mean I would say one thing about my current students, again, goes a little bit away from my background is they're less focused on technology than other students I've had at University A or at University B just because of their background and the things they are interested in. They don't typically -- I haven't been able to get them real excited about technology ventures. They're mostly looking at sort of service ventures that you might expect in this city type of market (Ken, 261-266).

Daniel and Ken modified their teaching goal depending on the characteristics of the students. When analyzed the data related to Bob and Hector, it was found they had teaching goals different that the rest of the group. Bob and Hector centered on business creation rather than in personal development. They had teaching goals similar to what Daniel and Ken used to do at engineering schools. So, comparing instructors by school of appointment it was found that differences in teaching are not due to the type of

school but the type of students. The same type of program was offered by engineering or business instructors. Instructors independently were they had the teaching appointment taught one of several courses that those programs offered. A common type of program among these instructors was the minors in entrepreneurship. The minor could be hosted or not inside a business or engineering school.

Entrepreneurial Experience

This section compares entrepreneurship instructors according to whether they are or have been entrepreneurs. First, with entrepreneurial experience are analyzed. Then, instructors without entrepreneurial experience are analyzed. Finally, the two groups are compared to explore differences and similarities attributable to the experience of have been an entrepreneur.

Instructors with Entrepreneurial Experience

Entrepreneurial experience related to teaching perspective. Three out of four instructors with entrepreneurship experience had apprenticeship as their dominant teaching perspectives. This seems to have important consequences in how instructors teach. Two major themes summarize this common patter between instructors with entrepreneurship experience.

The role of experience in students learning. Donna, Daniel and Selma reported that experience and practice is needed to grasp the complexity of entrepreneurial concepts. People learn through experience, Daniel said, experience is needed to link theory and practice. The following quote from Daniel presents his view about the role of experience in the learning process.

> For many of the undergraduates, they've had no work experience at all. And so, it's more difficult in my mind for them to actually go out and do it, and then to link what they're doing to what they're learning. So I feel like I have to be much more directed in helping them link the theory that they're reading about in class, the case studies that we're doing in class to what they're physically doing in

terms of their internships and that sort of thing (Daniel, 343-356).

Selma also emphasized the relevance of experience in teaching entrepreneurship.

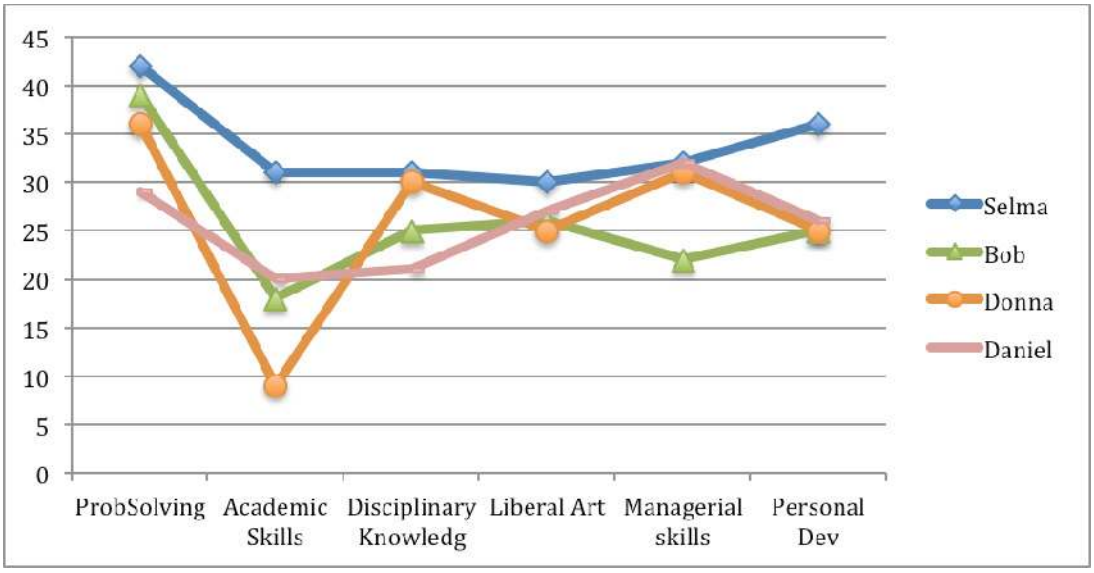
> Learning is experiential; if you don't experience it you don't learn it. So I always lead with experiments, I am very good at talking right you have heard me lecture, I am happy lecturing. I don't ever lecture in class ever. I set up an experience, set up something and I give them a provocative question to think about beforehand (Selma, 216-223).

For Donna, learning has two stages. First students know and understand the concepts. Then, they put in practice what they knew conceptually. As long as they enact the behavior they start developing the skill.

> And I believe they start learning when they start enacting it themselves. So they start using the language, they start asking the speakers questions about a value proposition or a target market. And to me, I'm watching them start getting comfortable in this world of concepts and language around certain entrepreneurship phenomena (Donna, 223-229).

Figure 9 summarizes TGI scores for instructors with entrepreneurial experience. The graph shows that the problem-solving cluster of goals received the highest scores. This results evidence the practical vocation of this group of instructors. Instructors with entrepreneurial experience understood the practical dimension of entrepreneurship. To design their courses, they pulled from their memories the right and wrong things they did as entrepreneurs in the past. They wanted to share with students the mistakes and hits they experienced. The following themes describe this role model motivation that former entrepreneurs had.

Figure 8: TGI scores for instructors with entrepreneurial experience



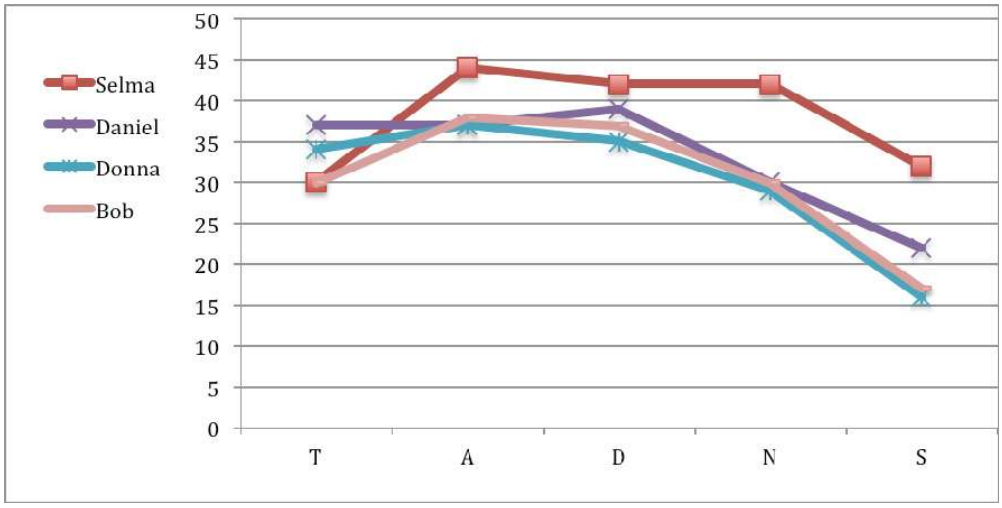
Teaching what nobody taught me. At a first glance, having entrepreneurial experience may appear an ideal condition to teach entrepreneurship. However, the instructors studied emphasized different teaching goals. Sometimes entrepreneurship courses were not directly tied to business creation. Therefore, the benefit of having instructors with previous entrepreneurial experience will depend on the type of goals trying to accomplish. If an institution declares to train students to perform in a highly complex and dynamic business environment, then entrepreneurial experience might not be as relevant as experience in corporate entrepreneurship. In this case, entrepreneurship education will be a mean toward the goal of developing more complex ways of thinking about how business happen in highly uncertain environments. In this context, entrepreneurship play a similar role as climbing a hill would play to teach leadership. The following quote summarizes Selma, Mary, and Daniel's motivation to start teaching entrepreneurship. The three of them either had a positive or negative experience they wanted to share with students.

> when I was a scientist I desperately wanted to know how to make my products something different but nobody would help me do that. I couldn't go and take classes to business schools, they wouldn't let me. I would go and hang out at the business school, try to absorb as much as I could but it was not available. So I

> realized there was a huge need for people like me who were scientists and engineers to know how to take the things that come out of the labs and turn them into our products (Selma, 30-40).
>
> To teach people how not to make the mistakes that I made. Get students exposed to understanding entrepreneurship as a set of behaviors and a way of thinking about the world. And then what does it mean to the student as they begin to tap into their own entrepreneurial potential, learn entrepreneurship skills, and try on new entrepreneurial behaviors. And then it's just evolved over the years to be what it is today (Donna, 38-42).
>
> Those skills that we're teaching in entrepreneurial classes, even if they go to work for a bank or they go to work for an Inc. 500 company. If they use those same skills within that corporate environment, they will be very successful. And I believe that firmly from my own personal experience. As an entrepreneur, I went to work for the super regional company; I used those same skills I had learned as an entrepreneur. And so within a matter of three years, I had gone from coming in as the director of franchising to being the senior vice president of a $200M company because I used those entrepreneurial skills even within the large company (Daniel, 654-676).

Figure 10 shows that except for Daniel, all instructors with entrepreneurial experience had apprenticeship as their most dominant teaching perspective.

Figure 9: TGI scores for instructors with entrepreneurial experience



Instructors without Entrepreneurial Experience

Instructors without entrepreneurial experience had a theoretical approach to

entrepreneurship education. Kathy was looking for self-development; Ken was concerned in justifying theoretically the entrepreneurial decisions. Hector had the highest score in transmission and posited that successful learning depend on choosing the right content to teach. Mary focused on teaching about the entrepreneurial processes. This group focused more on teaching concepts than simulating entrepreneurial challenges or pushing students to create real companies. For instance, Ken and Mary believed that entrepreneurship is a cognitive construct and a way of thinking while Bob, Hector, and Donna believed that is about creating businesses.

Figure 11 shows the scores on the TGI. The figure suggests that instructors without entrepreneurial experience preferred managerial and problem solving type of goals.

Figure 10: TGI scores for instructors without entrepreneurial experience

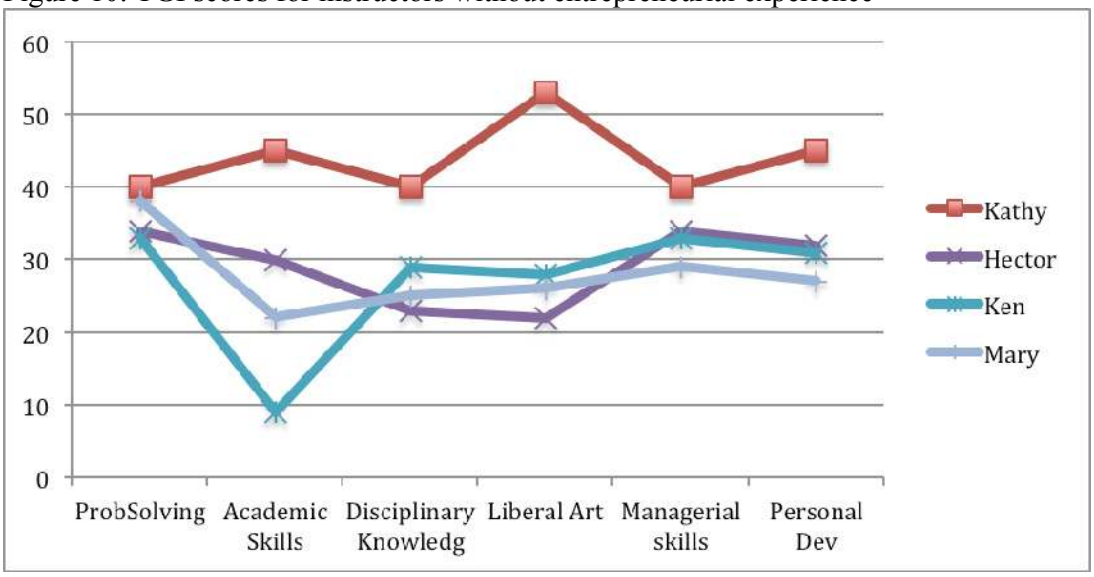
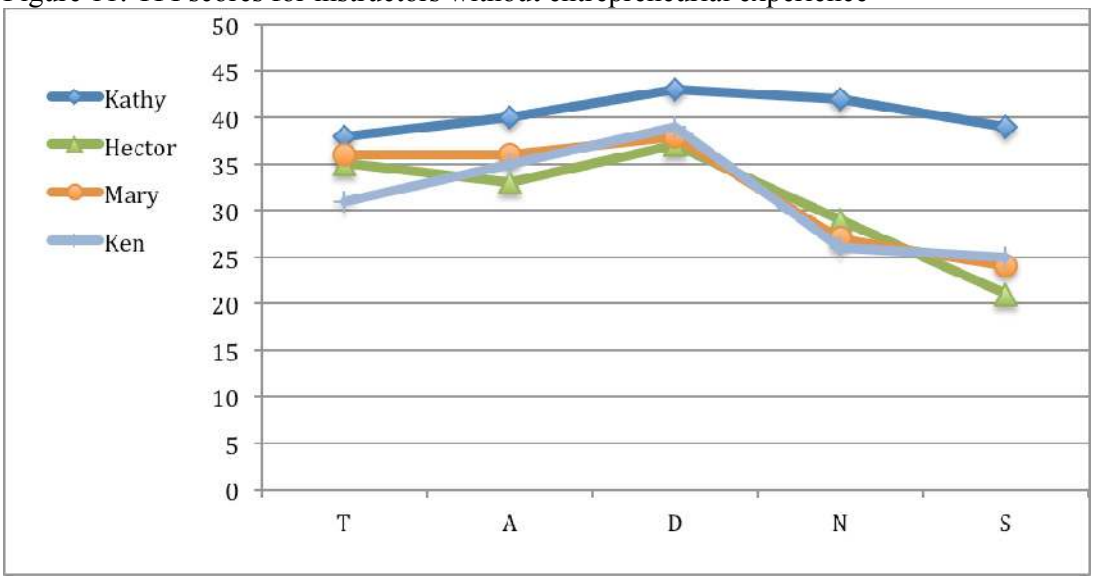


Figure 12 shows the TPI scores. The high scores in the developmental and transmission perspectives of this group provided additional evidence to think that they were more focus in concepts than in practice.

Figure 11: TPI scores for instructors without entrepreneurial experience



Comparing Instructors with and without Entrepreneurial Experience

Two common themes emerged while comparing these two groups: the motivation to become an instructor and the role of practice in entrepreneurial learning. The motivation to become an instructor was different between instructors with and without entrepreneurial experience. Instructors without entrepreneurial experience became entrepreneurship instructors because of an intellectual curiosity about how new business happens. They decided to enroll in academic programs related to new business creation to learn how this phenomenon happens. Since before 2000 there were few options to study new business creation at a doctoral level, three out of four instructor without entrepreneurial experience in this sample pursued a PhD in strategic management. (Kathy was the fourth instructor without experience. She was the outlier of this group who declared very different teaching goals than the rest of the instructors (see figure 12).

On the other hand, instructors with entrepreneurial experience start teaching entrepreneurship in part because they wanted to share their experience as entrepreneurs. They either fail or they had a great experience that they wanted to share and invite

students to live. This approach to the role of entrepreneurship education seems to have relationship with how former entrepreneurs see entrepreneurship education. They seem to have a more practical approach.

Instructors with entrepreneurial experience scored higher in apprenticeship perspective and also raised the theme about the role of experience in teaching. Since the TPI survey includes question such as "To be an effective teacher, one must be an effective practitioner" and "The best learning comes from working alongside good practitioners" it is reasonable that instructors who have not been practitioners score lower in apprenticeship. This may have important consequences to understand why former entrepreneurs do and propose different things in the classroom than non-entrepreneurs.

Because they had the emotional experience of failure, former entrepreneurs can be compelled to develop skills that enable students to deal with entrepreneurial challenge. They can envision themselves receiving feedback and advices about what not to do as entrepreneurs. They know for experience that people under certain situation do not listen advice until they experience negative consequences. This wisdom may compel former entrepreneurs to create experience in the classroom that help students to actually see and feel what instructors want their students to learn. Non-entrepreneurs, on the other side, think themselves as more strong sharing theoretical models that the know may help entrepreneurship to avoid mistakes. They, as people intellectually curious, see the logic and the predictive capacity of the model they teach. But they had not the emotional experience of success or failure. Therefore, their fascination is about the predictive capacity of the logic they teach. Both approaches are important to include in entrepreneurship education, but each approach might fit better for a specific type of teaching goal. In this sense, more important that the approach that drive the teaching

methods selected is the learning outcome pursued.

Summary

This chapter have presented within group comparisons. Three groups of instructors have been compares: novice against experienced instructors, instructors teaching at engineering schools versus instructors teaching at business schools, and instructors with and without entrepreneurial experiences. Findings suggest that the interests and learning needs of students and entrepreneurial experience were related to how instructors teach. Instructors adapts theirs teaching goals according to the audience they are training and former entrepreneurs used their experience to define what to teach. Entrepreneurial experience was also related to the beliefs about teaching. Former entrepreneurs had apprenticeship as dominant teaching perspective while non-entrepreneurs had developmental.

CHAPTER VII

ACROSS CASE ANALYSIS

This section compares all entrepreneurship instructors including data from transcripts, syllabi, vitae, and surveys. The analysis explores emergent themes using the research questions to frame the findings. The primary research question guiding this study was: How do instructors select teaching goals, content, and methods to teach entrepreneurship? This chapter describes emergent themes related to the instructors' decisions about what goals, content, and methods to include in their courses. Three themes were identified as highly related to how instructors teach: (a) students' learning needs, (b) academic background, and (c) beliefs about how people learn. Each theme is linked to specific decisions about goals, content, and methods. Students' learning needs were related to teaching goals; academic background to teaching content, and beliefs about learning related to teaching methods. The chapter is organized under three major headings: students' learning needs and teaching goals decisions, academic background and teaching content, and beliefs about learning and teaching methods. Under each heading, a discussion about how the themes are related to curriculum design is presented.

Students' Learning Needs and Teaching Goals

Instructors adapted their goals to the students' learning needs. For instance, if instructors believed that students would work in the corporate world, then their focus in the entrepreneurship curriculum was on general skills teaching--those skills that entrepreneurs have that make a positive difference for a corporate executive. On the contrary, if the instructor believed that students were interested in starting a real company if they had the chance to do it, the course focused on planning the business and meeting potential investors. Business creation and general entrepreneurial skills are

the extremes of a continuum and many approaches may fall in between. Business creation had as a major goal learning how to evaluate ideas and leverage resources to start a real business. General management and people skills were targeted to teach how to think entrepreneurially in anything a person does as a major learning goal.

Daniel and Ken, while teaching to high tech students focused on business creation. But later in their careers, while teaching undergraduate business students, they focused more on entrepreneurial thinking and people skills. Daniel and Ken emphasized different teaching goals at engineering and business schools, adapting their goals to the interests and capacities of the students.

Bob and Hector had similar goals to those Daniel and Ken used to have at engineering schools. Kathy and Donna, on the other hand, never tied entrepreneurship to business creation. Within the studied group, entrepreneurship instructors can adopt, as a major teaching goal, general skills and entrepreneurial thinking or actual business creation.

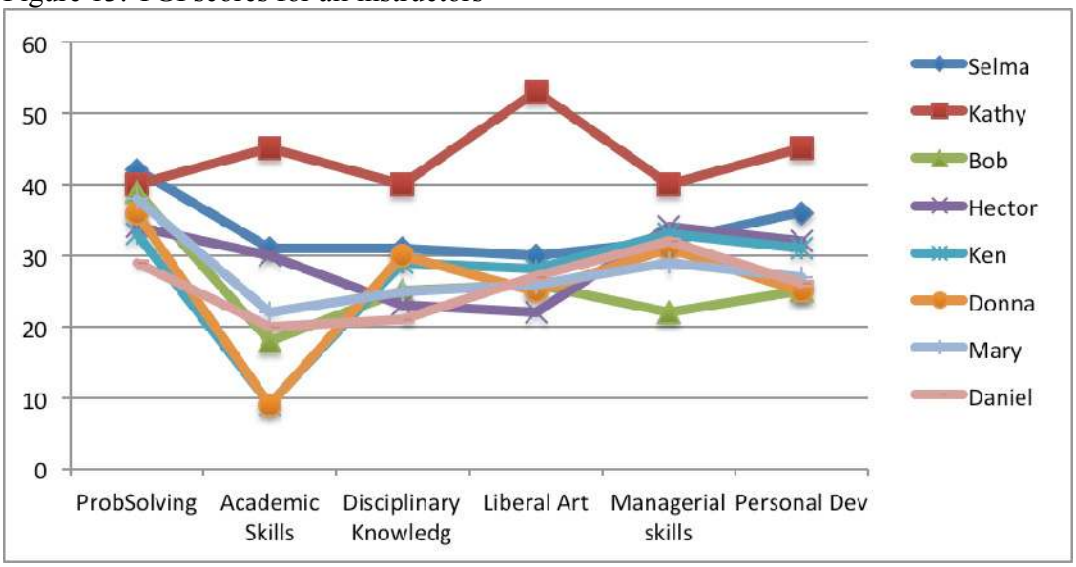
Ken distinguished between engineering and business students: engineering students are more creative and business students more pragmatic. Engineers and managers need different emphasis in entrepreneurship education. “Tech students can be very creative in terms of the technology and everything, but they don’t really understand the pragmatic aspects of how you go about turning some cool technology into a real business” (Ken, 637). Business students, however, understand the process of building an organization because they have taken finance, marketing, and accounting courses.

Ken pointed out a self-selection process between who decides to major in business as an undergraduate. If someone has skills like being great at technology, math, or science, they will major in one of those things. The ones who want to major in

business tend to be kids that do not have one of those particular skills or they are not great web designers or good at computer coding but they are smart. They are motivated. They want to get a good job so they tend to be more pragmatic. They are more practical. Ken believes that creative people tend to go in creative areas where they can do creative things and people that are more pragmatic end up majoring in more pragmatic things.

In general, TGI scores suggest that, except for Kathy, entrepreneurship instructors had some consistency in their preferred teaching goals. The TGI categorizes teaching goals into six goal clusters: (a) higher order thinking skills, (b) basic academic success skills, (c) discipline specific knowledge and skills, (d) liberal arts and academic values, (d) work and career preparation, and (e) personal development. These clusters are represented in Figure 13 with numbers from one to six.

Figure 13: TGI scores for all instructors



Higher order thinking skills and managerial skills were the teaching goals that instructors reported that were most important. The higher order thinking skills' cluster focuses on developing students' abilities to synthesize and integrate information and ideas to solve problems (Angelo & Cross, 1993). This cluster will be identified through this chapter as *problem solving*. The work and career preparation cluster refers to the

student's ability to work with others productively. Skills such as "develop leadership skills," "improve ability to organize and use time effectively", "develop management skills" or "develop a commitment to personal achievement" are some of the items in this cluster (Angelo & Cross, 1993, p. 21). This cluster will be identified through the chapter as *managerial skills*.

Kathy was the outlier of the group. Her scores on the TGI were the highest in all clusters, which reflected that she considered all goals assessed as essential. As the TGI includes all possible goals for a specific class, her scores indicated that she had no priority. Kathy's difficulties discriminating between goals might relate to her inexperience as an entrepreneurship instructor. Kathy was teaching the course for first time and she was training herself to deal with the course content.

Problem solving and managerial skills were the clusters that received more attention by the instructors studied. However, instructors teaching at engineering schools did not emphasize managerial skills as much as business instructors did. It seems that, those instructors teaching at engineering schools provided a slightly different entrepreneurship education than those in business.

As showed in Figure 13, basic academic success skills such as math skills, and /or the ability to concentrate and memorize were not essential for the group studied. Liberal arts and academic values were not essential either. Liberal arts and academic values refer to citizenship responsibilities, contemporary social issues, aesthetic appreciation, and developing an historical perspective about issues.

Academic Background and Content Selection

Instructors with training in management shared a body of knowledge in common while those who had training in other disciplines shared less in common with each other. Similar background and a research agenda in entrepreneurship related to the type

of content that instructors covered. Many concepts mentioned in the syllabus were common to what appears in textbooks of strategic management such as competitive analysis, market segmentation, commercial viability, managerial skills, opportunity recognition, and value creation as common topics.

Instructors with a PhD in strategic management used similar teaching approaches. Business cases were a typical teaching tool among entrepreneurship instructors with background in strategic management.

> It's hard to say when I really started focusing on cases. Strategy and entrepreneurship are traditionally -- by almost everyone traditionally are taught through cases. It's just been kind of traditional and that's how I learned in the PhD program to teach strategy and to teach it through cases (Daniel, 563).

The instructors who had a PhD in management also had a research agenda in entrepreneurship. The others did not do research in entrepreneurship. Having a specific academic background was not a criterion to select the cases, so it was interesting that four out of eight instructors selected studied strategic management. As described by Mary, instructors with a background in strategic management draw from that field the concepts to be presented in their entrepreneurship classes.

> My fundamental training and orientation was in the field of strategic management. And so I tend to draw from the theories in that context and theories in that field and apply them to entrepreneurship context. …I was hired as a strategic person, I have always taught strategy in different aspects of that...then when I went to xxxxxx, I had always done research that was related to entrepreneurship (Mary, 167-172).

As we can see on the following quote, Daniel included specific topics from the research, background, and experience he had:

> My background was much more on international [business], my research is on the international and so I don't spend as much time with the course focusing on product development as I do international entrepreneurship kinds of ideas. How you cross international boundaries with an entrepreneurial firm. Because I had research alliances, I have a section in there on how small firms use strategic alliances to acquire resources and to go international (Daniel, 242-248).

Ken also attributed his teaching style to his strategic management background.

> Yeah, I'm a big believer in participant-centered learning. That comes from my strategy background where I use the sort of Harvard case discussion method pretty extensively. I don't like to just put up slides on the board and lecture, particularly not for an entrepreneurship class. So it's all going to be about -- it's going to be about discussion, maybe discussion of the readings or it could be, in some cases, there'll be guest speakers and there'll be interaction that way or student presentations, students will present part of their business plans and get feedback from the class (Ken, 356).

Strategic management and entrepreneurship have a common origin (Landström, 2005). According to Mary and Ken, strategic management was the natural field to study when they were interested in entrepreneurship 20 years ago.

> The University of xxxxx did not have an entrepreneurship program. So most of us were admitted either as strategy students or as organizational behavior students and so I kind of went through the strategy program and I was always very interested in start up (Mary, 67).

Mary's story is similar than Ken's. They "came with an interest in strategy and I wanted to study strategy, but the type of things I was interested in were these small startup firms" (Ken, 85-87). Strategy and entrepreneurship were found to be close fields for instructors with backgrounds in strategic management.

> Some schools do that where entrepreneurship majors will take the business plan writing class in lieu of their capstone strategy class. I've heard of schools doing that. We don't do that here. They have to take both. But yeah, in a way they're similar. For an entrepreneurship major, they're sort of they have a similar goal of kind of pulling everything together (Ken, 416-421).

The general idea of developing a competitive advantage and creating value for final users was common to all instructors. However, instructors did not always go over all the content described on their syllabi. To craft their syllabus, instructors constructed a repertoire of activities, scanning and picking materials that matched their ideas about entrepreneurship. As Mary posited, content always varied: "specific content varies at times so it's not like there is a baseline here and I wanted to get them to here. It's more giving them a window on to the process and the important issues related to that process"

(Mary, 653-654). When asked about how she picked the content to be taught, this is what Selma replied.

> I just take whatever is interesting to me like ok I start these, what are the questions. I have to tell you I don't use any textbooks, I use a lot of articles, I do have some books. I use *Weirdest Use of work* by Bob Satin, *The Art of Innovation* by Tom Kelly but I mostly use a lot of articles that are provocative (Selma, 341-344).

As also described by Donna, content is modified every class.

> You know, it's hard because I've often said, "I wish I taught accounting" because accounting seems like it doesn't change and entrepreneurship to me is a constant moving target. I redesign every session of every class, every semester. There are some things that hold true. I do anchor the Intro class currently with a textbook. So in some ways, I do at least have a parallel content stream of some of the basics that I think are important. So, I'm always looking for innovative ways to get the student's attention. So I keep an ongoing kind of checklist of links that I come across particularly media links, video links and short articles and popular press. Less so academic articles for undergraduates in an Intro class like this, particularly since they're not business students a lot of them (Donna, 264).

Table 14 and 15 summarizes topics included on syllabi classifying instructors according to whether they have a PhD in strategy management or not. As we can see on Table 15 and 15, competitive analysis is the core content for instructors with a background in strategy management. The differences between instructors without training in management were related to the extra component that those instructors attached to the entrepreneurship class: technology for Bob, leadership for Kathy, creativity for Selma and women's entrepreneurship for Donna.

Table 13: Course Content of Instructors with a Degree in Strategic Management

Instructor	Content
Daniel	Strategy in entrepreneurial ventures, environment of entrepreneurial ventures, industry and competitive analysis, value proposition, value chain analysis, resource-based competitive advantage, strategy and performance in entrepreneurial firms, business level strategies, industry life cycles, and building strategic plans for entrepreneurial ventures.
Ken	Business plan writing, opportunity identification, protection of intellectual property, legal forms for organizations, organizational development, team dynamics, competitive advantage, value propositions, industry analysis, market research, pricing, sales forecasts, and entry strategies. Planning for growth, change, outsourcing, exit strategies, cash flow, working capital management, and breakeven analysis are concepts also mentioned on the syllabus. Sources of funding, government programs, and equity.
Mary	Entrepreneurial process, industry analysis, competitive advantage.
Hector	Management of new and/or small technology based businesses. Start-up process with particular emphasis on market issues, intellectual property, and entrepreneurial finance, opportunity screening, market analysis, market segmentation, high tech marketing, intellectual property, venture funding, new venture teams, and small business management.

Table 14: Course Content of Instructors with other Backgrounds

Instructors	Content
Donna	E-ship as economic engine, career strategy, and behavioral process. Characteristics of individual entrepreneurs, different forms of entrepreneurship; value proposition, presentation skills. Designing a Competitive Business Model and Building a Solid Strategic Plan.
Bob	Idea creation and evaluation, marketing for innovations, market segmentation and targeting, startup financials, income statements, projections, and calculating investment needs for a startup, and communication skills such as effective presentation and products' pitch.
Kathy	Leadership, conflict resolution, problem solving, interpersonal skills, client relationship management, team forming, leadership, speech presentations, innovation portfolio idea pitches, introduction to business plan writing, industry analysis, target market trends, strategic positioning, competition analysis, risk assessment, marketing plan, sales strategy, and exit strategies.
Selma	Design thinking, creativity, and teambuilding.

Beliefs about Learning and Teaching Methods

Action learning, implemented in the form of team projects, was common across instructors. Some projects were focused on how to solve problems of nascent businesses (Daniel and Mary) others focused on producing creative solutions for people's problems (Selma and Bob). Donna, Ken, Kathy, and Hector made students develop a business plan as a team. "There is this assumption by every entrepreneurship faculty member I know that there is some aspect of entrepreneurship that you can learn through doing. So that's just the way I learned coming through the PhD program" (Daniel, 567).

This is Kathy's description of one her teaching activities.

> Each students' teams came up with 3 ideas about going green, ok and I asked them to present all 3 in class and I even took 2 or my former students who have businesses, they are entrepreneurs right now and everybody in class voted for good ideas and I selected the best 6 of them (Kathy, 144).

Entrepreneurship instructors used projects to teach complex concepts such as things never go as planned. Students' experiences related to those projects were used to link theory and practice. In developing specific teaching activities, instructors could rely on different sources. Some asked colleagues or attended specialized conferences to know how to teach. NCIIA, REE, Babson were some examples of conferences named by the instructors studied. Other sources were entrepreneurship textbooks and websites such as GEM and Kauffman. Among the textbooks, business plan writing guides were a common text used by instructors. In addition to textbooks and traditional business teaching methods such as cases, team projects, and lectures, some instructors developed their own teaching activities. The propensity to craft teaching activities was related to the teacher beliefs about learning. Instructors, who believed that learning couldn't happen without practice, were more active creating teaching pedagogies than those who

believed that learning was about developing complex ways of thinking. For instance, Bob was very innovative and always was creating new pedagogies. Talking about finding the right instructor outside Bob posited, "in cases where it is not obvious who could do a better job, or whether I have or we have among the instructor team a particularly interesting pedagogical experiment to run, then maybe we will give the lecture (Bob, 312). Selma was constantly creating new teaching activities to teach people by doing. This is how Selma describes her teaching philosophy:

> Here's my entire teaching philosophy – all learning is experiential, if you don't experience it you don't learn it. So I always lead with experiments, I am very good at talking -right you have heard me lecture- I am happy lecturing. I don't ever lecture in class, ever. I set up an experience, set up something and I give them a provocative question to think about beforehand, then I set up the experience (Selma, 216).

Donna also posited that she is "always looking for innovative ways to get the students' attention" and then she characterizes what seems to be an important issue for entrepreneurship instructors:

> There's this expectation that in order to keep their attention, we have to be really good at what we do. So, I have to be master pedagogical genius and interesting and engaging and use enough technology and media to keep it jazzy, for me to really think that it's a success. And anyone of those pieces can get shifted around if it doesn't work (Donna, 382-386).

Bob remarks that what is included as a teaching exercise is "what things are readily adaptable to the classroom exercises" and several times during the interview he mentioned that fun is important. "We have students who come because their roommate said it was fun (Bob, 103)." Then, talking about the class Bob said: "It's not just a club to go to when you are not too busy but it's an interesting class that the students can go to and it's very popular the students find it very inspirational" (Bob, 89).

Same for Ken, who explains why he changes the material every two or three years:

> I hope I never get to the point where I'm just teaching the same stuff over and over again. It's just too boring. If it's boring for me, it's going to be boring for the student and it's going to get stale. Plus it's just not reflective of -- things change. I mean there's new knowledge and new ideas and you have to bring stuff out there. I mean if I was using the articles I used when I first started teaching, I mean they would all be dot-com articles about new Internet companies and the students will be looking at me rolling their eyes thinking I was an idiot. You have to sort of keep up with the times (Ken, 482-489).

Summary

This chapter has presented the most important findings that emerged from the data. The data analyzed consisted of syllabi, vitas, surveys, and transcripts from face to face interviews. The findings were organized to answer the research question. That is: How do instructors select teaching goals, content, and methods to teach entrepreneurship? The specific knowledge of the audience was found to influence goals. The background of the instructor and the learning needs of the students were found to influence the selection of the content. The teaching perspectives and the need of getting student attention were found to influence the selection of content. In the next chapter, a comprehensive model for teaching entrepreneurship and suggestions for improving practice, creating public policy and advancing research are provided.

CHAPTER VIII

DISCUSSION

This chapter is divided into four sections. The first section presents responses to the research questions, the second discusses a comprehensive model of teaching decision in entrepreneurship education, and the third part discusses implications for research, practice, and public policy. A summary concludes the chapter.

Responses to the Research Questions

This section presents participant's responses to the research questions. The primary research question was as follow: How do instructors select teaching goals, content, and methods to teach entrepreneurship? Secondary research questions were: Does entrepreneurial experience influence how entrepreneurship instructors design their courses? Do teaching perspectives influence how entrepreneurship instructors design their courses? Does teaching experience influence how entrepreneurship instructors design their courses? Does student audience (whether engineering or business) influence how entrepreneurship instructors design their courses? The responses to the primary research questions are responded first followed by the responses to the subsidiary questions.

How do Instructors Select Teaching Goals?

Instructors select teaching goals by paying attention primarily to the learning needs and interests of the students. For some instructors, the students taking entrepreneurship classes will enter the corporate world soon after graduation. For them, instructors seek to develop an entrepreneurial mindset that helps to succeed in the corporate world. Other groups of students have the interests and abilities to become business founders. For this group, instructors seek to help them to start their own business.

To become entrepreneurs, individuals need two type of knowledge: a breadth of knowledge about business and a depth of knowledge about a technical discipline (Hampden-Turner, 2010; Seelig, 2010). This is what McKinsey (2010) has defined as the T-shaped people. A technical specialization that has been developed mainly through undergraduate education is complemented by the horizontal appreciation and understanding of other disciplines and a professional context. Through postgraduate degrees and early career experience, an appreciation and understanding of other disciplines is often developed. Tim Brown, CEO of design firm IDEO described this ideal employee as a "specialist with a passion and empathy for people and for other subject areas" (HEFCE, 2010, p.14). High impact entrepreneurs manage the technique (or know-how related to an industry) and the skills to enact a vision that brings the benefit of that technique or know-how to the people. The professional that becomes an entrepreneur is a type T professional (Seeling, 2011; McKinsey, 2010). A breath of knowledge about business composes the horizontal part of the T, and a depth of knowledge in a technical discipline composes the vertical part of the T.

The instructors studied suggested that entrepreneurship education complements the technical knowledge of high technology students. Through entrepreneurship education, high technology students became, to some extent, T-shaped professionals. Undergraduate business students, on the other hand, become T-shaped professionals after early career experiences. Most undergraduate business students will need 6 or 7 years of work experience before they have a serious chance of succeeding as entrepreneurs. In contrast, MBA students or graduate students who already have that experience may have the real opportunity to start a business during their graduate education. Once you are a T-shaped professional, an entrepreneurship class could be a natural place to give serious thought about starting a company.

This study suggests that, entrepreneurship instructors, conscious about the work experience needed by most undergraduate business students, adapt their teaching goals to inspire them, hoping they gain experience to become entrepreneurs someday. Engineers, in contrast, may have the technology to overcome some market barriers of entries. In these cases, entrepreneurship education becomes the basis to develop the general business skills needed to create a business around those technical skills.

In consequence, this study suggests that there is not one type of entrepreneurship education; at least three types of entrepreneurship education were identified: (a) Inspirational, (b) high potential, and (c) entrepreneurship education for adults. Inspirational entrepreneurship education is targeted to students that are preparing to go to the corporate world. High potential entrepreneurship is targeted to those who have a good product and need to know how to transform an invention to an innovation and then to a business. Entrepreneurship education for adults is targeted to those who have rich work experience in creating a disruptive business model or service that needs to team up with the right partners.

Business and engineering students usually have different career paths. Business students are trained to become functional managers (Dyer, Gregersen, & Christensen, 2008) and most of them will spend their careers as such. Engineers are trained to apply engineering sciences to the improvement of products and processes. As such, they will have chances to start businesses in more innovative industries, with less competition and higher chances to succeed. U.S.-born technology company founders tend to have diverse educational backgrounds but the largest group (55%) had terminal degrees in STEM-related fields (science, technology, engineering, and mathematics), and 33% had degrees in business, finance, and accounting (Wadhwa, Freeman, & Rissing, 2010). Therefore, engineers are more likely to start a business than undergraduate

business students are. Entrepreneurship instructors should consider this reality when selecting teaching goals to design an inspirational, high tech or a course for adult learners entrepreneurs. In this decision, an important output to consider is whether the course is mandatory or voluntary. The learning needs of students who take a 3-credit course because of schedule convenience would be very different than students who think have a good product and take an entrepreneurship class for the sake of learning whether they could launch a business. Voluntary and mandatory entrepreneurship education should pay special attention to the learning outcomes expected. Inspirational education may be the type of education recommended while high potential could be the type if voluntary.

How Do Instructors Select Teaching Content?

Among the instructors studied, the teaching content was found to be very similar. The entrepreneurship educators studied covered content related to strategic analysis, value creation, and small business administration. When the syllabi were analyzed, the content of this group of instructors was similar to that covered by a typical strategic management textbook (i.e., David, 2011).

Four instructors (Mary, Hector, Ken, and Daniel) participating in this research had a PhD in strategy management. Those instructors based their teaching content in the field of strategic management. Instructors without entrepreneurial experience and with backgrounds other than strategic management (Kathy and Bob) were more active searching the Internet, reading specialized magazines, talking to real entrepreneurs, and asking experienced colleagues about which goals, content, and methods to include in their classes. Instructors with entrepreneurial experience (Daniel, Donna, Selma, Bob) deconstructed their experience as business owners to identify what to teach and then applied that to teaching exercises, or they developed their own

pedagogies. Those former business owners who became instructors trusted what they already knew as entrepreneurs to define the learning outcomes.

Former entrepreneurs seemed to be better at modeling ways of doing and designing teaching activities that exposed students to the experience he/she had as an entrepreneur. For instance, former entrepreneurs sent students to sell, to present in front of real investors, or they designed a simulated reality to expose students to real situations. Non-entrepreneurs seemed more comfortable guiding a provocative discussion, seeking to produce a disorienting dilemma (Mezirow, 1990) and using traditional management teaching methods. To trigger reflection, the instructor uses the students' subjective experiences (Mezirow, 1990). Subjective experiences are by definition an internal process of the individual and as such do not necessarily require an external demonstration of how to perform the internal process. By contrast, to deal with a negative customer feedback for instance, would need demonstration and practice. A former entrepreneur may be more effective at shaping the feeling and behaviors associated to the effective approach to negative customer feedback.

Students and instructors in entrepreneurship come from different backgrounds and disciplines and learning outcomes are still under discussion. For the same reason, entrepreneurship education needs an extra effort to keep consistency between learning needs, teaching goals, and teaching perspectives. If business creation is the goal, then an apprenticeship perspective may be more effective. Former entrepreneurs may have more impact on students' performance when trying to teach how to perform certain actions (Berliner, 1988). If a paradigm shift is the learning outcome pursued, then someone who has never been an entrepreneur may well generate the provocative discussion needed to achieve transformational learning. Through reflection, individuals can observe themselves and revise their paradigms. A paradigm is a set of

assumed background questions, standards, and methods, which comprises the assumptions about what questions need to be answered and some sense of what would count as a good answer to them (Kuhn, 1970). Reflection implies challenging the paradigms in use, including beliefs about systems and cultural heritage. By questioning, challenging, and analyzing a paradigm in use, a human being can change its assumptions.

How Do Instructors Select Teaching Methods?

Teaching methods are the final part of the primary research question. Methods were related fundamentally to three elements: the teaching perspective, the entrepreneurial experience, and the academic background. There was a relationship between experimenting with new pedagogies, having entrepreneurial experience, and the teaching perspective (apprenticeship was the dominant perspective).

This study showed that those instructors with apprenticeship as the dominant teaching perspective were more active in creating pedagogies and experimenting with teaching exercises every term. Instructors with developmental as a dominant perspective structured their classes more and preferred teaching methods traditionally used within the field of strategic management. They also had higher scores in transmission teaching perspectives and had the same academic background. This means that there was a relationship between transmission scores, the structure of the course, and a background in strategic management.

Professional experience shaped and influenced instructors' beliefs about teaching, which is consistent with the literature in adult education (Jarvis-Selinger, 2005). Instructors with entrepreneurial experiences conceived teaching as an opportunity to model ways of doing rather than challenging ways of thinking, while those without entrepreneurship experience conceived teaching as developing increasingly complex ways of thinking. For this group of instructors,

entrepreneurship was fundamentally a cognitive capacity and a process of thinking.

Beliefs govern the practice of teaching. Instructors make decisions based on their interpretation of what it means to learn (Pratt, 1992). Instructors with apprenticeship as the dominant teaching perspective believe that learning is not possible without practice (Pratt, 1992). Apprenticeship instructors conceive themselves as role models shaping the future practice of their students. Instructors without entrepreneurial experience could hardly envision themselves as practitioners because they never put any entrepreneurial skills in practice, but if entrepreneurship is defined as the launching of a new business. To be consistent, instructors without entrepreneurial experience saw themselves as provocateurs rather than role models. Their expertise relied on changing ways of thinking more than changing ways of doing.

Teaching methods used to change ways of doing are different from those designed to change mental processes (Pratt, 2002). Discussion, lectures, essays, and case analysis are good materials to shape thinking (Galbraith, 1998). Simulations, role-playing, and real business creation are better to shape practices. Since apprenticeship instructors strongly believe in learning by performing, and traditional teaching methods are not designed to model behaviors, then apprenticeship instructors created their own methods. Donna, Bob, and Selma reported changing some aspects of what and how they teach every term. Developmental instructors were more stable in terms of the teaching methods they used, and they used cases, team projects, lectures, and discussions.

Subsidiary Research Questions

In the following section, subsidiary research questions will be answered.

Does entrepreneurial experience influence how entrepreneurship instructors design their courses?

Instructors with entrepreneurial experience scored higher on the apprenticeship perspective and reported being more active in creating teaching activities. This study showed that entrepreneurial experience was related to how instructors taught. The TPI asked about whether effective teaching requires mastery of the subject. Professors who have not been entrepreneurs scored lower on apprenticeship perspectives (Hector, Mary, Kathy, and Ken). Instructors who have not been entrepreneurs believe that teaching and practice are not necessarily tied, and that effective instructors do not need to master the subject they teach. For example, football coaches do not necessarily need to have been football players.

On the other hand, instructors (dominant perspective, apprenticeship) believed that learning could not happen without practice. Since instructors who scored highest in the apprenticeship perspective are or were good performers on the activity they taught (entrepreneurship), they felt confident supervising entrepreneurial practice. This is contrary to developmental instructors, who felt more confident in challenging ways of thinking and not necessarily demonstrating how to perform the desired behavior.

Do teaching perspectives influence how entrepreneurship instructors design their courses?

Instructors with the apprenticeship perspective (Selma, Bob, and Donna) were more flexible in implementing the curriculum and showed an inclination for creating new pedagogical exercises. Instructors with the developmental perspective used the teaching methods they learned as doctoral students. For instance, the use of cases, team projects, and strategy analysis was common among developmental instructors who have PhDs in strategy management.

Flexibility to implement the curriculum provided room to change content class to class and to adapt what was taught according to learning needs and student interest. For apprenticeship instructors, content was not a static body of knowledge. They had a design for each class, but everything could change if something made more sense to students in that moment. That might happen for several reasons. First, instructors with apprenticeship perspectives also scored lower in the transmission perspective. Therefore, they do not assign relevance to an effective delivery of content (Pratt, 2002). Second, and related to teaching perspectives, apprenticeship instructors did not have background in strategic management. A PhD in strategic management implies relatively more knowledge in theories about entrepreneurship because new business creation and strategic management are related disciplines (Landström & Franz, 2010). Less mastery in theories and concepts of a specific discipline might relate to lower scores in the transmission perspective.

Does teaching experience influence how entrepreneurship instructors design their courses?

Among the instructors studied, teaching experience was not found to be a relevant pattern that influenced curriculum design.

Does student audience (whether engineering or business) influence how entrepreneurship instructors design their courses?

Entrepreneurship instructors adapted the teaching goal to the learning needs of the students. Instructors training students to succeed in the corporate world focused their courses on general management, people skills, and inspiration. Instructors teaching T-shaped professionals who wanted to launch a business focused on business creation. Among these cases, more than one type of entrepreneurship education was found. Detailed of the finding presented above are

further developed along with the presentation of a model of teaching decision in entrepreneurship education.

A General Model of Teaching Decisions in Entrepreneurship Education

Based on the responses to the research questions, a model regarding the influences on instructors' decisions was developed. In the model, the grey boxes show what type of broad goals, content, and methods (GCM) the participants in the study included in their curricula.

Goals

Concerning the studied instructors, three broad and different teaching goals were identified: (a) Inspirational, (b) high potential, and (c) entrepreneurship education for adults. Inspirational entrepreneurship education is targeted to students that are preparing to go to the corporate world. High potential entrepreneurship is targeted to those who have a good product and need to know how to transform an invention to an innovation and then to a business. Entrepreneurship education for adults is targeted to those who have rich work experience in creating a disruptive business model or service that needs to team up with the right partners. Executives MBAs with a major emphasis in entrepreneurship would be a perfect example of entrepreneurship education for adults. Instructors have little notions of the different teaching goals and learning needs they might cope with when deciding for one or another type of entrepreneurship education. As long as the data collected in this study, learning outcomes for different types of entrepreneurship education are mixed in the mind of instructors.

Instructors did not reported programs goals either. Entrepreneurship courses studied were inserted within programs of different types. The specific goals of these programs were not linked to the intentions that each instructors had for their courses. It was observed an implicit awareness that different students need different type of entrepreneurship education but none of the

instructors framed their goals, content, and methods in term of the type of education needed by what type of students. For instance, entrepreneurship education for future corporate executives could be something explicit in the design of the course. Instructors knew their students will not start business soon after graduation but this reality was known but ignored.

Even though the existence of different teaching goals are not new (Liñan, 2007), the contribution of the model is to identify the role of the interaction between students' learning needs and instructors' teaching options and of how that interaction shapes the course learning goals. If instructors believe that students can create a competitive business, they emphasize start up education. If students are being trained to succeed in the corporate world (Mintzber, 2004), instructors try to legitimate entrepreneurship as a career path and at the same time, develop some general skills typical of entrepreneurs, such as creativity, communication, perseverance, customer orientation, value creation, etc. The different types of goals are represented in the upper part of the model with a continuum that can go from awareness to business creation.

Content

Meaning is of essential concern to the qualitative approach (Bogdan & Biklen, 2007). This qualitative research sought to capture instructors' meanings about entrepreneurship in order to explore how these meanings might influence teaching. The Kauffman Foundation, one of the most prestigious institutions in the U.S. focused on teaching entrepreneurship, has announced the need for changing the strategy pursued up until now. After a decade sponsoring research and practice of entrepreneurship education, The Kauffman Foundation has announced the need for identifying world-class teaching programs and spreading those around the world (Cone, 2008).

The belief is that foundational curriculum is needed rather than sponsor-isolated efforts with weak bridges of understanding between instructors. This research aimed to understand what makes instructors teach as they do.

The instructors participating in this study shared three fundamental ideas about entrepreneurship: value creation, new venture management, and making things happen no matter how many resources someone controls. Instructors pull from the images they have about entrepreneurship to define the skill set and concepts to cover in class. Content included in the syllabi studied can be classified somehow around the ideas of value creation and strategic management, complemented by instructors' academic backgrounds and specialization. For instance, the neuroscientist (Selma) combined value creation and creativity. The mechanical engineer used examples from the aerospace industry. The operation management researcher included stores' layouts as part of the syllabus. Strategic management instructors based their classes on typical strategic management books.

Even though the meanings associated with entrepreneurship were similar, what happened inside the classroom depended on the instructor-student interaction. This study showed that the instructor-student interaction determines the content presented in each class. Instructors privilege the learning process over the course program. As confirmed by the lower scores in the transmission perspective, preparing students for an examination is not crucial among the instructors studied. The transmission perspective frames the teaching in terms of the content to be delivered and teacher's expertise is primarily associated with the efficient coverage of content (Pratt & Collins, 2001)

More or less flexibility to cover the content included in the syllabus depends on the context where the course is delivered. Béchard and Gregorie (2007) identified two dimensions

that anchor innovation in entrepreneurship education and therefore implied higher or lower degrees of flexibility within a course: the kind of arrangement that supports a pedagogical innovation at the institutional level and the kind of arrangement that supports innovation at the level of the institutional system. In some cases, the entrepreneurship course is part of the formal curriculum, while for others; it is voluntary for students and instructors.

The instructors studied made an effort to balance the basics of entrepreneurial instruction, their own competencies, and the specific learning needs of the students. The instructors studied, as Kickul and Fayolle (2007) identified previously, adapt what they teach, balancing students' competencies with what they predetermine for the course. Contrary to the teacher competencies' approach (Boyatzis, 1995) that relies only on faculty's expertise, entrepreneurship faculty were shown to consider the learners' needs, the content available, and the process to achieve the desired output.

The circle in the middle of the model represents how beliefs about content interact inside the instructors. There are three common major ideas about what entrepreneurship encompasses: value creation, competitive analysis, and making thing happen. How these ideas are converted in content to deliver is related to background, experiences, and beliefs about teaching as was explained before.

Methods

This study found that entrepreneurial experience, academic background, and beliefs about teaching are three factors that influence teaching methods, specifically the propensity to create original teaching activities. Instructors with apprenticeship perspectives and entrepreneurial experience designed most of the teaching activities they used. Among the observed activities, there were simulations, field trips to start ups, conversations with investors, and presentations to

judges. Instructors with developmental perspectives used teaching methods traditionally present in the field of strategy management, such as Harvard case studies and team projects.

Instructors teach as they were taught. Depending on the discipline instructors are trained, there are differences in the teaching goals that instructors considered most important (Barnes, 1998). Instructors with strategic management backgrounds used the teaching methods they learned as doctoral students. Similar to what has been reported in the literature (Finkelstein, 1984; Kickul & Fayolle, 2007; Pratt, 2005), graduate school experiences, such as teaching a course or having a mentor, were the primary agents of faculty socialization.

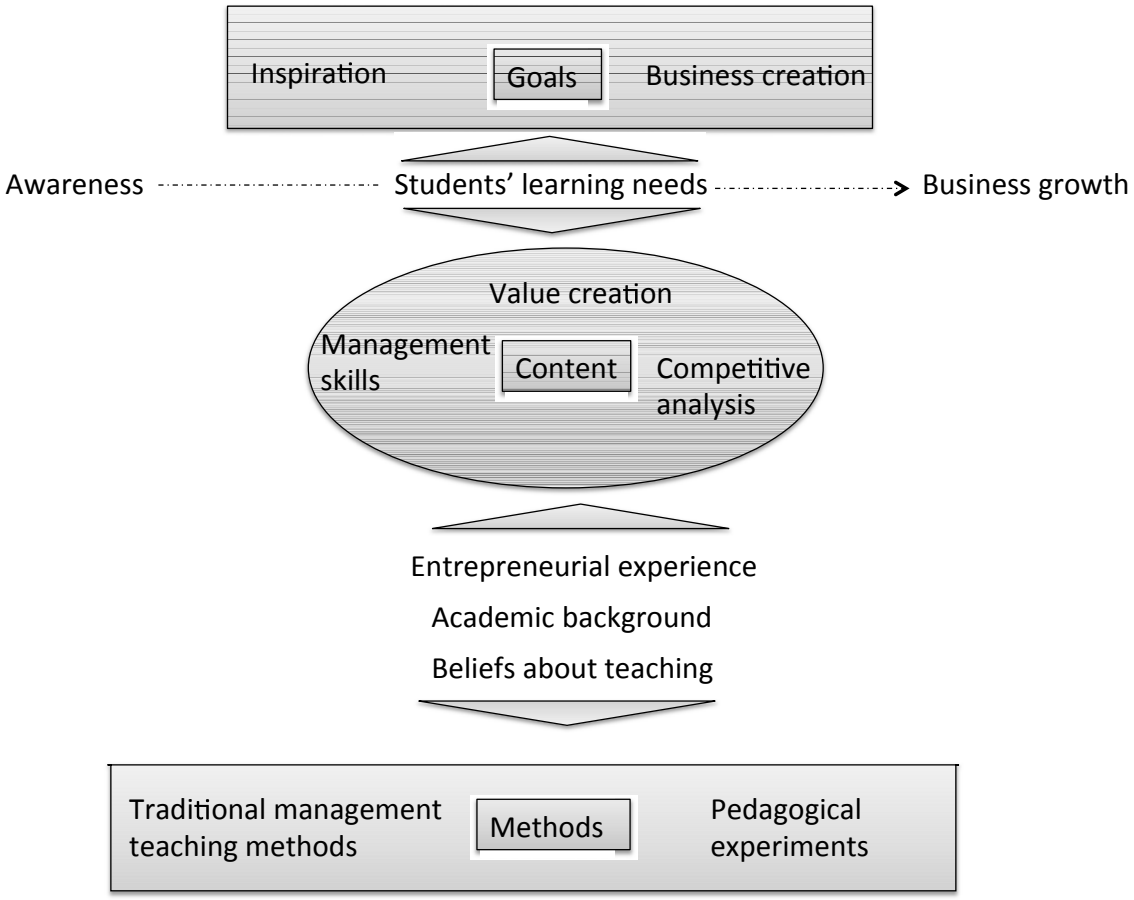
Instructors using apprenticeship perspectives believe that good educators have to exemplify the values and knowledge to be learned (Pratt, 1993). The action of the practitioner embeds the values and knowledge in this perspective. The nature of what needs to be learned is inseparable from the performer (in this case the entrepreneur) and therefore, it could not be packaged apart from the person who embodied it (Pratt, 1993). All instructors who are or were entrepreneurs felt more confident modeling the set of behaviors needed to start a business because they have performed this action successfully in the past.

On the other hand, developmental instructors, who have not been entrepreneurs, focused on the learner's cognitive development (Pratt, 1993). This group did not believe that good instructors must be good practitioners in the subject taught. To challenge paradigms, instructors do not need to be great performers but induce a certain amount of disequilibrium or discomfort with their present ways of knowing. Dialogue, discussions, and critical reflection can introduce this disequilibrium.

In this study, developmental instructors focused more on the conceptual framework related to entrepreneurship. Apprenticeship instructors focused more on the action of starting a

business. Within developmental instructors, Harvard case studies and team projects were major teaching activities. Within apprenticeship instructors, simulations and business plan competitions were major teaching activities.

Figure 14: A General Model of Teaching Decisions in Entrepreneurship Education



Implications for Public Policy

Concerning the group studied, a PhD in strategic management shaped instructors' teaching styles and provided common standards for the content they covered. Instructors with strategic management backgrounds had similar definitions of entrepreneurship, similar teaching methods, and the same teaching perspectives. Those instructors, who switched from other

disciplines and/or volunteered as entrepreneurship instructors, showed higher diversity of content and methods and experienced their roles as highly flexible. While, less training in new venture creation was related to more diversity and a higher need for external support to deliver the curriculum. Since there is little agreement over what constitutes entrepreneurship education and of how it is taught (Kirby, 2007), the lack of programs to train entrepreneurship instructors might be causing the wide diversity of goals, content, and methods currently used in entrepreneurship education. More instructors trained in the field should contribute to establishing a more common and consistent body of knowledge for entrepreneurship education.

Despite academic discipline having an influence on how instructors teach, little is known about this issue. More attention to who is training the trainers is needed. The self-selection process that might exist in the field of entrepreneurship toward instructors passionate about change may have produced a large group of instructors who, fascinated by change and creative destruction, invest too much energy and time experimenting with teaching activities that nobody registers and/or measures. Supporting official training of trainers programs would allow knowing and improving those curricula, interchanging practices among enthusiastic instructors, and building from what already exists, and avoiding the reinvention of the wheel.

In the process of socializing newcomers to the practice of teaching entrepreneurship, colleagues, national conferences (i.e., USASBE, Babson, REE, NCIIA) and specialized websites (i.e., The Kauffman Foundation, GEM) play an important role sharing practices, information, and teaching activities. These instances help to uniform the practice of entrepreneurship education. Considering the increasing investments that governments make to foster entrepreneurship (i.e., startup Chile, startup America, NCEE U.K., etc.) the government could invest more in scholarships and grants to create doctoral programs and certifications in

entrepreneurship. This study has showed that there is still a lack of instances to become trained as an entrepreneur.

A common body of knowledge is needed to advance assessment and build upon what exists (Cone, 2008). Without a common understanding and a critical mass of trained practitioners, it is difficult to advance entrepreneurship education effectiveness. The government could support the creation of formal training programs to produce more and better entrepreneurship instructors. This seems to be the most effective way to consolidate a body of knowledge that can be measured and evaluated over time. Instructors with diversity of academic disciplines lack the structure and skills to implement a curriculum that can be compared. As researchers increasingly provide evidence about what works and does not work in new venture creation, training-of-trainers type programs could spread useful knowledge which might produce the desired impact on the economy.

Implications for Practice

Among the instructors studied, previous training, teaching perspective, or experience as business owners is not as important as students' learning needs in influencing the teaching goal targeted. For instance, an exceptional teacher with significant experience commercializing high technology businesses reported adapting his/her curriculum to teach inexperienced undergraduate students. Instructors were shown to privilege the teaching goal that best matches students' learning needs. However, the capacity to adapt the curriculum to the students might not be the rule among entrepreneurship instructors. Perhaps most entrepreneurship instructors teach what they know independently of the students' learning needs. If this is the general rule in entrepreneurship education, this insight might open an important avenue to improve effectiveness.

One of the biggest complaints of entrepreneurs about the education available for them relates to the applicability of the content offered. For entrepreneurs who are very pragmatic it is pointless to receive instruction with little connection to their present challenges (Jonhson, 2005). A good match between teaching goals and student learning is crucial to keep students' attention; especially within entrepreneurship because the diversity of learning needs is substantial. Within the same cohort, entrepreneurship students usually have different backgrounds, and their ideas can be at any stage of the entrepreneurial process (Interman, 1992; Liñan 2007).

An effective teacher needs to match teaching goals with learning needs; otherwise, education becomes irrelevant for students and frustrating for instructors (Conti, 2007). Attracting students' attention was a recurring theme among the instructors studied. They believed that the millennia generation demands active learning environments, and educational institutions are increasingly concerned about students' feedback regarding instructors' performance. Entrepreneurship instructors feel themselves especially pressured in capturing student attention because everyone believes the topic is fun. In spite of the diversity of learning needs that seems to exist in entrepreneurship education, the instructors studied never referred to this dimension of the teaching practice. Practitioners should pay more attention to the alignment of teaching goals and learning needs in order to make their practice more effective.

In addition to learning needs and teaching goals, teaching perspective emerged as a third dimension of the teaching practice. Entrepreneurship instructors showed to favor either an apprenticeship or a developmental perspective. Those with a major emphasis in start ups showed an apprenticeship perspective, while those with a major emphasis in personal development

showed a developmental perspective. Within the two major teaching goals identified, inspiration was focused on changing people's way of thinking and start up on changing people ways of doing.

The idea that good teachers have to be good performers of the subject matter they teach characterizes an apprenticeship perspective (Pratt, 1992). A teaching goal that emphasizes business creation and problem solving can be better achieved through an apprenticeship teaching perspective (Pratt, 2005). Implicit knowledge (Yang, 2004) can be modeled using simulations and practice (Kolb, 1984). To develop skills, practice and doing are required (Kolb, 1984; Schön, 1973; Yang 2004). Instructors with entrepreneurial experience can easily adopt an apprenticeship teaching perspective because they have the self-confidence to teach others what they have done before.

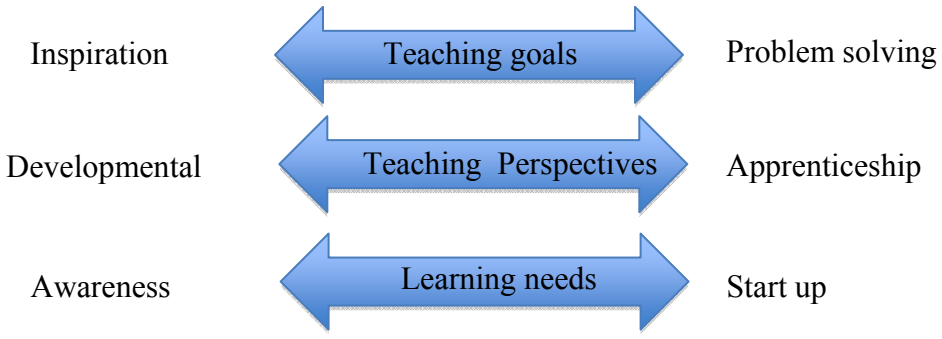
People's way of thinking represents explicit knowledge (Yang, 2004). Complex ways of thinking are developed by reflection, conceptualization, and using specific field jargon (Maturana, 2002). Entrepreneurial experience might be less relevant to teaching the explicit component of an entrepreneurial curriculum. People who do not belong to the field might be even better to confront mental frameworks in use (Argyris & Schön, 1978; Senge, 1999).

Calibrating the three dimensions of teaching (learning needs, teaching perspectives, and teaching goals) might increase effectiveness. Reading the learning needs and adjusting teaching goals and perspective to different types of students could result in a more engaging and productive learning environment. Figure 14 depicts the three dimensions that need to be calibrated before implementing a curriculum in entrepreneurship at higher education. For instance, the awareness type of entrepreneurship education can effectively be taught by instructors who have developmental as dominant teaching perspective because inspiration aims

for changes in the way of thinking. The business creation type of entrepreneurship education can effectively be taught by instructors who have apprenticeship as dominate teaching perspective because problem-solving aims for changes in the way of doing. To train behaviors, demonstration and practice is needed (Berliner, 1988). To train process of thinking, reflection and paradigm shift is needed (Yang, 2003).

Therefore, a consistent entrepreneurship education needs to ask for the congruency between goals, perspective, and learning needs.

Figure 15: Layers of entrepreneurship education



Despite different types of content being better taught using different teaching perspectives, several instructors may teach different things along the same course using various perspectives. The point is how conscious are the instructors about the alignment of goals, perspectives, and learning needs. As has been demonstrated, increasing self-reflection of instructors results in better performance (Pratt, 2004).

Implications for Research

The preliminary findings of this qualitative study open the door for an intense research agenda. For instance, further evidence is needed to know if disciplinary background influences goals, content, and methods. If so, how strong is the relationship between disciplinary background and curriculum design? Besides academic background, this study suggests that

entrepreneurial experience and teaching perspective are related to curriculum design. Future research may explore if this relationship exists and if so, whether background, entrepreneurial experience, and teaching perspective constitute specific types of entrepreneurship instructors that share similarities in terms of goals, contents, and methods. In this research stream, it would be interesting to explore whether different types of instructors obtain different results from students.

In terms of the impact on effectiveness that aligning perspectives, goals, and learning needs might have, additional research is needed to look for evidence related to the diversity of learning needs that might exist within entrepreneurship students. If diversity of learning needs coexist within a cohort of students, it would be interesting to explore how aligning instruction and learning needs may influence instructor and students' satisfaction and performance. Finally, further information is needed to know whether teaching perspectives may be more effective in teaching specific content. Perhaps, the most effective course may use different instructors to accomplish specific learning goals using their mastered teaching perspective. In fact, most entrepreneurship curriculum includes explicit, implicit, and emancipatory knowledge (Yang, 2004) that can be better taught by different professors. In this research stream, it would be interesting to know whether entrepreneurial experience relates to specific teaching perspectives and to identify what type of knowledge former entrepreneurs might teach better.

Summary

Originally, the study was designed to explore how instructors select goals, content, and methods. Results suggest that teaching content was consistent across participants, and two major teaching goals were identified: (1) inspiration and (2) business creation. Students' learning needs influence the teaching goal instructors want to pursue. Disciplinary background, teaching perspective, and entrepreneurial experience influence teaching methods.

This chapter has answered the preliminary and subsidiary research questions, summarizing the results in a model that explains how different factors influence the decisions about what and how to teach entrepreneurship. Research responses, presented in the form of a model, suggest that entrepreneurship education can be more effective if instructors align teaching goals, learning needs, and teaching perspectives.

On the other hand, background was found to influence instructors' propensity to develop pedagogical innovations. Tenure track instructors who research entrepreneurship were shown to replicate the teaching methods they learned as students. Administrative professors, who switched field or taught entrepreneurship voluntarily, were shown to be more prone to develop new pedagogies. The difference between more and less innovation coincides with teaching perspectives and entrepreneurial experience.

Limitations

One limitation of this study was not to include instructors with a PhD in entrepreneurship. They may be very different to the cases analyzed. Unfortunately, in 2009–2010, the author only was referred to one entrepreneurship instructor who graduated with a PhD in entrepreneurship, and he was not teaching entrepreneurship the academic year of 2010 when data were collected. Result including only or more instructors with PhD in entrepreneurship education could yield different results.

Another important limitation of this study was the different teaching goals that can be taught under the same entrepreneurship course's name. This study defined as sample any entrepreneurship instructors teaching entrepreneurship during the academic year of 2010. However, there were found several types of entrepreneurship instructors, several types of entrepreneurship courses, and several types of entrepreneurship courses. That constituted an

important finding of this study but also an important limitation. The discussion of the finding could have been more accurate if instructors were selected after confirming that inside the classroom the teaching goals, between two courses with same name, were similar.

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APPENDICES

Appendix A: Invitation to participate

Dear Entrepreneurship Instructor:

As a Doctoral Student at Florida International University I am conducting a study for my dissertation focusing on teaching goals and teaching methods of entrepreneurship instructors. I am using case study as a research method to understand what factors might influence entrepreneurship instructors' decisions about what to teach and how. I expect my research provides a baseline for future research to gain consensus on what to teach in the field of entrepreneurship and how.

I am looking for professors who hold different ranks as faculty, with and without entrepreneurial experience, to met me for and interview. In addition, I am asking them to complete two instruments and to send me their syllabi and curriculum vita. The two instruments are the Teaching Perspective and the Teaching Goals Inventories, two self-scored validated instruments commonly used in the field of education that should not take more than 20 minutes each to be completed. I want you to be one of the six cases I will choose to do this study. The information collected will be confidential.

To thank your time for participating in this research, I will score and email your teaching perspective index and your preferred teaching goals clusters attaching additional material to interpret your profiles that you can use to reflect and improve you teaching. Thank you for participating, this is important to advance entrepreneurship pedagogy.

Appendix B: Teaching Perspectives Inventory (TPI)

This inventory will help you identify your perspectives on teaching. As you consider the following statements, think of specific content and learners. If you are not primarily a teacher or instructor, think of a situation in which you usually have some educational responsibility.

Subscale BELIEFS

What do you believe about instructing or teaching? For each statement, select the response that best represents your Agreement or Disagreement.

(1) Strongly Disagree, (2) Disagree, (3) Neutral, (4) Agree, (5) Strongly Agree

1. Learning is enhanced by having predetermined objectives
2. To be an effective teacher, one must be an effective practitioner.
3. Most of all, learning depends on what one already knows.
4. It's important that I acknowledge learners' emotional reactions.
5. My teaching focuses on societal change, not the individual learner
6. Teachers should be virtuoso performers of their subject matter
7. The best learning comes from working alongside good practitioners
8. Teaching should focus on developing qualitative changes in thinking.
9. In my teaching, building self-confidence in learners is a priority.
10. Individual learning without social change is not enough.
11. Effective teachers must first be experts in their own subject areas.
12. Knowledge and its application cannot be separated.
13. Teaching should build upon what people already know.
14. In learning, people's effort should be rewarded as much as achievement.
15. For me, teaching is a moral act as much as an intellectual activity.

Subscale INTENTIONS

What do you try to accomplish in your instruction or teaching? For each statement, select the response that best represents how OFTEN it represents your educational intention.

(1) Never, (2) Rarely, (3) Sometimes, (4) Usually, (5) Always

16. My intent is to prepare people for examinations.
17. My intent is to demonstrate how to perform or work in real situations.
18. My intent is to help people develop more complex ways of reasoning.
19. My intent is to build people's self-confidence and self-esteem as learners.
20. My intent is to challenge people to seriously reconsider their values.
21. I expect people to master a lot of information related to the subject.
22. I expect people to know how to apply the subject matter in real settings.
23. I expect people to develop new ways of reasoning about the subject matter.
24. I expect people to enhance their self-esteem through my teaching.
25. I expect people to be committed to changing our society.

26. I want people to score well on examinations as a result of my teaching.
27. I want people to understand the realities of working inthe real world.
28. I want people to see how complex and inter-related things really are.
29. I want to provide a balance between caring and challenging as I teach.

Subscale ACTIONS

What do you do when instructing or teaching? For each statement, select the response that best represents how OFTEN you do that action.

(1) Never, (2) Rarely, (3) Sometimes, (4) Usually, (5) Always

30. I want to make apparent what people take for granted about society.
31. I cover the required content accurately and in the allotted time.
32. I link the subject matter with real settings of practice or application.
33. I ask a lot of questions while teaching.
34. I find something to compliment in everyone's work or contribution.
35. I use the subject matter as a way to teach about higher ideals.
36. My teaching is governed by the course objectives.
37. I model the skills and methods of good practice.
38. I challenge familiar ways of understanding the subject matter.
39. I encourage expressions of feeling and emotion.
40. I emphasize values more than knowledge in my teaching.
41. I make it very clear to people what they are to learn.
42. I see to it that novices learn from more experienced people.
43. I encourage people to challenge each others' thinking.
44. I share my own feelings and expect my learners to do the same.
45. I link instructional goals to necessary changes in society.

Appendix C: Teaching Goals Inventory (TGI)

Assess each goal's importance to what you deliberately aim to have your students accomplish, rather than the goal's general worthiness or overall importance to your institution's mission. There are no "right" or "wrong" answers; only personally more or less accurate ones. For each goal, choose only one response on the 1- to -5 rating scale. You may want to read quickly through all goals before rating their relative importance. In relation to the course you are focusing on, indicate whether each goal you rate is:

(1) Not applicable	a goal you never try to achieve
(2) Unimportant	a goal you rarely try to achieve
(3) Important	a goal you sometimes try to achieve
(4) Very Important	a goal you often try to achieve
(5) Essential	a goal you always/nearly always try to achieve

1) Develop ability to apply principles and generalizations already learned to new problems and situations
2) Develop analytic skills
3) Develop problem-solving skills
4) Develop ability to draw reasonable inferences from observations
5) Develop ability to synthesize and integrate information and ideas
6) Develop ability to think holistically to see the whole as well as the parts
7) Develop ability to think creatively
8) Develop ability to distinguish between fact and opinion
9. Improve skill at paying attention
10. Develop ability to concentrate
11. Improve memory skills
12. Improve listening skills
13. Improve speaking skills
14. Improve reading skills
15. Improve writing skills
16. Develop appropriate study skills, strategies, and habits
17. Improve mathematical skills
18) Learn terms and facts of this subject
19) Learn concepts and theories in this subject
20) Develop skill in using materials, tools, and/or technology central to this subject
21) Learn to understand perspectives and values of this subject
22) Prepare for transfer or graduate study
23) Learn techniques and methods used to gain new knowledge in this subject
24) Learn to evaluate methods and materials in this subject
25) Learn to appreciate important contributions to this subject
26) Develop an appreciation of the liberal arts and sciences
27) Develop an openness to new ideas
28) Develop an informed concern about contemporary social issues
29) Develop a commitment to exercise the rights and responsibilities of citizenship

30) Develop a lifelong love of learning
31) Develop aesthetic appreciations
32) Develop an informed historical perspective
33) Develop an informed understanding of the role of science and technology
34) Develop an informed appreciation of other cultures
35) Develop capacity to make informed ethical choices
36) Develop ability to work productively with others
37) Develop management skills
38) Develop leadership skills
39) Develop a commitment to accurate work
40) Develop a commitment to accurate work
41) Improve ability to organize and use time effectively
42) Develop a commitment to personal achievement
43) Develop ability to perform skillfully
44) Cultivate a sense of responsibility for ones own behavior
45) Improve self-esteem/self-confidence
46) Develop a commitment to ones own values
47) Develop respect for others
48) Cultivate emotional health and well-being
49) Cultivate physical health and well-being
50) Cultivate an active commitment to honesty
51) Develop capacity to think for oneself
52) Develop capacity to make wise decisions
53) In general, how do you see your primary role as a teacher?

a) Teaching students facts and principles of the subject matter
b) Providing a role model for students
c) Helping students develop higher-order thinking skills
d) Preparing students for jobs/careers
e) Fostering student development and personal growth
f) Helping students develop basic learning skill

Appendix D: Summaries of Teaching Perspectives / Daniel Pratt and John Collins

Transmission: *Effective teaching requires a substantial commitment to the content or subject matter.* Good teachers have mastery of the subject matter or content. It is a teacher's primary responsibility to represent the content accurately and efficiently for learners. It is the learner's responsibility to learn that content in its authorized or legitimate forms. Good teachers take learners systematically through sets of tasks that lead to content mastery. Such teachers provide clear objectives, adjust the pace of lecturing, make efficient use of class time, clarify misunderstandings, answer questions, provide timely feedback, correct errors, provide reviews, summarize what has been presented, direct students to appropriate resources, set high standards for achievement and develop objective means of assessing learning. Good teachers are enthusiastic about their content and convey that enthusiasm to their students, and for many learners, they are memorable presenters of their content.

Apprenticeship: *Effective teaching is a process of enculturating students into a set of social norms and ways of working.* Good teachers are highly skilled at what they teach. Whether in classrooms or at work sites, they are recognized for their expertise. Teachers must reveal the inner workings of skilled performance and must now translate it into accessible language and an ordered set of tasks. Learning tasks usually proceed from simple to complex, allowing for different points of observation and entry depending upon the learner's capability. Good teachers know what their learners can do on their own and what they can do with guidance and direction; namely, engaging learners' within their 'zone of development'. As learners mature and become more competent, the teacher's role changes, and over time, teachers offer less direction and give more responsibility as they progress from dependent learners to independent workers.

Developmental: *Effective teaching must be planned and conducted "from the learner's point of view".* Good teachers must understand how their learners think and reason about the content. The primary goal is to help learners develop increasingly complex and sophisticated cognitive structures for comprehending the content. The key to changing those structures lies in a combination of two skills: (a) effective questioning that challenges learners to move from relatively simple to more complex forms of thinking, and (b) 'bridging knowledge' which provides examples that are meaningful to the learner. Questions, problems, cases, and examples form the bridges that teachers use to transport learners from simpler ways of thinking and reasoning to new, more complex and sophisticated forms of reasoning and problem solving. Good teachers work hard to adapt their knowledge to each learner's level of understanding and ways of thinking.

Nurturing: *Effective teaching assumes that long-term, hard, persistent effort to achieve comes from the heart, as well as the head.* People are motivated and productive learners when they are working on issues or problems without fear of failure. Learners are nurtured by knowing that (a) they can succeed at learning if they give it a good try; (b) their achievement is a product of their

own effort and ability, rather than the benevolence of a teacher; and (c) their efforts to learn will be supported by their teacher and their peers. The more pressure to achieve, and the more difficult the material, the more important it is that there be such support for learning. Good teachers promote a climate of caring and trust, helping people set challenging but achievable goals, and providing encouragement and support, along with clear expectations and reasonable goals for all learners. They do not sacrifice self-efficacy or self-esteem for achievement. Therefore, the assessment of learning considers individual growth or progress as well as absolute achievement.

Social Reform: *Effective teaching seeks to change society in substantive ways.* From this point of view, the object of teaching is the collective rather than the individual. Good teachers awaken students to the values and ideologies that are embedded in texts and common practices within their discipline. Good teachers challenge the status quo and encourage students to consider the how learners are positioned and constructed in particular discourses and practices. To do so, common practices are analyzed and deconstructed for the ways in which they reproduce and maintain conditions deemed unacceptable. Class discussion is focused less on how knowledge has been created, and more by whom and for what purposes. Texts are interrogated for what is said and what is not said; what is included and what is excluded; who is represented and who is omitted from the dominant discourses within a field of study or practice. Students are encouraged to take a critical stance to give them power to take social action to improve their own lives; critical deconstruction, though central to this view, is not an end in itself.

Appendix E: Interview guide

1. Tell me about you educational background? What is your academic disciplinary major? How you define disciplinary major? What are your research interests?
2. Tell about your work experience? Have you started a business? Do you currently run a business?
3. Tell me how do you come to be teaching entrepreneurship? To be teaching at this department and at this university
4. Tell me how do you come to be teaching this class? How the name was chosen, the classroom, the number of sessions, and the number of students? Any constraint to do what you want to do in class?
5. How do you define entrepreneurship?
6. What do you expect your students learn in your class? How they learn?
7. Please describe the process through which the goal/s for your class was/were established?
8. Describe your teaching objectives?
9. Describe your learning objectives?
10. Please describe the process through which the content for your class was determined?
11. Please describe the process through which the teaching method/s for your class was/were selected?
12. How do you think your course facilitate entrepreneurship?
13. tell about your students
14. Tell about your students learning?
15. Tell about your students that have become entrepreneurs?
16. Which course do you usually teach? Why?
17. How your class helps or will help your students as entrepreneurs?

Appendix F: Case Study Protocol

Case Study Protocol

I. Purpose of the Study and Research Question

The purpose of this multiple case study is to explore why entrepreneurship instructors teach what they teach in the way they do it. The research question is how entrepreneurship instructors select their teaching goals, teaching methods, and teaching content.

II. Field procedures

1. Self introduction, explain the purpose of the study, the research questions, and why the participant has been invited to join the study;
2. Explain the human subject requirement and ask for signature on the informed consent forms
3. Start interview questions
4. Answer the questions of the participants
5. Thank the participants for joining the research
6. Inform him/her that follow-up steps might occur later on

III. Interview Guides (see Appendix F)

IV. Debrief after the interview

VITA

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