

Entrepreneurial Attitudes and Behaviors That Can Help Prepare Successful Change-Agents in Education

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This article explores how the preparation of educators committed to improving education can capitalize on entrepreneurship when broadly defined as “transforming ideas into enterprises that generate economic, intellectual and/or social value.” The article reports on the case-studies of six educators who have been successful change-agents in a variety of fields and positions using entrepreneurial concepts as a lens. A cross-case analysis of these individual case-studies enabled us to identify specific attitudes and behaviors considered typical of entrepreneurs that contributed to these educators’ success. The article reports on key findings from the cross-case analysis as well as some implications for the preparation of educators, suggesting the value of exposing new educators, as well as educators already in the field, to the entrepreneurial practices thus identified in order to prepare them to become more effective agents of change.

INTRODUCTION

With public education facing increasing problems, it is clear that educators committed to excellence and equity in education cannot be content with simply performing their assigned jobs competently. Rather, today’s educators are increasingly called to become “agents of change” in order to better meet the needs

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of the students, families, and communities they serve and, thus, fulfill society's growing expectations about educators' civic responsibility.

Recognizing that radical changes are needed in order to improve education is an important first step, but it is not enough. We also need educators who are willing and capable to lead such changes. Yet educators—whether they are teachers, counselors, administrators, university professors, independent consultants, or professionals working in a variety of informal education settings—usually receive little formal preparation to help them to effectively initiate change. This article draws from the field of entrepreneurship to suggest new ideas and approaches to address this need.

Connections between entrepreneurship and education are just beginning to be recognized in the literature, as documented in a recent literature review on entrepreneurship in education (Rios-Aguilar et al., 2006). Some of the studies identified in this literature review have begun to make connections between entrepreneurship and education at the conceptual level (Brown & Cornwall, 2000; Hentschke & Caldwell, 2005; Hess, 2006). Others have provided images of what it means to be entrepreneurial in the field of education, and the benefits that can be derived by doing so, by reporting the story of individuals who have been entrepreneurial in the field of education (Fisher & Koch, 2004; Leisey & Lavaroni, 2000). However, only a few of these contributions so far have involved empirical research studies. Among the exceptions we would like to mention a study by Eyal and Inbar (2003), where they developed a multi-dimensional model for school entrepreneurship and a method for measuring the extent of such entrepreneurship; a study by Eyal and Kark (2004), examining the relationships between transformational leadership and entrepreneurship in Israel's K-12 schools; and Rankin's (2002) study focusing on the entrepreneurial role played by the community college president.

The study reported in this article fills a gap in the current literature by beginning to explore how educators could use entrepreneurial attitudes and behaviors to be more effective change-agents and, as a result, add more value to their organizations and the clients they serve. More specifically, we will draw from the in-depth case-studies of six educators widely recognized in our community for the successful and worthwhile innovations they initiated. Based on the results of a systematic cross-case analysis, we will report on a few "entrepreneurial" attitudes and behaviors exhibited by most of these educators that contributed to their success as change-agents, and then briefly discuss the implications of these findings for the preparation of educators. Indeed, our findings reveal some striking parallels between the practices of the "entrepreneurial educators" we studied and business entrepreneurs, as well as some interesting differences. Thus, while recognizing the significant differences between educational and business contexts, this study establishes on an empirical basis the relevance of entrepreneurship for education and the preparation of new educators. More specifically, it suggests the potential of specific entrepreneurial attitudes and behaviors to improve the effectiveness of change-

1. Transforming ideas into enterprises that generate economic, intellectual, and social value (*Green, 2005*)
2. Pursuing and carrying out innovations (*Shumpeter*)
3. Perceiving an opportunity and creating an organization to pursue it (*Bygrave, 2004*)
4. Pursuing an opportunity without regard to resources currently controlled (*Stevenson & Jarillo, 1990*)
5. Specializing in taking judgmental decisions about the coordination of scarce resources (*Casson, 1982*)
6. Being able to evaluate and minimize risk within an organization (*Palmer, 1971*)

Figure 1: Alternative definitions of entrepreneurship.

agents in education and, thus, the value of exposing new educators in particular to relevant concepts and findings from the field of entrepreneurship.

BUILDING ON THE LITERATURE ON ENTREPRENEURSHIP

Recognizing the potential of entrepreneurship to help educators become more effective agents of change requires first of all an appreciation that entrepreneurship encompasses much more than just “starting new businesses.” A number of alternative definitions of entrepreneurship can be found in the literature—as illustrated by the selection reported in Figure 1.

Special kinds of entrepreneurs have also been more recently identified in the entrepreneurship literature. Of particular interest for education is the concept of *social entrepreneur*—that is, an entrepreneur devoted to creating organizations to solve social problems, rather than to generate economic value (e.g., Bornstein, 2004; Leadbeater, 1997; Theobald, 1987), who makes “innovative use and combination of resources to pursue opportunities to catalyze social change and/or address social needs” (Mair & Marti, 2006, p. 36). This begins to challenge the common perception that entrepreneurship is all about making profits (although this may indeed be the main driving force for most business entrepreneurs) and thus irrelevant to education (where the goal is instead to serve/help and support human development). The concept of *intrapreneur* (Pinchot, 1986)—that is, an individual who is employed by an organization and yet is responsible for starting new ventures within that organization— is also of great appeal and relevance to education, given that most educators are employees within educational institutions. In what follows, we will use the term “entrepreneur” comprehensively to include these special types as well.

This multiplicity of definitions of entrepreneurship may at first be puzzling—and some authors, like Bygrave and Hoffer (1991), have identified the lack of an agreed-upon definition of entrepreneurship as a serious shortcoming for the development of entrepreneurship as a field. In contrast, we have found it useful. First of all, regardless of their differences, all these definitions suggest that entrepreneurship should not be limited to the starting of new businesses, but rather it is a concept that can be applied more broadly. Furthermore, each definition highlights important and complementary elements of entrepreneurship that are worth considering as we explore the relevance of this concept for educators.

Building on these definitions as well as the findings of an extensive literature review (as summarized in Rios-Aguilar, Khan, and Borasi, 2006), we would like to highlight the following concepts and findings that we found especially useful and used to inform our study:

- a) *Vision*. Having a clear vision and being able to effectively share it with others has been identified in the literature as one of the key characteristics of entrepreneurs in general, and social entrepreneurs in particular. For example, Bygrave (2004) includes *Dream*—a term he chose to capture the idea of having a clear vision and being able to implement it—as the first of ten elements he identifies as most characteristic of entrepreneurs. Bornstein (2004) describes social entrepreneurs as “people with new ideas to address major problems who are relentless in the pursuit of their visions” (p. 1), individuals who are “possessed, *really* possessed by an idea” (p. 117) and are driven by a strong “ethical impetus” (p. 238).
- b) *Engaging in innovations*. Shumpeter’s seminal definition (see definition No. 2 in Figure 1) places engagement in innovation at the very core of what entrepreneurs do. Furthermore, this definition suggests that, in addition to developing a major enterprise (e.g., a new business, organization, or program), entrepreneurs may engage in “smaller” innovations—i.e., specific initiatives that add value—as an integral part of their everyday activity. Innovativeness was also identified as a characteristic of entrepreneurs by early empirical research on entrepreneurs’ traits (e.g., Hornaday, 1982).
- c) *Dealing with opportunities*. Perceiving and pursuing opportunities is explicitly mentioned in two of the definitions of entrepreneurship reported in Figure 1 (Bygrave’s—No. 3—and Stevenson & Jarillo’s—No. 4). Indeed, the literature on entrepreneurship suggests that one of the things that most characterizes entrepreneurs is their unique approach to opportunities, which involves both proactively seeking and being ready to seize opportunities. Indeed, a number of behaviors that are considered characteristics of entrepreneurs—such as quick decision-making and greater willingness to take risks (as discussed later)—are associated with what it takes to be opportunity-driven.
- d) *Dealing with risk*. The centrality of risk-taking in the work of entrepreneurs is suggested by Palmer’s definition (No. 6 in Figure 1), which focuses on this specific aspect. Research studies have been conducted on entrepreneurs’

risk-taking propensity (e.g., Brockhaus, 1982; Busenick, 1999; Palich & Bagby, 1995). Interestingly, while other people see entrepreneurs as great risk-takers, some of this research has shown (Busenick, 1999) that most entrepreneurs would not characterize themselves as such; rather, they evaluate risk differently because of a combination of their knowledge, experience and high self-efficacy. Entrepreneurs also seem to give greater weight to the risk of “missing the boat” (i.e., missing an opportunity and the potential benefits it could produce) than the risk of “sinking the boat” (i.e., failing and its consequences)—as suggested by Brown & Cornwall (2000), who also point out that this behavior is counter to the incentives currently in place in most educational institutions.

- e) *Dealing with resources.* Financial considerations are at the core of what business entrepreneurs do, as not only do they need to secure the necessary funding for any initiative they want to launch, but also new start-up businesses usually have to operate with very little funding (as captured by Casson’s definition—No. 5 in Figure 1—which focuses on the management of scarce resources). Furthermore, Stevenson and Jarillo’s definition (No. 4 in Figure 1) points to entrepreneurs’ unusual way of dealing with resources—i.e., “pursuing opportunities without regard to the resources they currently control”. This does not mean that entrepreneurs are reckless when it comes to funding, but rather that they are confident that they will find a way to secure the necessary resources—by taking on new debt, bringing in new partners, etc.—if an initiative is worth pursuing.
- f) *Decision-making and problem-solving.* Engaging in innovation involves a lot of decision-making and problem-solving. Entrepreneurs are characterized in the literature as having a unique style of decision-making and problem-solving (e.g., Hornaday, 1982). First of all, as they are aware of the importance of not missing a window of opportunity, entrepreneurs tend to make decisions and solve problems quickly; furthermore, they are willing to do so with somewhat incomplete information if needed. Even more importantly, once they reach a decision or solution they implement it without delay. These characteristics are captured as *decisiveness* in Bygrave’s (2004) list of ten key characteristics of entrepreneurs. Entrepreneurs are also likely to persist despite the many obstacles they may encounter (identified in Bygrave’s list as *determination*) and to consider “out-of-the-box” solutions for problems.
- g) *Dealing with growth.* Expansion is a key drive for entrepreneurs, whether it means continuing to grow a business or organization to achieve greater revenues and success (e.g., Kelley & Marram, 2004) or expanding one’s sphere of influence to maximize the impact of their ideas/solutions as in the case of social entrepreneurs (Bornstein, 2004). The literature on entrepreneurship also points out how the size of an organization affects leadership structure and roles. As entrepreneurs grow their businesses, they also need to change their role and responsibilities. At key transition points,

the leader of the organization will need to trade off some of his/her direct contact with—and, thus, ability to influence—the operations to take on higher level managerial and decision-making roles (Kelley & Marram, 2004). It is worth noting that not all entrepreneurs are able to make this shift successfully, and it is not uncommon for a successful entrepreneur to instead choose to pass on the leadership to someone else at a certain point and start all over again with a new start-up company.

It is also worth noting that the work on leadership and organizational development has relevance to these ideas of change and innovation in education. Indeed, the seminal work in organization development conducted by Senge and others in the 1990s offers some interesting parallels and contributions. Senge (1990) argues that to bring about change in a ‘learning organization,’ leaders must have a clear personal vision and must build a shared vision or common purpose in the organization; must develop shared discussion to generate collective learning; and must encourage organizational members to understand the underlying structures and relationships. Furthermore, he argues that rather than continuing to do the same thing organizational members often need a profound change in their thinking. Similarly, Argyris and Schon (1996) contend that organizations must undergo a process of “double loop learning” in which members of the organization set new priorities and develop strategies to reach new levels of learning. Finally, Schein (1996) argues that leaders must shape the culture of the organization and successfully deal with the environment to achieve organizational goals and improve organizational effectiveness.

Some researchers (Vecchio, 2003) have argued that entrepreneurial skills or traits are not distinct from those exhibited by leaders, but rather entrepreneurship is a type of leadership that occurs in specific settings. Others assert that leadership and entrepreneurship overlap but are distinguishable (Eyal & Kark, 2004; Czariawska-Joerges & Wolff, 1991). Perhaps the clearest distinction is made by Czariawska-Joerges and Wolff (1991) who argue that “entrepreneurship mainly fits contexts which are new and cannot be dealt with by means of experience or routine. Entrepreneurship is leadership in exceptional situations” (p. 533). Regardless of how this controversy is eventually resolved, we believe that educational leaders can benefit from entrepreneurial concepts and ideas as those summarized thus far—as demonstrated by the stories of the educators in leadership positions among our six case-studies.

METHODOLOGY

This study is based on a multiple case-study design. According to Yin (2003), the case-study approach is a valuable tool when context is important, multiple data sources are used, and theory guides data collection and analysis. In this study, we employed case studies for exploratory purposes to address gaps in the literature

about how entrepreneurship may relate to the field of education and the preparation of educators. More specifically, we used our case studies to address the following research questions:

1. What forms can entrepreneurship take on in education, across different fields and position, and what value can it add?
2. What “entrepreneurial” attitudes and behaviors do successful change-agents in education employ, and how?

Data Sources and Data Collection. The study involves case studies of six “entrepreneurial educators.” Building on Green’s (2005) definition of entrepreneurship (No. 1 in Figure 1), and a broad conception of education as promoting learning and development across the life span and in a variety of contexts (not just in K-12 schools), we have defined *entrepreneurial educators* as “educators who consistently transform ideas into initiatives that generate value for their organization and the clients they serve.” Within the constraints of this definition, the identification of our case-study subjects was driven by two further considerations:

- We sought subjects who had engaged in numerous and transformative innovations.
- We sought diversity across subjects, especially with respect to their fields of specializations within education, the context within which they worked, and their role/position in the organization.

After identifying a list of local educators with a reputation for being successful innovators and agents of change, we conducted an initial interview with them to evaluate whether their “story” seemed rich enough to warrant in-depth study. Our final sample of case-study subjects included a former principal of an urban public elementary school (*Urban principal* hereafter); the assistant superintendent of a suburban school district, who had previously been a principal in the same school district (*Suburban school leader*); a teacher in an urban public elementary school (*Teacher*); the dean of a professional school within a private university (*Dean*); the executive director of a nonprofit organization providing learning and employment opportunities to individuals with disabilities (*Nonprofit CEO*); and the former owner of a for-profit company providing specialized educational services to corporations and professional organizations (*Traditional entrepreneur*).

Each subject was assigned to a team of two to three researchers for data collection and analysis. One member in each team had opportunities to observe and interact professionally with the subject in the past, and thus could contribute additional insights and information from that perspective.

A rich set of qualitative data was collected for each case study, including relevant artifacts (such as brochures or reports about specific initiatives, relevant news media, business plans/ grant proposal, the organization’s website, just to mention a few) as well as verbatim transcripts from the following sequence of interviews:

- 1) A preliminary interview with the subject, to gather background information and to identify particular innovations s/he initiated.

- 2) A second interview with the subject, focusing on reconstructing the process followed in the case of a few specific innovations (as identified in the previous interview).
- 3) A third interview with the subject, focusing on gathering information about the attitudes, behaviors and skills s/he perceived as most important to accomplish her/his mission, as well as characteristics of the environment that most affected her/his performance.
- 4) Interviews with at least one of the subject's close collaborators, to gather their impressions about the attitudes, behaviors, and skills demonstrated by the subject as well as to triangulate information provided by the subject on specific initiatives.
- 5) (*when needed*) A fourth interview with the subject, to follow up on specific issues raised by previous interviews and their preliminary analysis.

Each of these interviews was guided by a detailed protocol to ensure consistency across case studies and lasted about 1.5 hours.

Data Analysis. All these data were coded through an iterative process using conceptual categories derived from the literature on entrepreneurship, yet also allowing for new codes to emerge as a result of the analysis (see Appendix for a list of the codes used). Given the large size of the research team, our training process involved training team members on the coding process, including a step in which we all coded the same document and then met to discuss any differences in interpretation of the codes. We used Nvivo7 to record our coding of the data and generate reports for each code. A "case-study database" (Yin, 2003) was then prepared for each subject by synthesizing the key information collected with respect to specific categories related to our coding. For the cross-case analysis, we used the case-study databases and the Nvivo7 data to identify cross-cutting themes across our six subjects.

TRUSTWORTHINESS

Several strategies were built into the study design to meet standards for validity and reliability, as discussed by Yin (2003). First, the team used multiple sources of evidence for triangulation purposes, including interviews with various individuals, artifacts, and in some cases reports of direct observations. Second, the analysis process included a subject check. The research team also tried to minimize errors and biases and, as a result, meet standards for reliability through the use of case-study protocols. In addition, having at least two people involved in the data collection and analysis of each case-study helped to minimize the risk of individual interpretations and biases.

KEY FINDINGS

To address the first research question—i.e., "*What forms can entrepreneurship take on in education, across different fields and position, and what value can it add?*"—

we provide brief profiles of the six entrepreneurial educators we studied. Each profile is intended to give a sense of the context in which the educator operated, the kinds of innovations s/he engaged in, the value these innovations contributed to the institution and its clients, and how each subject went about the process of initiating one specific innovation. These profiles will also provide a context for the findings related to our second research question, reported in the next section.

Entrepreneurship in Action: Profiles of Six Entrepreneurial Educators

URBAN PRINCIPAL

This subject's decision to become a school administrator after 15 years as a successful classroom teacher was motivated by the desire to impact more children (what he referred to as "multiplying the effect"). He certainly achieved this goal, as according to some close collaborators in his 12-year tenure as principal he was able to "turn around" his elementary school, one of the poorest and most dysfunctional within an urban school district, into a place where both students and teachers wanted to be, and that offered some nontraditional yet very valuable support services to the students and their families.

This transformation was the result of a number of innovative and often unconventional initiatives, including changes in personnel and expectations, the introduction of a new preschool program for his students (which required him to build a new facility), the creation of a health clinic within his school, a partnership with a local university to better prepare teachers for urban schools (which allowed him to hire graduates from this program), and starting a local movement to control lead poisoning once he discovered how this affected many of his students.

The following example, which happened early on in his principalship, well illustrates how this Urban principal went about some of his unusual innovations. Soon after he started his job as principal, he immediately recognized the need to enhance the early childhood education of his students, as a critical way to "level the playing field" for them. However, his initial request to add a preschool program to his school was denied on the grounds that he did not have enough room for it. To solve this problem, he set out to build a preschool building on his campus! Making this dream a reality took incredible vision, perseverance, risk-taking, and collaboration. He looked for and secured funding from a major corporation in the city. He then partnered with a nearby technical school in the district to have their high school students build the frame structures for the new preschool and move it to his campus when it was ready. Once the building was delivered, based on extensive analysis he chose a Montessori preschool program, and his newly founded Montessori school was the first preschool in the state to receive national accreditation. Securing support from the district office for this initiative was not easy, but he was not afraid to even put his principalship on the line to secure

approval, as he felt that without the support offered by a high-quality preschool program his students had little chance to succeed.

SUBURBAN SCHOOL LEADER

This subject is another remarkable example of a transformational school leader, as demonstrated by the changes she was able to institute in her school system, first at the school level as the principal of one of the elementary schools for nine years (where in the early 1980s she developed one of the first school-wide reading curriculum and established a new way to evaluate tenured teachers through a teacher-led portfolio review rather than observations), and then at the district level as assistant superintendent for instruction for another nine years (where she led the creation of district-wide curricula in all key subject areas, as well as mathematics reform at the K-12 level by participating in a major grant funded by the National Science Foundation). Many of her innovations had a lasting impact on the district, especially when she was able to “institutionalize” them by making them part of the everyday operations (as it was the case for example with the portfolio evaluation of teachers and the process of district-wide curriculum writing).

These changes, as well as her entire practice, have been guided by her vision that education should foster and enhance students’ ability to think and problem solve and do so in a way that honors individuality—educating them for participation in a democracy. The strength of this school leader was not only her drive and ability to initiate worthwhile innovations, but even more importantly her capacity to bring them to fruition, by obtaining the buy-in of different constituencies, putting the right people in charge, finding and/or leveraging the necessary resources, and setting up systems to sustain those innovations overtime.

Rather than reconstruct how she developed a specific innovation, in this case we would like to report on this school leader’s insightful analysis of the differences between initiating and carrying out innovations as a principal versus an assistant superintendent. As a principal, she was more able to be the person in charge, who could directly initiate and oversee the new initiatives she thought were needed. She also felt that her teachers and staff looked at her as *the* leader, and thus she could model for them the attitudes and practices she was hoping to institute. Her decision to take on the assistant superintendent position was motivated by the desire to impact more students and teachers, and make more lasting changes in the district. While she was able to achieve these goals, she also realized that in her new position she was a lot more “distant from the action,” and needed to depend more on other people to lead specific initiatives. Because the personnel in the district looked at the superintendent as *the* leader, she also felt that she could not affect the culture of the organization as she had been able to do in her school in her role as principal.

TEACHER

The entrepreneurial teacher we chose to study is a veteran elementary school teacher who has shown resourcefulness and determination in providing her urban students with the learning experiences they needed to “level the playing field” and be successful in both school and life. Her success is documented not only by her students’ ability to regularly score much better on state tests than their school average, but also by receiving prestigious awards such as New York Teacher of the Year and Disney Teacher.

Her innovations—which are too numerous for us to provide a comprehensive list—included the ongoing development of innovative instructional units and extra curricular activities for her students (including a multiday field trip at the end of each year, to enable many of her 2nd to 4th graders to go outside their city for the first time), the early adoption of technologies such as Internet and video-conferencing (often despite her school’s inability to provide access to the necessary equipment), and the continuous reflection on and improvement of her pedagogical practices. She also felt compelled to extend her impact beyond her classroom through mentoring student teachers, presenting at conferences on her successful experiences, and even publishing elementary science instructional materials based on her classroom experiences.

The following initiative provides a good illustration of the vision, creativity, and overall persistency that this Teacher needs to constantly employ in order to successfully pursue her many and diverse innovations. Early in her career, she applied for and secured a \$1,000 grant to produce with her 4-5th grade students large “New York State-shaped” cookie cutters to shape cookies that elementary students could decorate like a map and use to learn about geographical features of their state. The idea for this project first came to her as she read an article suggesting this activity and, since she could not find a cookie cutter big enough to carry out the suggested activities, she decided she would make one and sell it to other teachers. She had also initially intended to sell the cookie cutters thus produced as a way to support other classroom activities (such as their end-of-year field trip), only to discover—after the grant had been awarded—that the regulations would not permit her to sell this kind of product. However, she came up with the idea of producing a teacher’s guide to explain how to use the cookie cutters for a geography lesson, and she got the granting agency’s permission to sell these guides (along with a “free” cookie cutter!). Once this initial obstacle was overcome, she successfully engaged her students not only in the production of the cookie cutters and the writing of the accompanying teacher’s guide, but also took her class through some of the key steps required to create a company that could produce and sell these materials—thus transforming this activity into an integrated unit addressing literacy, mathematics, geography, and business. This project required her to forge a new partnership with a local high school technology teacher and his students; as she was looking for how

to produce the cookie cutters, she identified which high schools in her district had the needed equipment and did not hesitate calling the technology teacher in one of these schools and suggesting that they collaborate in this project.

THE DEAN OF A PROFESSIONAL SCHOOL WITHIN A PRIVATE RESEARCH UNIVERSITY

When this subject was asked to take on the leadership of her School of Nursing, the school was experiencing some very difficult times. They were running a serious budget deficit, a number of programs were operating in deficit, there was not much innovation going on, and faculty productivity and morale was quite low. Indeed, the situation was so serious that the school was risking closure. Her nine-year tenure as dean resulted in a complete “turn around” of the school, as documented by tangible results such as resolving the original budget deficit and almost doubling the school’s annual budget; moving the school from #28 to #13 in ranking with respect to NIH funding; increasing faculty by about 40% and students by over 30%; and receiving the Empire State Gold Certification, an award that recognizes educational institutions showing outstanding leadership and highly effective programs and practices.

This transformation was the result of a number of radical innovations this dean initiated, which included the closure of some programs (such as the traditional nursing undergraduate program) and the creation of new innovative ones (such as an “accelerated” one-year program designed to prepare students with a bachelor’s degree in other fields and a Master in Nursing Leadership); starting a few successful for-profit enterprises—such as a travel health clinic and a Center for Life-long Learning offering continuing education courses to nurses; establishing the first Center for Nursing Entrepreneurship in the country; and the building of a new instructional wing.

The development of the new program in Nursing Leadership allows us to provide a glimpse into the process this Dean followed in pursuing these many significant innovations. The idea for this new master-level program came from identifying a potential new need for nurses to take on leadership roles in areas such as health promotion and disaster management, based on the innovative practice taking place in the nursing school’s newly developed for-profit enterprises. The Dean identified this as one of her riskiest initiatives because the new program would “prepare graduates for jobs that were not yet there.” Yet she trusted her instincts and, after having analyzed projected costs and revenues, decided to move forward with the new program. To minimize start-up costs for the new program (and, thus, financial risks), courses were initially taught as “extra load” by current faculty (including the Dean herself) and by a few adjunct instructors hired on short-term contracts. A first challenge in launching and implementing this new program came from having embarked in this initiative without the right “champion” to lead it; while a faculty member with relevant expertise was able to successfully write the

initial proposal to the State, she was too busy with other projects to give her full attention to this program once launched. So, a new person had to be hired to take on the leadership, and this slowed down progress considerably. An additional challenge and decision point came as in the first two years the number of students enrolled in this new program were lower than expected; however, the Dean decided to give it a try for a couple more years, realizing that it would take a while before such a novel program could take hold—as indeed proved to be the case. This program is now very successful, and has provided the basis to develop one of the first Doctor of Nursing Practice programs in the nation.

NONPROFIT CEO

Over her 20-year tenure at the helm of an organization dedicated to serve blind and visually impaired individuals, this Nonprofit CEO has transformed her organization and multiplied its impact. This was the result of a number of bold moves, starting with the creation of new for-profit ventures that provided both meaningful employment to visually impaired people and new resources to enhance the specialized training and other services offered by her organization, and leading to a reconceived mission for the organization (from just assisting people who are blind and visually impaired to become self-sufficient, to also empowering them to contribute to their families and communities). Now her organization employs more than one hundred blind or visually impaired individuals each year in its various “business lines,” and offers a wide array of training programs and support services for visually impaired individuals and their families (which are almost entirely supported by the revenues generated by the business lines and thus less dependent on the unavoidable uncertainty of grants and gifts).

To illustrate how this Nonprofit CEO approaches the development of specific innovations, we chose to briefly tell the story of how she established a new partnership with Goodwill. The idea for this initiative came about as she was visiting—in one of her many trips to discover new opportunities to serve her clientele—a Goodwill Store in another town where she saw people with severe disabilities sorting clothes and doing other tasks. She immediately realized that visually impaired people could do the same, and some initial inquiries also revealed that there were no Goodwill Stores in her town (or, in fact, in any but two other cities in her state). As she proposed to the Board her idea to establish a partnership with Goodwill, the first reaction was negative, as they were concerned about the potential implications of this association—especially as it would involve an affiliation with Goodwill that would require changing the very name of their organization. As an alternative, they suggested that they start their own thrift shop; however, the Nonprofit CEO convinced them that, in order to succeed in this venture, they really needed the expertise and recognition provided by Goodwill, and in the end they agreed to take

that risk. The two stores they decided to open had a difficult beginning, as over the first seven years they lost a total of \$700,000, although they also were able to further their mission by employing a number of blind and visually impaired individuals in the store; after a change in management, though, they were able to turn it around and now they have not only recovered all their initial losses, but make a profit of about \$500,000 a year. Looking back, the CEO identified the main problem in this case as having initially put the wrong person in charge of this initiative.

TRADITIONAL ENTREPRENEUR

A former history teacher, our Traditional entrepreneur decided after several years of teaching to join a small firm providing specialized professional development services for companies; soon after, as the company was on the verge of bankruptcy, she and a colleague decided to buy the company and try to turn it around—and they did! Twenty years later, the company has grown considerably and is still very successful, having reached 35 employees and met their financial growth goals each year. As taking on a failing business, turning it around, and growing it, is one of the classic examples of developing an enterprise, how she and her partner did this provides us with insights on the entrepreneurial process as traditionally defined—and an interesting point of comparison with the innovations described in the previous case studies.

As the case-study subject and her partner realized that the company they were working for was in financial trouble and likely to close, they had only about a week to decide whether there was something they could do about it. The company had over half a million dollar of debt, but they thought they could turn it around by changing its focus and organizational structure. They believed there could be a great demand for organizing productive conferences/ meetings for professional organizations and corporations, as most of the meetings they attended were poorly run and thus rarely resulted in any learning for the participants. Despite the risk involved in taking on a company with such a large debt, the subject and her partner realized that if they did not do anything they would be out of a job anyway, and furthermore, based on their personal experience and knowledge of the market, both had a lot of confidence in their vision for the company, their ability to carry it out and the market opportunities for well-organized meetings.

As they refocused the company to organizing certain types of meetings, they hand-picked among the existing staff those whose skills fit the new focus and whose attitudes could help them turn the business around. To ensure that the staff would be fully committed to the success of the company and develop fiscally responsible behaviors, the two new owners also devised a compensation system including some profit sharing (based on a *Wall Street Journal* article she had read). Immediate and drastic reduction of expenses was also called for in order to reduce the huge debt

they had assumed, which included a temporary cut in all staff's salaries (starting with the new owners). It took the company about a year before it repaid the debt and started to earn a profit.

Once established, however, the company did not stop their engagement with innovation, as they needed to continue to stay at the cutting edge in order to be competitive and successful. In addition to proactively seeking contracts that challenged them to innovate and grow, a few years later the company undertook a major reorganization as they decided to add a whole division (and a third partner) to be able to capitalize on recent technology developments that could revolutionize the way conferences were held.

Entrepreneurial Attitudes and Behaviors Employed

When looking systematically across the six case studies, using as a lens the categories identified in the literature review section and our coding scheme (see Appendix), we identified some themes that will allow to address our second research question: *What “entrepreneurial” attitudes and behaviors do successful change-agents in education employ, and how?*

DRIVEN BY A VISION

Perhaps the most clear-cutting theme across our six educational entrepreneurs is that all of them were driven by a particular vision or philosophy that was not only critical to their entrepreneurial initiatives but really shaped everything that they did and their “way of being.” For example, the Nonprofit CEO consistently discussed her efforts “to prepare and empower people who are blind or visually impaired for self-sufficiency and effective contributions to their families and communities.” Similarly, the Urban principal was described as someone who had a “much larger purpose in life,” as he tried to holistically meet the needs of underserved students in order to enable them to learn and succeed in life. Like social entrepreneurs, these educators were motivated by some greater purpose, whether trying to change the way nurses were trained, providing opportunities to underserved students, educating students for democracy, or empowering individuals with severe disabilities. Even the Traditional entrepreneur, who as a business entrepreneur was also motivated by profit-making and expanding the company, clearly stated that achieving her vision for the company mattered to her more than simply making money.

In addition, most of these educators truly felt a sense of urgency linked to this vision. As such, their passion and persistence around their work was integrally linked to their underlying goals and philosophy. For example, her colleagues described the Nonprofit CEO as someone who did not do something halfway and always used the central goal of elevating individuals who were blind and visually

impaired to guide her work; one collaborator also mentioned that her tenacity was what made her successful, because she would not give up on an initiative until she had successfully implemented it. According to one of the Urban principal's collaborators, "once he focuses on something that needs to be done, [he] almost attacks it with such a vengeance and such an aggressiveness that if you're not on board with him you really need to let him know." He viewed every project or initiative as one that would further his goal and remarked that it took a lot of courage and perseverance to be successful.

These entrepreneurial educators were also very good at persuasively communicating the importance of their initiatives in the context of their vision. Perhaps this ability, combined with their passion and persistency, is what enabled them to gain buy-in from others. Several collaborators mentioned that these educators could convince people of just about anything. In discussing the Teacher, one collaborator noted, "She is very determined and people who see her passion are willing to buy into her vision." Similarly, the Urban principal was described as one of the most engaging people this person had ever met, stating that "he could relate to any culture, any level." The educators themselves also believed that their honesty and passion benefited them in these circumstances.

RELENTLESSLY ENGAGING IN INNOVATIONS

Our case-studies confirmed that effectively initiating and carrying out value-adding innovations was at the very core of all the six subjects' activity and a main contributor to their success. Despite their brevity, the vignettes provided earlier document the number of different initiatives that each of these change-agents initiated. Furthermore, those stories point out that these innovations did not always involve major and transformational changes, but rather were often "smaller" initiatives to address specific shortcomings or take advantage of opportunities to improve the overall quality of the services provided to their clients.

Our subjects differed somewhat, however, in terms of the role they played in coming up with the idea for these innovations. Two of the educators—the Urban principal and the Teacher—considered themselves and were considered by others to be "inventors," always coming up with new ideas that they would initiate to further their mission. In contrast, the Dean and the Suburban school leader reported that they mostly recognized and promoted good ideas brought to them by other individuals within their organization. The Nonprofit CEO had a more combined approach, as she identified herself as the one who initiated most of the ideas—because she always had her "radar" on, scanning her environment—but she also pointed out that she was always listening to the ideas of her employees and determining ways that she could build on or adapt these. The insights shared by the Suburban school leader, as she reflected about the fundamental differences in her

roles as principal and assistant superintendent in the same district, suggest that these differences may be a function of one's position in the organization rather than personal inclination:

[as a principal] at XX elementary school I was a lightning rod, I was a proposer. [As assistant superintendent,] I'm much more of a permission granter, resource provider, recognizer of good ideas brought in from other people. ... I cannot affect change as directly at this role as I could with the principalship. Here, I'm completely dependent on others. As a principal, you're dependent on your teachers always, but I had daily contact with them, I could nudge that culture, I could move their thinking, I could help them get to the place where I thought we should all be. But here, I can't do that, I'm isolated. So I need other people to do that. (Suburban school leader)

BEING ALERT TO AND READY TO SEIZE OPPORTUNITIES

All the six entrepreneurial educators we studied were exceptional at recognizing and seizing opportunities—an element at the core of the entrepreneurial process, as identified earlier in our literature review section. They were all very aware of their environment and the field, and continually scanned it to identify unmet needs of their clients as well as new ideas for addressing those needs. For example, the Dean, Suburban school leader and Teacher all pointed out the importance for them to go to conferences and read a lot, to stay abreast with the new developments in their and other fields. The Nonprofit CEO was constantly visiting programs and agencies throughout the United States to gather new ideas, and described those experiences as follows:

You have your antenna up and you are out there scanning the environment for what's going on and always being alert to opportunities and then taking advantage of those opportunities ... you have to cast a big net to catch a few fish. (Nonprofit CEO).

While being alert to and able to recognize opportunities was critical to their activity, even more important was the way they reacted once they identified an opportunity that they thought could help them pursue their vision. They were all willing to make quick decisions so as not to miss the "window of opportunity," to commit to pursuing the opportunity even if they did not currently have all the resources needed to do so, and to take what other people might consider as significant risks in order to do so—all elements that we will address in more detail in the following subsections.

All six subjects also agreed that they usually recognized more opportunities than they would have the time, resources and capacity to follow. Therefore, they all recognized that evaluating whether an opportunity was worth or not worth pursuing

was a very important part of their practice. Interestingly, only two of the subjects—the Dean and the Traditional entrepreneur—had established some systematic way to go about this evaluation. Ultimately, though, all subjects seemed to rely heavily on two things to make the final decision: (a) the extent to which the opportunity would enable them to pursue their vision, and (b) their “gut instincts.” For example, the Teacher reported asking herself the following questions: “Can I get a lot of mileage out of academics, and can I get mileage in terms of kids being successful and having opportunities beyond what they would normally do?” Similarly, the Nonprofit CEO considered whether it was important to the mission and important to the margin before moving forward with a specific initiative. The reference to relying on one’s “gut instincts” may be a little deceiving, as in all cases such instincts had been honed by extensive experience and knowledge of one’s institution and field, and perhaps the expression was used to describe the result of a holistic evaluation of the situation that the subject was not able to fully articulate or explain.

NOT CONSTRAINED BY RESOURCES

An interesting commonality between the entrepreneurial educators we studied and more traditional entrepreneurs in the business world is that none of them let their available resources determine their decision of whether to move forward with a specific innovation—consistent with Stevenson’s definition of entrepreneurship as “a process by which individuals pursue opportunities without regard to the resources they currently control” (No. 4 in Figure 1). Perhaps linked to their high levels of self-efficacy and past successes, our six subjects all seemed to believe that they would not have difficulty acquiring the needed resources once they had determined that a certain innovation was worth undertaking, as illustrated by the following representative quotes:

I’m the type of person that says yes first, and then figures out how to do it later. (Nonprofit CEO)

Don’t worry about the money. [If] you have a good idea, people will support you. (Urban Principal)

Whether you have the resources, whether you have the faculty ... you can deal with those issues, those are easy. (Dean)

This uncommon attitude towards resources did not stem from an unconditional optimism, but rather can be linked to the confidence—based on past experiences as well as the belief in their vision—that they knew what they needed to do and whom they needed to work with for assistance. In the case of the Suburban school leader, she knew how she could reallocate resources or “free up funds” to implement an

initiative by manipulating the district budget, which she thoroughly understood and had some discretion to adjust. In contrast, the Teacher had no control nor access to her school's budget, so she rather relied on securing "free" access to the needed equipment, facilities, expertise or other resources through networking, volunteers, fund-raising events, and when needed she also did not hesitate to contribute her own money. The Nonprofit CEO and the Urban principal looked for grants and gifts—funding sources that were not so easily available to the Suburban school leader and the Teacher, and not available at all to the Traditional entrepreneur. These observations suggest that the strategies our entrepreneurial educators used to secure the resources they needed was very dependent on their specific context and connections.

MASTERS AT NETWORKING

In building support for their initiatives, most of these entrepreneurial educators relied heavily on their networks or connections to move their initiatives forward—as for example the Teacher was able to produce the Cookie Cutters thanks to the help of another high school teacher, the Urban principal relied heavily on partnerships and gifts in order to complete some of his major projects, and the Dean's success at fund-raising (a critical condition for building the new wing for her school) was due to her strong relationships with influential alumni. It is important to note that most of these entrepreneurial educators were not only good at "tapping" into their connections and networks, but more importantly they were excellent at developing those relationships in the first place, and devoted considerable time and energy to doing so.

MAKING QUICK AND TIMELY DECISIONS

Perhaps linked to the urgency they felt and the windows of opportunity they had to work with, most of the educators considered themselves quick decision makers. As the Dean pointed out, "I don't stew over it or look for a lot of input." Similarly, the Traditional entrepreneur remarked that in times of crisis you must make a quick decision or potentially lose an opportunity.

Although quick decisions can sometimes have drawbacks, one collaborator noted that it was better for our subject to make decisions quickly even though she was only right 90 percent of the time. We also observed that most of our subjects put systems in place—whether formally or informally—to monitor whether the decision they made was working the way they wanted, or whether modifications were warranted. For example, the Dean set up some metrics for each of her major initiatives and monitored at regular interval if some key benchmarks were met in order to decide whether or not to continue a specific initiative.

CREATIVE PROBLEM-SOLVING

Aligned with this quick decision-making, the entrepreneurial educators we studied were also highly skilled at problem-solving, finding ways to work around problems and identifying alternative strategies or approaches. No barrier was considered insurmountable. A few quotes may help illuminate these entrepreneurial educators' approach to problems:

If you can't come by the front door, try the back door. If you can't get in the back door, try the side door. (Urban Principal)

To be successful you have to learn how to get around something, under it or over it. There's always a way to get around the rules. (Teacher)

In addition, many of our subjects seemed able to approach problems as "opportunities" for innovations that could benefit the organization and/or its clients. For example, the financial crisis in the company where she worked became the opportunity to buy and reconceive of the company itself for the Traditional entrepreneur. Not finding a cookie cutter big enough to implement the geography activity she had read about became the stimulus for developing a very creative unit for the Teacher. And, discovering his students' pervasive problem with lead poisoning gave the Urban principal the impetus for starting a movement to contain and prevent lead poisoning.

CONFIDENT RISK-TAKING

When looking at some of the decisions our subjects made in the stories reported in the first section of the Findings, one may wonder at the risks they were willing to take on—as for example the Urban principal was willing to give up his position if he did not get permission from the central administration to move forward with the pre-school, the Traditional entrepreneur was willing to take on a significant debt along with the business, and the Nonprofit CEO took some big financial risks in some of her ventures. However, none of the subjects perceived and evaluated those risks in the same way as other people might have done in similar circumstances. As one of their collaborators pointed out in each case, both the Urban teacher and the Traditional entrepreneur would never embark on an initiative that they did not think they could successfully implement. Again, such an attitude may be due to the high levels of self-efficacy shared by all our subjects (and typical of most successful entrepreneurs more generally), as they described themselves as "highly competent," "having self-confidence," never thinking they would fail, and having a "gut sense" they would succeed. Another important factor, however, was also that they always considered the risk of "missing the boat" along with "sinking the boat"—for example, when

asked about her feelings when she took on the leadership of a school with a significant deficit, the Dean said that she was not too concerned, as taking any risk in the circumstances was better than continuing to do what they were doing.

The case-study subjects rarely conducted a formal risk assessment. Perhaps this can be explained in part by the fact that many of the initiatives they chose to undertake did not involve large amounts of money—although there were always considerable personal and/or political costs at stake. However, especially in instances when the risk was high, these educators seemed to find ways to contain or alleviate the potential risks. For example, when the Nonprofit CEO wanted to open a retail store of second-hand goods, she brought in another agency as a partner to help them in this endeavor. The Traditional entrepreneur found a way to minimize risk by ensuring that their clients were half corporate, half association—as association clients had less resources but would not be affected by economic downturns. The Dean found ways to minimize the financial risk involved in embarking in new programs or for-profit enterprises by limiting new hires and using instead short-term employment contracts or current personnel.

IMPORTANCE OF BEING OR FINDING A CHAMPION FOR EACH INNOVATION

As revealed in the stories of the Dean's program in Nursing Leadership and the Nonprofit CEO's partnership with Goodwill, having the right person in charge is critical to the success of any innovation. Most often, the entrepreneurial educator him/herself will not be able to oversee all the details of implementing an innovation they want to undertake—in fact, of the six subjects we studied, only the Teacher, and the Traditional entrepreneur at the very beginning of her career, were able to take on the responsibility of implementing most of the initiatives they launched. In all the other cases, one of the most important responsibilities of the entrepreneurial educator was instead to identify and secure the services of the right person to lead the initiative—what some of them referred to as the “champion” or “shepherd.” Indeed, when that did not happen, the initiative initially failed or ended up being considerably delayed until the right person was found and put in charge.

CAPITALIZING ON CRISIS AND DYSFUNCTION

Several of the entrepreneurial educators we studied took advantage of crisis or disorganization in their institution as a way of moving their own vision and entrepreneurial initiatives forward. Two of them (the Dean and the Traditional entrepreneur) educators started at a point of crisis and stabilized the organization, while two others (the Teacher and Urban principal) operated in organizations that were constantly in a state of crisis and where, therefore, people were not as likely to be concerned about their initiatives or efforts.

We can see a connection between these findings and economists' claim that contexts characterized by uncertainty and disequilibria can encourage certain individuals to be "alert" and to seize opportunities (Kirzner, 1979) and, thus, times of crisis are often an opportune time for entrepreneurs to take advantage of society's (or the organization's) willingness to accept reforms (Duhl, 1990).

IMPLICATIONS FOR THE PREPARATION OF EDUCATORS

The main impetus for our study of entrepreneurial educators came from the desire to empower educators to become more effective agents of change by capitalizing on entrepreneurship. Having learned more from our case studies about what it means and what it takes to be a successful entrepreneurial educator—as summarized in the previous sections—we can now move to address the question of what educators should learn about entrepreneurship, and how these learning goals could be best achieved. In this discussion, we will draw from both the literature on learning complex skills and dealing with student beliefs and one of the author's personal experience designing and teaching a semester-long graduate course entitled "Entrepreneurial Skills for Educators."

Looking back at what and how we learned about entrepreneurship, and how it affected our thinking and practice, we can identify two main and complementary components. First of all, we had to *come to appreciate that entrepreneurship has a lot to offer to educators*—until we did that (which meant overcoming our initial skepticism to this regard) we were not in a position to learn anything specific about and from entrepreneurship. Once this was achieved, we became quite interested and willing to *learn about specific entrepreneurial concepts and practices* that would help us become more effective at pursuing our mission.

We suggest that efforts at teaching entrepreneurship in the context of education should address both of these components, with the following implications in terms of what we may want to include in specific courses or professional development events:

1. *Coming to appreciate that entrepreneurship has a lot to offer educators.* To achieve this goal, it seems important to begin by introducing the broader conceptualizations of *entrepreneurship* proposed in the literature, to enable educators to realize that the application of entrepreneurship to education can be a lot more than starting new education-related businesses. Making explicit the parallels between agents of change and entrepreneurs is also important to enable educators to begin to consider the potential value of learning entrepreneurial concepts and skills as tools that could make them more effective at improving education. The value of entrepreneurship for education and, thus, of learning about it, can be best appreciated when seeing concretely how the use of entrepreneurial attitudes, skills, and behaviors has made some educators more successful and contributed to the overall goal of improving education.

2. *Learning about specific entrepreneurial concepts and practices.* We suggest that educators could most benefit from becoming aware of and learning to use the various practices and mindsets identified in the previous section, paying explicit attention to each of the areas of practice our analysis focused on (i.e., visioning, decision-making, problem-solving, dealing with resources, risk-taking, networking, dealing with growth) as well as the process of initiating a specific innovation. Although less critical, we also think it could be valuable for educators to become aware that factors within their environment—both at the macro-level of society, and at the micro-level of their own organization—may affect their entrepreneurial activity, and to identify what some of those factors might be. Similarly, one should expect that educators will be curious about what could be considered characteristic elements/traits of entrepreneurial educators; while this knowledge may be less useful in terms of affecting their practice, examining the characteristics of entrepreneurs identified in the business and social entrepreneurship literature may be a necessary step before moving to a more sophisticated analysis of what entrepreneurs do.

The learning goals articulated so far present some interesting pedagogical challenges, as they involve challenging (at least to some extent) existing beliefs about entrepreneurship and education, on the one hand, and learning new complex skills, on the other. Therefore, while lectures and readings about entrepreneurship and entrepreneurial educators may certainly assist in achieving these learning goals, they are not likely to be very effective by themselves.

First of all, the literature on beliefs and their implications for instruction warns us that students' beliefs are often quite powerful and resistant to change, especially when they are held unconsciously (e.g., Thompson, 1992; Borasi, 1990). Thus, it is important to provide opportunities for students to articulate their existing beliefs explicitly before presenting them with information that may challenge those beliefs, as well as to create vehicles to systematically compare their prior beliefs with the new knowledge presented to them so as to come to appreciate the possible need for modifying such beliefs. In the case of entrepreneurship, this means that we should not expect that simply presenting alternative definitions of entrepreneurship and entrepreneurial educators will be sufficient, but rather we should carefully design activities that would help students grapple with the implications of these alternative conceptualizations vis-à-vis the ones they have been holding.

A related additional challenge is presented when students do not yet have *images* for the new conceptualization presented to them, as these images may be necessary for them to truly understand the differences between *their* conception/beliefs and what they are asked to consider, as well as to help them anchor and interpret the more abstract concepts that we would like them to examine. This could well be the case when we ask educators to think of *entrepreneurial educators* as successful agents of change rather than the founders of education-related businesses. In-depth portraits and stories have been suggested as an effective

vehicle to develop such images *before* students are asked to engage in more abstract and analytic analyses.

The learning and teaching of complex skills has been the focus of much research that can help us address more effectively how to empower educators to use the entrepreneurial practices identified by our study. For example, Collins, Brown, and Newman (1989) suggest that the learning of complex skills and practices is most effective when individuals first observe an expert *model* the targeted practice/skill (possibly with the opportunity to ask questions about what is taking place and why), then try out the practice/skill themselves in a scaffolded situation with the ongoing support and supervision of an expert, and finally perform the practice/skill independently, although still with the opportunity to ask for feedback. Similarly, Lave and Wenger's (1990) concept of "legitimate peripheral participation" suggest that the learning of a complex practice often develops gradually overtime, as the student *works with* an expert at performing authentic tasks requiring the use of that practice, taking on progressively greater involvement and responsibility.

While the scope and duration of the entrepreneurial practices we are interested in teaching present some additional challenges (as, for example, it would unrealistic to expect an expert to "model" in front of a class most of the practices identified in the previous section, or for students to be able to engage in the process of initiating an innovation from beginning to end within the constraints of a semester-long course), these studies suggest the value of the following learning experiences:

- Inviting entrepreneurial educators as guest speakers, and/or having students interview entrepreneurial educators of their choice, with the goal of reconstructing in detail how they carried out a specific innovation (as a substitute for traditional "modeling").
- Engaging students as a class, under the direction of the instructor, in carrying out at the least the first stages of a new initiative that everyone in the class has some familiarity and investment in.
- Engaging students (individually or in small groups) in carrying out independently the first stages of a new initiative of their choice (for example, culminating with the decision of whether or not to pursue a specific opportunity, or with a business plan/grant proposal to fund the initiative).
- Using case discussions to involve the class in "quasi-genuine" decision-making and/or problem-solving, and then reflect on the strategies used and their entrepreneurial nature (or not).

An element that cuts across both of the dimensions discussed so far is the key role played by reflection. Indeed, we can expect that students will need to be offered multiple opportunities to make sense of what they are hearing, reading and experiencing in the learning experiences suggested so far, making connections with their past experiences and beliefs, and even more importantly drawing implications for their future practice. These opportunities for reflection can take many forms, including reflective assignment, shared journals or blogs, chat rooms, etc. One assignment we have found especially effective is a final written reflection where

each educator in the course is asked to identify a few concrete ways in which what they learned about entrepreneurship in the course is going to affect their practice.

Finally, when considering options to include relevant entrepreneurial concepts and skills in the preparation of teachers, administrators, counselors, and other education professionals, it is important to take into consideration the logistical constraints of most programs preparing for a specific profession within education. Because of the many demands imposed by state or by accrediting agencies, many of these programs have little or no room for elective courses (such as the course on “Entrepreneurial Skills for Educators” we developed). In many cases, it may be more realistic to think of developing an “entrepreneurship module” introducing the basic ideas involved in the successful initiation of innovations, to be included in one of the required courses, to develop an initial “awareness;” ideally, the concepts and practices introduced in this module could then be revisited in other courses, for example, the preservice teachers engage in experiences such as developing plans for innovative lessons or units.

CONCLUSION

With public schools and many other areas of education currently in a crisis, we need more educators—across all specializations and leadership levels—that are willing and able to lead innovations that will result in better services for their students and communities. While funding to education has always been inadequate to address all its complex problems, as we experience difficult economic times we can expect that such funding will be even more limited, thus increasing the need for entrepreneurial behavior and creative approaches to securing the needed resources.

The six educators we studied, as documented by the brief stories reported in this article, are certainly good examples of change-agents whose persistent focus on improving the lives of others was noteworthy and that we would want other educators to emulate. As a concrete step in that direction, we believe that programs preparing professionals in all areas of education could be strengthened by including the explicit consideration of the entrepreneurial attitudes and behaviors employed by these educators, as identified in this article.

Our study allowed us to identify a number of entrepreneurial attitudes and behaviors that at least some of our subjects used effectively to transform their institution and better serve their clients. While some of these practices are consistent with what educational leaders (although not necessarily other education professionals) may already be exposed to, others are rarely considered in educational contexts, yet could be of great value for educators who want to promote innovations in their institution. Among the latter group we would like to highlight the following: being attentive to one’s clients as well as the field so as to be able to identify critical needs and innovative ways to address them—looking not only at the present

situation but more importantly to where the field is going; being alert to and able to seize opportunities for improvement when they present themselves (which in turn may require quick decision-making and action, and the ability to secure resources outside of one's budget); engaging in the ongoing evaluation of the opportunities one has identified to decide if they are worth pursuing, based on one's vision and "gut instincts" honed by experience; when making decisions about whether to undertake a specific innovation, taking into consideration both "missing the boat" and "sinking the boat" types of risk, as well as strategies that could be used to minimize the risks one has identified.

We believe that employing these "entrepreneurial" attitudes and behaviors could indeed empower educators in various positions and diverse contexts to more effectively pursue change and, ultimately, fulfill their mission and vision. Developing an awareness of these practices, and their potential value, is a first and perhaps most important step—and we hope that the findings reported in this article will have contributed to achieving this awareness. At the same time, it will also be important to continue to figure out effective ways to enable both prospective and current educators to learn how to best use these complex skills, adding to the principles and considerations articulated in this article.

Perhaps most importantly, our in-depth study of six successful change agents in education has allowed us to establish, on an empirical basis, the relevance of entrepreneurial concepts and practices for education in general, and for the preparation of new educators in particular. Unfortunately, education has yet to capitalize on contributions from the field of entrepreneurship, because of the combination of a misunderstanding of entrepreneurship's scope of application, lack of awareness of what those contributions might be, and the distrust many educators have for any business application. We hope that the stories of the entrepreneurial educators featured in this article will inspire other educators, as it has inspired us, to overcome this reluctance and look at the field of entrepreneurship more broadly for valuable concepts and tools that can contribute to prepare educators to become more successful agents of change.

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APPENDIX: CODING SCHEME

(Items in boldface where added to or deleted from the original coding scheme in the process of analysis)

1. Primary Subject Life & Professional History
2. Description of Initiative 1
 1. How Developed/Context
 2. Value Added
 3. **Emergent Initiatives (that developed out of this) (DROPPED)**
 4. Success of the Initiative/Outcomes
 5. Sustainability
3. Description of Initiative 2 *(same subcategories as above)*
4. Description of Initiative 3 *(same subcategories as above)*
5. Description of Initiative 4 *(same subcategories as above)*
6. Primary Subject's Entrepreneurial Process
 - 6.1. Recognizing/Evaluating Opportunity
 - 6.2. Motivation/Personal Benefit **(DROPPED)**
 - 6.3. Securing Resources
 - 6.4. Planning
 - 6.5. Implementation
 - 6.6. Challenges (at any point in the process) **(DROPPED)**
 - 6.7. **Securing sustainability (ADDED)**
7. Primary Subject's Characteristics and Practices
 - 7.1. Vision/Philosophy
 - 7.2. Marketing
 - 7.3. Finances
 - 7.4. Personnel/Team Building
 - 7.5. Risk Assessment
 - 7.6. Planning for/Dealing with Growth
 - 7.7. Decision-making
 - 7.8. Problem-Solving
 - 7.9. Developing an Entrepreneurial Culture
 - 7.10. Building on Networks/Connections (General Networking)
 - 7.11. Communication **(DROPPED)**
 - 7.12. Passion
 - 7.23. Persistency
8. Collaborators
9. Organizational Characteristics (of Primary Subject's Organizations)
 - 9.1. Facilitators
 - 9.2. Obstacles/hindrances
10. Other