



TOWARD A SET OF TRAINABLE CONTENT ON ENTREPRENEURSHIP EDUCATION: A REVIEW OF ENTREPRENEURSHIP RESEARCH FROM AN EDUCATIONAL PERSPECTIVE

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Abstract

This article is a literature review of four entrepreneurship journals published between 2000 and 2008. A content analysis of the literature review is categorized in four competencies to be included in entrepreneurship education processes. The article uses Pratt (1998) teaching model to identify the teaching perspective that best fits each competency. The article elaborates teaching content from empirical research and suggests a sequence of how to present entrepreneurship content to new students.

Key Words: Entrepreneurship education, entrepreneurship journals, teaching model, literature review

Introduction

As capitalism emerged as the Western world's dominant economic system, entrepreneurial activity has become a major source of upward social mobility, job creation, and economic growth (Carsrud & Brannback, 2007; Reynolds 2002). Having more countries achieving stable democracies and adopting free market policies, the ability to create businesses has become crucial for modern nations to compete globally. To take advantages of the new global scenario, governments commission initiatives to

increase the number of people able to start new businesses and compete internationally.

Every month, the major entrepreneurship journals come up with new valuable information about entrepreneurship. However, the field increasingly stores information about how entrepreneurship happens but little is known about what can and ought to be taught from that new knowledge. Few scholars researching entrepreneurship adopt training perspectives that allow others to distinguish what is a trainable content from what is not.

The purpose of this article is to examine literature published after year 2000 in four entrepreneurship journals to identify teachable entrepreneurial content and use adult education literature to inform how to teach it. Teachable content is defined as the knowledge, skills, and attitudes (KSA) that a person needs to perform effectively in a field of practice (Gatewood, 2004). The field of practice in this case is the creation of new firms. The research question guiding this study is twofold: first, what are the major research themes within the major entrepreneurship journals and second, how can these themes and findings be translated into something that can be taught.

Method

Before searching the extensive literature looking for teachable content about entrepreneurship, what teachable content means need to be further explained. In this section, teachable content in terms knowledge, skills, and attitudes are explained. The section finishes establishing searching criteria to narrow the literature review.

Knowledge, Skills, and Attitudes (KSA)

Traditionally, organizational psychologists used the categories knowledge, skills, and abilities (KSA) to label different types of learning outcomes. However, because the term *ability* usually cannot be well distinguished from the term *skill*, Blanchard & Thacker (2005) proposed a slight change in the acronym. Blanchard & Thacker (2005) argue that the difference between skills and ability use to be that skills are acquired through education and abilities through genes. Since, the hereditary origin of abilities did never find scientific support, (p.7) Blanchard & Thacker propose to use the "A" to refer to attitudes instead of abilities.

The acronym KSA then stands for knowledge, skill, and attitudes. Knowledge includes three level of information processing. In the basic level, information is stored for future uses (declarative). In the second level, information is organized for effective retrieval (procedural), and in the third level information finally is understood for opportune and optimal application (strategic). The highest level of knowledge is the strategic level and includes the others two (Kraiger, Ford, and Salas, 2003).

Skills refer to the capacity to perform a set of tasks (Dunnette, 1976). A human's skillfulness is reflected when the person is able to carry out observable rational actions. A person may have the knowledge about what and when to do something but still be unable to do it. For instance, a man may have knowledge about public speeches, be sure that he can do it, and still remain speechless right after he arrives to the podium. Skills imply actions, and actions imply control over the body. Skills have a great deal to do with bodies. The two levels of skills acquisition are compilation (lower

level) and automaticity (higher level). In the compilation stage a person needs to think about what is doing while performing. A person who masters the skill and uses it often reaches automaticity. For instance, after three months of driving a car, people can perform without thinking in pedals, mirrors, or blinking.

The last letter of KSA stands for attitudes. Attitudes are people beliefs that support or inhibit behavior (Oskamps, 1991). The beliefs that a person holds about something determines their paradigm. Attitudes affect motivation and motivation affects how much effort a person is willing to make to achieve a goal.

When someone masters a group of KSA's related to a specific domain, we say the person is competent in that domain. Competent people are able to fulfill assigned tasks in the domain they master. For instance, a carpenter receives a purchase order to produce a furniture in caoba (caoba is an exotic fine tropical wood). To fulfill the request, the carpenter needs knowledge to distinguish different types of woods. Needs skills related to cutting, shaping, varnishing, sanding, etc. And also needs the right attitude to appreciate the importance of details, enjoy his job, and pursue customer satisfaction. The level of competency of the carpenter will be determined by the combination of different KSA involve in the domain of carpentry.

Searching criteria

Four journals were selected to examine: Journal of Small Business Management (JSBM), Journal of Business Venturing (JBV), Entrepreneurship Theory and Practice (ETP), and Technoentrepreneurship. All articles published between 2000 to mid-2008 from the four publications selected were examined using the words entrepreneurship, entrepreneurial, entrepreneur, and entrepreneurs to narrow down the search. 414 articles were found in this first stage when typing the words entrepreneurship, entrepreneurial, entrepreneur, and entrepreneurs in the four journals. A second stage included reading the abstracts of those 414 articles to determine whether they contained useful KSA to teach to nascent entrepreneurs.

From the 414 abstracts identified in the first stage, 55 articles were considered to contain KSA following the searching criteria. Those 55 articles were scanned to explore their finding in depth. Scanning is the principle method used to examine and analyze the literature (Lupica, 1985). Scanning has four basic steps: identifying materials to scan, establishing criteria for selecting the most relevant materials, establishing a database, and identifying issues (Renfro & Morrison, 1983). In this study, scanning was used to locate KSA on the literature.

Selection Criteria

Five journals were reviewed looking for teachable content. In order to constitute teachable content, research had to inform at some extent about how to start or run a business or contain information translatable into learnable KSA. Ideas, concepts, models, skills' description, tips, processes, entrepreneurial experiences, etc. are some examples of the type of information I was looking for on the literature. Some articles found in the journals escaped to the domain of entrepreneurship and other contain information not able to be translated into KSA.

Four types of content was not considered translatable into KSA: (a) content related to economic systems or innovation systems implemented by countries because these findings do not inform about creating or running businesses. For instance, "this study presents preliminary findings on the relationship between economic development and the prevalence of family vs. non-family firms in the United States (Chang et al 2008, p.1)". Economic development is not a factor controllable by the teacher or the entrepreneur, (b) content about family businesses were excluded because family businesses happen in a different context than pure entrepreneurship. The inter-kin issues that surround family owned business is not present in typical entrepreneurial settings and research questions in family business articles are slightly different than entrepreneurship. To answer how to teach family business, another similar research might be pursued. (c) Content about internationalization or corporate entrepreneurship was excluded when not referring to small businesses because mature firms fall out the scope of this article. Lastly, (d) conceptual articles were excluded too when conclusions are made without support on real cases, empirical data, or are explanations of cognitive dynamics with not clear practical applications. In general, articles were further reviewed when the audiences to whom were written were nascent entrepreneurs or entrepreneurship instructors. Papers that aimed to explain the phenomena conceptually were in general useless in terms of relevant content to be taught to nascent entrepreneurs. Most articles in the journals reviewed were typically written having in mind other researchers and/or policy makers, which is useful to set further research but not to develop curriculum.

Analysis

Content analysis was used to categorize the literature. In content analysis, codes, themes, and overarching themes are used to organize the findings.

First Stage. The first stage proceeded scanning the selected 55 articles to recognize KSA. While reading the articles, a topic or theme was assigned to classify each article. After assigning a topic or theme to each article, preliminary overarching themes were created to collapse set of codes. These overarching themes aspired, after a

posterior depth analysis, to become entrepreneurial KSA. Eleven preliminary overarching themes were created: Industry Knowledge, Starting Up, Venture Financing, Growing, Commercialization, Opportunity recognition, Opportunity exploitation, Networking, Team Building, HR Best Practices, and Legitimacy. These preliminary overarching themes represent KSA identified in the literature that an entrepreneur should manage to start and/or run a business. *Industry knowledge* refers to relevant knowledge about a specific market, product, or customer needs that enable entrepreneurs to start a business. The theme *Starting Up* includes the activities that constitute the gestation process and allow the acquisition of the critical resources to create the nascent organization. Developing prototypes, purchasing materials, renting/buying facilities/equipment, investing own money, committing full time to the venture, hiring employees, and engaging in promotional efforts are activities related to new firm formation (Newbert, 2005). The theme *Venture Financing* includes all researches about leveraging money to start a new business. Financing can come from venture capitalists, banks, relatives, or friends. The theme *Growing* refers to the process of stabilizing the business right after gestation activities were performed and how the business achieve surviving. The theme *Commercialization* refers to sales strategies typically used by new business. *Opportunity Recognition* refers to the special talent that entrepreneurs have to identify opportunities. *Opportunity Exploitation* refers to the special talent that entrepreneurs have to exploit opportunities. *Networking* refers to the skill of building social capital. *Social capital* is the sum of actual and potential resources embedded within, available through, and derived from the network of relationships possessed by individual entrepreneurs (Liao & Welsch, 2005). *Team Building* refers to the process through which shared goals, interdependence, trust, commitment, and accountability are building among a team work. The theme Legitimacy refers to the acceptance that customers and stakeholders develop toward the new venture and the spread of knowledge about a new venture and its products. HR Best Practices referred to the adoption of formal HR practices along with the development of the new venture. *Legitimation* means that people are knowledgeable users of the product or service offered by the new venture (Aldrich and Fiol 1994). Legitimation is high when the activity becomes so well known that it is taken for granted (Hannan and Freeman 1989).

Second stage. A second analysis was performed to collapse some of the eleven preliminary themes into more general overarching themes. The general theme *Opportunity Recognition* absorbed opportunity recognition, opportunity exploitation, and industry knowledge. The general theme *Business Creation* absorbed Venture Financing and Starting Up. All these activities are considered part of the business gestation process (Newport,

2005). The general theme *Networks* absorbed Networking, Team Building and Legitimacy because the literature associates these skills to the identification, building, maintaining, and exploiting of personal relationship. Entrepreneurial team member always emerge directly or indirectly from the entrepreneur network of acquaintances (Chowdhury, 2005; Forbes et al. 2006; West, 2007). Growing and commercialization become the general theme *Business Development*.

Results

Four general themes were created to frame entrepreneurial competencies or KSA: (a) networks (b) opportunity recognition, (c) business creation, and (d) business development. In the following sections each theme is described to present results of the literature review. The order in which each general theme is presented follows the order that entrepreneurial competences should be acquired. Research shows that entrepreneurship poses rich networks and using these networks they set up organization to exploit opportunities. After opportunities are found, entrepreneurs develop their businesses to make the business growth.

Networks

The concept of network management can be equal to social capital management. Social capital encompasses structural capital, relational capital, and cognitive capital (Nahapiet, and Ghoshal, 1998). Structural capital refers to the number of people included in a network and how distant they are, from the node and from each other. Relational capital refers to the frequency of the interactions between the members of the web. Cognitive capital refers to the diversity of people participating in the network. Liao and Welsch (2005) found that the general public had similar levels of social capital, lower levels of relational capital, and relatively higher levels of cognitive capital than nascent entrepreneurs. However, entrepreneurs were much better at converting social capital into relational capital, concluding that successful entrepreneurs use their networks intensively to access resources, influence norms, change practices, and develop trustfulness.

Entrepreneurs need to combine their abilities to start a business (Gartner, 1985). Their need more skills than an individual would likely to have on their own. Ensley et al., (1998) suggests that team heterogeneity is an important factor for firm performance. However, Chowdhury (2005) showed that heterogeneity is not as important as commitment and integration of team members. Commitment and integration can be homologated to the concept of *cognitive comprehensiveness*. Cognitive comprehensiveness is related to the capacity of team member of balancing similarities and differences in a productive ways. Cognitive comprehensiveness has been found to have a positive influence on sales growth and

profit growth (Simons et al., 1999). Highly cognitive comprehensiveness facilitates the use of diverse perspectives on team problems, a variety of potential solutions, and a variety of criteria to make complex and innovative decisions. Comprehensiveness goes beyond complementary of functional business background. Business background has shown to not significantly contribute to cognitive comprehensiveness or team commitment. Technology-based ventures teams need to be especially proficient interchanging ideas productively (West and Meyer, 1997).

The composition of the entrepreneurial team is strategic. Forbes et al. (2006) found that, when entrepreneurial teams are created, known candidates have more chances to be selected. However, is not the functional background what predominates the choice of a new member, but how well the new member would fit the values, norms, and systems of the organization being created (Sapienza et al., 1991). Page (2007) found that new venture success depends much on how the founding team collectively understands its world, estimates effects of action, makes decisions, and allocates appropriate resources. Page (2007) researched two structural characteristics of collective cognition (differentiation and integration) and found that both are strongly related to firm performance.

Opportunity Recognition

The second set of KSA's developed from the literature is related to the entrepreneurs' ability to identify and exploit opportunities. Opportunity is the chance to introduce *innovative* (rather than imitative) goods, services, or processes to an industry or economic marketplace in exchange of resources (Schumpeter, 1950). Kirzner (1979, 1985) introduces the theory of entrepreneurial alertness proposing that entrepreneurs have a special talent to identify opportunities.

Maximum return on investment happens when opportunities match with the right decisions about resource allocation. To make optimal allocation decisions, entrepreneurs need to understand the dynamic of the game (the industry), the processes through which resources are transformed (suppliers of raw materials or information), and the corresponding value of benefit created to the customer (ability to fulfill needs, wants, and fears as well as the willingness to pay) (Kirzner, 1979).

Shepherd and DeTienne (2005) found that opportunity identification and innovation have similar foundations. Both are based on prior knowledge and interchange of information. Entrepreneurs with higher prior knowledge of customer problems identified more opportunities and opportunities with higher degrees of innovation. People who possess industry knowledge and interchange ideas with others identify more opportunities

and produce more original ideas. Another factor, such as the individual's social network, has also been related with the identification of opportunities (Aldrich & Zimmer, 1986; Granovetter, 1985; Singh, Hill, Hybels, & Lumpkin, 1999).

In the same way that specific human capital and information acquisition affects the discovery of opportunities, the manner in which an individual transforms and combines exiting knowledge also affects opportunity identification (Corbett, 2007). In order to discover opportunities, entrepreneurs must know the industry and the market as well as possess the cognitive abilities to synthesize information and identify opportunities (Shane & Venkataramen, 2000). Gaglio (2004) supports this finding by showing that counterfactual thinking and mental simulations are two cognitive tools that help entrepreneurs think creatively and develop the ability to identify opportunities. "Counterfactuals and mental simulations have tremendous value in helping human beings create a better future, not only by correcting past mistakes, but by imagining even more desirable futures (p.548)".

Business Creation

In highly interconnected and fast business environments, customers need certainties about the capacity of their supplies to fulfill their demands. To build a reputation is a critical entrepreneurial challenge. New venture gestation is not only a process characterized by the acquisition and transformation of resources but also a process of acquiring organizational legitimacy. At the same time that entrepreneurs obtain resources to survive, they need to gain the trust of customers that do not know them. Entrepreneurs that finally achieve legitimacy will respond to competitive threats successfully (Baum and Oliver, 1992; Stinchcombe, 1965).

Shepherd and Zacharakis (2003) suggests that to build legitimacy in the three dimensions (product, organization, and management), priority should be given to help customers become knowledgeable about the product, followed by customer knowledge about the organization. Although such actions still will build cognitive legitimacy, less attention should be given to building customers' knowledge on the entrepreneurs themselves; rather attention should be diverted to the product the entrepreneurs have to offer.

Developing cognitive legitimacy in the product can be expensive and may be beyond the financial capabilities of typical resources constrained in new venture startups. It may be better to allow another firm to pioneer the new product and then enter once the product has obtained a sufficient level of cognitive legitimacy. Schaanrs (1994) proposes that pioneers typically fail. Successful companies are those that follow. Alternatively, a new venture could share the pioneering effort with a partner or

with an implicit agreement that encourages another firm pioneer to join the new project.

Delmar and Shane (2004) confirm prior findings that the creation of social ties to external stakeholders, the establishment of routines to transform resources, and the creation of legitimacy are survival enhancing for new ventures. They also emphasize that the creation of legitimacy is a particularly important part of this process. Their evidence suggests that completing business plans and establishing a legal entity early in the life of a new venture are advantageous to new ventures because these activities facilitate the transition to other firm organizing activities. Initial survival depends heavily on undertaking legitimating actions.

Van Auken (2005) surveyed 88 high tech small businesses to assess their knowledge about bootstrapping financing methods. Nascent entrepreneurs showed not to be familiar with the potential advantages of bootstrap financing. Results suggested that providing training about bootstrap financing would be beneficial for nascent entrepreneurs. Understanding the importance of bootstrapping can help entrepreneurs to formulate strategies acquiring alternative sources of capital especially when traditional sources are unavailable or difficult to acquire.

Bettignies and Brander (2007) examine the entrepreneur's choice between bank finance and venture capital. Their research suggests that this choice should be subordinate to the venture capitalist's ability to provide managerial advice. The ownership transferred to the VC weakens the entrepreneur's incentive to provide effort. Therefore, the choice between venture capital and bank finance should consider the trade-off between venture capitalist (VC) productivity and the entrepreneur's effort dilution. "Higher levels of VC productivity favor the use of venture capital finance. Thus, we expect to see venture capital finance in cases where the VC can provide high levels of managerial value-added (p.826)".

Howorth and Moro (2006) advise entrepreneurs about developing stronger forms of trust with bankers. A good relationship with bankers would require less effort spent on providing information for bank monitoring and lower requirements for collateral, which is often a sticking point in demand for finance. From the bank's point of view, trust mitigates adverse selection and moral hazard, reduces screening, and monitoring costs.

Financing the venture is one of the various gestation activities identified by in the literature (Newbert, 2005). Entrepreneurs should learn about the other stages involving in the creation of a new business but they should notice that specific industries and products involve different stages. Entrepreneurs do not engage randomly in various gestation activities. Newbert (2005) found that certain commonalities exist in the process of new firm foundation. However, this process can differ in complexity depending on market dynamism and technological level of the venture.

Velocity of a market's growth, for instance, would reduce the complexity of the gestation process. The higher the growth of the market, the fewer components the gestation process will have.

While no empirical studies test the relationship between new firm foundation experience and the probability of successful forming a new firm, studies do report a negative relationship between new firms formation experience and venture performance (Jo & Lee, 1996; Westhead & Wright, 1998, Colombo & Delmastro, 2001). Knowledge about the industry should not be confounded with previous experience as a business founder, especially when referring to high tech entrepreneurs (Newbert, 2005). Previous experience has shown to have a statistically significant negative impact on start up success for high tech entrepreneurs (Newbert, 2005). Prahalad and Bettis' (1986) argument might help to understand this apparently contradiction. Prahalad and Bettis (1986) posit that nascent entrepreneurs with past experiences may be inclined to reuse successful past initiatives. However, the repertoires of tools and ideas that top management used to make strategic decisions in the past can be inappropriate under different conditions (p.493). Prior founding experience may be either unimportant or even detrimental to success in dynamic markets.

The negative relationship between new firm formation experience and success may be indicative of a learning effect not yet conceptualized. Entrepreneurs might benefit from training to become aware about their espoused theories (Argyris & Schön, 1974). Entrepreneurs need to learn to incorporate reflexively their past experience. People tend to keep using the ideas that brought success to them. However, as Newbert (2005) showed, it can be detrimental when not done reflectively.

Business Development

After entrepreneurs have recognized the opportunity for business and have finally put the components in place, the next step is to make the business grow. In order to succeed in developing their businesses, entrepreneurs use all their KSA to: disclose new opportunities, opening new markets, attracting new customers, and leveraging resources from their personal ties. One of the strategies entrepreneurs use to grow and consolidate their business is to conquer new markets. New ventures that enter in early stages of industry development have greater profit potential (DeCastro and Chrisman, 1995) but also greater mortality risks (Mitchell, 1991). Timing of entry and performance depends on the conditions of the external environment facing the new venture (McDougall et al., 1994). A way to save resources for small business when exploring a new market is mimicry. Mimicry refers to the degree to which new ventures imitate the key practices of other competitors or other firms from related

industries. Small businesses use to enter a high-technology industry by reverse engineering the technology of the market leader's or imitating the leader's marketing strategy. The level of mimicry that a new venture exhibits may have a significant effect on its performance (Levesque and Shepherd, 2004 p.32). However, there must be an acknowledgement that different markets demand different entry strategies. For instance, emerging and developed economies require different entry strategies (p.32). Levesque and Shepherd (2004) propose a mathematical model to evaluate when to approach the market as well as the level of mimicry that entrepreneurs should implement. To teach this model to entrepreneurs could be an important skill to increase likelihood of consolidates their businesses.

Another challenge for small business is to compete with larger companies and be able of commercialize their innovations. Successful commercialization of new product requires (a) understanding of the market, (b) customer involvement in the development of products, and (c) an attractive market that matches the product (Jolly, 1997; Mohr et al., 2001). Pellikka and Lauronen (2007) researched 12 small healthcare technology firms located in Finland to better understand and describe the process that firms go through to commercialize new products. Results showed that half of the firms commercialized intuitively, without a written plan. Pellikka and Lauronen (2007) report a five stage process: idea development, business concept design, market launch, business development, and maintaining. The first four stages are issues typically present in nascent entrepreneur. Idea development starts when the idea of innovation is conceived and ends with a structured view of the product and profitability calculations. During this phase, close cooperation with customers provide information that can be exploited in the commercialization process later. Share expenses during the pilot projects and product development was usual. International conferences were found to be important channels to gather information about the market. Business concept design starts with the decision to pursue research and design activities and the search for distributors. Market launch implies promotion of the new product. In this stage, distributors have a key role to estimate market size and target demand. A major challenge during this phase is to collect useful information about market dynamics, customers, and distributors. Business development implies the search for new markets. Since gaining a successful market position requires extra resources, to accelerate growth firms use to look for partnerships. Finding motivated and committed partners is a challenge. The smallest partners can be the better choice. They are more agile and motivated to operate with the innovation, which could become a competitive advantage.

An entrepreneur's hallmark is perseverance, resilience, and permanent self-motivation. Until the business has secured minimal resources to survive,

successful entrepreneurs push themselves harder than typical worker. Delmar & Wiklund (2008) studied the role of motivation in business growth. They hypothesized that small business managers' growth motivation has a unique influence on firm outcome measured in sales and number of employees. Data were gathered using telephone interviews from a Swedish sample of 1893 small firms. Results showed that growth motivation is an important predictor of growth concluding that the motivation of managers affects firm outcomes. This research also found that motivation is partially affected by previous outcomes but remains relatively stable over time. Namely, entrepreneurs may be affected by past failure but their ambition for growth remains despite bad experiences. This research supports the idea that perseverance is an important characteristic of

successful entrepreneurs and entrepreneurs should learn how to maintain motivation and ambition for growth.

The size of a business may lead managers to believe the firm is powerful enough to ignore competition. Staying tuned with customer needs is the best strategy to gain market share against more consolidated companies. Pelham (2000) researched small manufacturing firms regarding significant factors related to performance funding. Their research showed that that market orientation has the strongest positive relationship with measures of performance. The most influential market orientation elements are fast response to negative customer satisfaction, creating value for customers, and fast detection of changes in customer product preferences.

Discussion of Findings and Implications for Teaching

Competency	Knowledge	Skills	Attitudes
<i>Human Capital Management</i>	Person-organization fit	Manage social relations Cognitive comprehensiveness	Using social networks Evaluate different perspectives (flexibility)
		Balance collective cognition	Interchanging ideas productively with partners in an existing organization
<i>Opportunity recognition</i>	Make optimal resource allocation decisions	Interchanging ideas productively with people in a no existing organization	Spouse theories challenging
	Industry knowledge Combine information productively at individual level Think counterfactually		
<i>Business creation</i>	Business Planning Establishing a legal entity Identifying legitimating actions bootstrapping financing methods Pros and cons of different sources of financing gestation activities Research skills	Trust facilitation Spouse theories awareness Reflective action Reliance assessment	
<i>Business development</i>	New entry strategies Market assessment Mimicry Reverse engineering Commercialization and promotion of new products Finding the right partner for growth		Perseverance Resilience self motivation growth motivation Customer orientation Creating seductive narratives for business
	Market orientation		

Table 1 presents a summary of the teachable content (i.e., KSA's) identified in the literature. The KSA's are grouped into four competencies: network, opportunity recognition, business creation, and business development. These four competencies are related in some way to the research published on entrepreneurship journal. This is finding is very unique in term if being the first in extracting KSA from empirical research. According to what was found on empirical research, these four overarching competencies or KSA should be included as part of entrepreneurship education process.

After identifying KSA's in the major academic journals, the question of how these KSA's could be taught and evaluated is still unanswered. To answer this question, different teaching perspectives can to be examined in light of the benefit of learning different KSA through different contexts. The best perspective should be determined considering different factors, such as: (b) the subject matter to be taught, (a) whether children or adults are being taught, and (c) what the professor understands as their teaching perspective. For instance, teaching bootstrapping methods can be easier than teaching balancing collective cognition. Therefore, different teaching perspectives should be used considering the content. Whether children or adults are being taught, Knowles (1973) proposes differences between adults and children as learners by understanding maturity level. As humans mature, they become more independent and self-directed, accumulating a growing reservoir of experience which is a rich resource for learning. Here the intersection of adult learning and entrepreneurship in converged to understand the variables of social roles, demand for the immediacy of knowledge application, and internal motivation.

In the same way the audience may impact effectiveness of teaching practices, the instructor's

commitments influences too. As an instructor, being more committed either with learners, contents, or contexts determines the teaching approach to be adopted (Pratt, 2005). Educators committed to the learning that is occurring with the students primarily aspire to help their students gain confidence, self-esteem, and dignity. They do not care much about schedules or programs, they focus on the student. Educators committed to disseminating content feel a strong devotion to the discipline they practice. They feel passion about chemistry, nursing, or literature and expect learners to become dedicated to the field too. Educators committed to the context of learning aim to place learning in authentic framework of practice (Pratt, 2005). They think that significant learning only happen when practiced in real world. The different commitment professor adopt determine the teaching perspective they implement. Pratt (2005) describes five qualitatively different teaching perspectives. The five perspectives are: (a) transmission, (b) apprenticeship, (c) developmental, (d) nurturing, and (e) social reform. Transmission is perhaps the most traditional and long standing perspective on teaching. Educators using this perspective believe that knowledge and procedures can be effectively transmitted to learners. Teachers using the apprenticeship perspective aim to embody the skills of their community of practice in their students. The developmental perspective looks to model ways of being. Professor using this perspective permanently challenge the ideas and paradigms hold by their students. In the nurturing perspective, educators seek to increase self-efficacy among students. Professor using this perspective teaches from complete acceptance of the human being the have in front. The focus is increase self confidence in the student. In the social reform perspective, educators promote a better society through the understanding and use of social contexts.

Table 2 presents the 38 KSA's and suggests which teaching perspective and would be the most appropriate considering the nature of the KSA promoted.

Content	Most effective Teaching perspective(s)
Person-organization fit	Transmission
Make optimal resource allocation decisions	Transmission
Industry knowledge	Transmission
Combine information productively at individual level	Developmental
Think counterfactually	Developmental
Business Planning	Transmission
Establishing a legal entity	Transmission
Identifying legitimating actions	Transmission
bootstrapping financing methods	Transmission
Pros and cons of different sources of financing	Transmission
gestation activities	Transmission
Research skills	Apprenticeship
New entry strategies	Transmission
Market assessment	Apprenticeship
Mimicry	Transmission
Reverse engineering	Apprenticeship
Commercialization and promotion of new products	Transmission/App
Finding the right partner for growth	Nurturing
Market orientation	Transmission,
Manage social relations	Apprenticeship, Developmental, Social Reform
Cognitive comprehensiveness	Developmental
Balance collective cognition	Apprenticeship Developmental
Interchanging ideas productively with people in a no existing organization	Apprenticeship, Developmental, Nurturing
Trust facilitation	Apprenticeship Developmental Nurturing and Social Reform
Spouse theories awareness	Apprenticeship Developmental
Reflective action	Developmental
Reliance assessment	Transmission Developmental
Using social networks	Apprenticeship Developmental
Evaluate different perspectives (flexibility)	Apprenticeship Developmental Nurturing
Interchanging ideas productively with partners in an existing organization	Apprenticeship Developmental
Spouse theories challenging	Developmental Nurturing
Perseverance	Developmental Nurturing
Resilience	Developmental Nurturing
self motivation	Developmental Nurturing
growth motivation	Developmental Nurturing
Customer orientation	Developmental

Conclusions

From 414 papers scanned and 55 analyzed, four overall competencies including 37 different KSA have been identified. As the introduction of this article proposed, most of the research reviewed aimed to feed entrepreneurial theory rather to inform entrepreneurship curriculum. Any attempt to identify teachable content from the literature has to be through the author's interpretation of what could be valuable content. Most empirical research found on entrepreneurship literature is not directly related to entrepreneurial action. Few articles address entrepreneurs or entrepreneurship educators' needs clearly. Content related to knowledge was much easier to find than content related to skills or attitudes needed to succeed as entrepreneur. A possible explanation is that scholars researching entrepreneurship tend to be more competent with the elaboration of ideas than practicing skills or conceptualizing attitudes.

The contribution of this paper is to provide a set of KSA able to be taught that have support on empirical research rather on subjective intuition of experienced entrepreneurs or professors. Another important innovation provided by this article is to bring adult education literature to observe that not all entrepreneurship content should be taught using the same teaching perspective. In addition, entrepreneurship education curriculum should be elaborate considering the best sequence to provide entrepreneurial skills to new students. Start teaching network or business creation can be more effective than start teaching business creation or business growth to students who do not manage the previous set of KSA.

References

- Aldrich, H. E., & Fiol, C. M. (1994). Fools Rush in? The Institutional Context of Industry Creation. *The Academy of Management Review*, 19 (4), 645-670.
- Argyris, C., & Schön, D. A. (1992). *Theory in Practice: Increasing Professional Effectiveness*. San Francisco: Jossey-Bass.
- Blanchard, P. N., & Thacker, J. W. (2005). *Effective Training: Systems, strategies, and practices*, (2nd Ed.). Saddle River, NJ: Prentice-Hall.
- Carsrud, A. L., & Brännback, M. E. (2007). *Entrepreneurship*. Westport, Connecticut: Greenwood Press.
- Chang, E. P., Chrisman, J. J., Chua, J. H., & Kellermanns, F. W. (2008). Regional Economy as a Determinant of the Prevalence of Family Firms in the United States: A Preliminary Report. *Entrepreneurship Theory and Practice*, 32 (3), 559-573.
- Chrisman, J. J., Bauerschmidt, A., & Hofer, C. W. (1998). The determinants of new venture performance: An extended model. *Entrepreneurship: Theory and Practice*, 23 (1), 5-31.
- Colombo, m. G., & Delmastro, M. (2001). Technology-Based Entrepreneurs: Does Internet Make a Difference. *Small Business Economics*, 16 (3), 177-190.
- DeCastro, J. O., & Chrisman, J. J. (1995). Order of market entry, competitive strategy and financial performance. *Journal of Business Research*, 33 (2), 165-177.
- Dunnette, M. D. (1977). Aptitudes, Abilities, and Skills. In the Handbook of Industrial and Organizational Psychology. *Administrative Science Quarterly*, 22 (1), 151- 170.
- Ensley, M. D., Carland, J. W., & Carland, J. C. (1998). The effect of entrepreneurial team skill heterogeneity and functional diversity on new venture performance. *Journal of Business and Entrepreneurship*, 10 (1), 1-14.
- Fletcher, D. E., & Watson, T. J. (2007). Entrepreneurship, Management Learning and Negotiated Narratives: 'Making it Otherwise for Us—Otherwise for Them'. *Management Learning*, 38 (1), 9-26.
- Gartner, W. B. (1985). A conceptual framework for describing the phenomenon of new venture creation. *Academy of Management Review*, 10 (4), 696-706.
- Gartner, W. B., & Vesper, K. (1994). Experiments in entrepreneurship education: successes and failures. *Journal of Business Venturing*, 9 (3), 179-187.
- Hannan, M.T., & Carroll G.R. (1992). Dynamics or Organizational Populations: Density, Legitimation, and Competition. *The Academy of Management Review*, 18 (2), 355-367.
- Jo, H. , & Lee, J. (1996). The Relationship between an Entrepreneur's Background and Performance in a New Venture. *Technovation*, 16(4), 161-171
- Jolly, V.K. (1997) *Commercializing New Technologies: Getting from Mind to Market*. Boston, MA: Harvard Business School Press. 1-18

- Katz, J.A. (2003). The chronology and intellectual trajectory of American entrepreneurship education 1976-1999. *Journal of Business Venturing*, 18 (2), 283-300
- Kirzner, I. (1979). *Perception, opportunity and profit*. Chicago: The University of Chicago Press.
- Kirzner, I. (1985). *Discovery and the capitalist process*. Chicago: University of Chicago Press.
- Kraiger, K., Ford, J., & Salas, E. (2003) Application of cognitive, skill-based and affective theories of learning outcomes to new method of training evaluation. *Journal of Applied Psychology*, 78(2), 311-28.
- Kropp, F., Lindsay, N. J., & Shoham, A. (2006). Entrepreneurial, market, and learning orientations and international entrepreneurial business venture performance in South African firms. *International Marketing Review*, 23 (5), 504-523.
- Knowles, M.,S.(1973). *The Adult Learner: A neglected species*. Houston: Gulf
- Liao, J. & Welsch H. (2005). Roles of Social Capital in Venture Creation: Key Dimensions and Research Implications*. *Journal of Small Business Management*, 43(4), 345-362.
- Lumpkin, G.T., & Dess, G.G. (1996). Clarifying the entrepreneurial orientation construct and linking it to performance. *Academy of Management Review*, 21 (1), 135-172.
- Luthje, C., & Franke, N., (2003). The 'making' of an entrepreneur: testing a model of entrepreneurial intent among engineering students at MIT. *R&D Management* , 33 (2), 135-147.
- Man, T.W.Y. (2006). Exploring the behavioural patterns of entrepreneurial learning: A competency approach. *Education and Training*, 48 (5), 309-321.
- McDougall, P.P., Covin, J.G., Robinson, R.B., & Herron, L. (1994). The effects of industry growth and strategic breadth on new venture performance and strategy content. *Strategic Management Journal*, 15, 537-554.
- Mezirow, J. (1990). *Fostering Critical Reflection in Adulthood* (1 ed.). San Francisco: Jossey- Bass.
- Mitchell, W. (1991). Dual clocks: entry order influences on incumbent and newcomer market share and survival when specialized assets retain their value. *Strategic Management Journal* 12 (2), 85-100.
- Levesque, M., & Shepherd, D.A. (2004). Entrepreneurs' choice of entry strategy in emerging and developed markets. *Journal of Business Venturing*, 19(1), 29-54.
- Mohr, J., Sengupta, S. & Slater, S. (2001). *Marketing of High-Technology Products and Innovations*. Prentice Hall, Upper Saddle River, New Jersey, Pearson Education, Inc.
- Nahapiet, J., & Ghoshal, S. (1998). Social Capital, Intellectual Capital and the Organizational Advantage. *Academy of Management Review*, 23(2), 242-266.
- Oskamps, S. (1991) *Attitudes and opinions* (2 ed). Englewood Cliffs, Upper Saddle River, NJ: Prentice Hall.
- Pellikka, J., & Lauronen, J. (2007) Fostering commercialisation of innovation in small high technology firms. *International Journal of Technoentrepreneurship*, 1 (1) 92-108.
- Phillips, J., Stone, R. & Phillips, P. (2001). *The Human Resources Scorecard: Measuring the return on investment*. Oxford: Butterworth-Heinemann
- Prahalad, C. K., & Bettis R.A. (1986). The Dominant Logic: A New Linkage between Diversity and Performance. *Strategic Management Journal*, 7 (6), 485-501.
- Rae, D. (2005). Entrepreneurial learning: a narrative-based conceptual model. *Journal of Small Business and Enterprise Development*, 12 (3), 323- 335.
- Reynolds, P., Carter N., Gartner W., & Greene, P. (2002). *The Entrepreneur Next Door: Characteristics of Individuals Starting Companies in America: An Executive Summary of the Panel Study of Entrepreneurial Dynamics*. Report. The Ewing Marion Kauffman Foundation.
- Rubin, H.J., & Rubin, I.S. (2005). *Qualitative Interviewing: The art of hearing data* (2nd ed.) Thousand Oaks, CA: Sage Publications
- Chowdhury, S. (2005). Demographic diversity for building an effective entrepreneurial team: is it important?. *Journal of Business Venturing*, 20(6), 727-746.
- Sapienzo, H. J. & Korsgaard, M.A. (1996). Managing investor relations: The impact of procedural justice in establishing and sustaining investor support. *Academy of Management Journal*, 39, 544-574.

- Shepherd, D. A., & Zacharakis, A. (2003). A new venture's cognitive legitimacy: An assessment by customers. *Journal of Small Business Management*, 41 (2), 148-167.
- Schnaars, S.P. (1994). *Managing Imitation Strategies: How Later Entrants Seize Markets from Pioneers*. New York: The Free Press.
- Schumpeter, J.A. (1950). *Capitalism, socialism, and democracy* (3rd ed). New York: Harper Perennial.
- Souitarisa, V., Zerbinatib, S., & Al-Laham, A. (2007). Do entrepreneurship programmes raise entrepreneurial intention of science and engineering students? The effect of learning, inspiration and resources. *Journal of Business Venturing*, 22 (4), 566-591.
- Haber, S. & Reichel, A. (2005). Identifying Performance Measures of Small Ventures-The Case of the Tourism Industry. *Journal of Small Business Management*, 43(3), 257-286.
- Simons, T., Pelled, L.H., & Smith, K.A. (1999). Making use of difference: diversity, debate, and decision comprehensiveness in top management teams. *Academy of Management Journal*, 42 (6), 662-673.
- Souitarisa, V., Zerbinatib, S., & Al-Laham, A. (2007). Do entrepreneurship programmes raise entrepreneurial intention of science and engineering students? The effect of learning, inspiration and resources. *Journal of Business Venturing*, 22 (4), 566- 591.
- Stinchcombe, A. (1965). Social Structure and Organizations. In J. G. March, *Handbook of organizations*, 142-193. Chicago: Rand-McNally.
- Tan, S. S. & Ng, C. K. F. (2006). A problem-based learning approach to entrepreneurship education. *Education & Training*, 48 (6), 416-428.
- Taylor, D. W., & Thorpe, R., (2004). Entrepreneurial learning: a process of co- participation. *Journal of Small Business and Enterprise Development*, 11 (2), 203-211.
- Taylor, D. W., Jones, O., & Boles, K. (2004). Building social capital through action learning: an insight into the entrepreneur. *Education & Training*, 46 (5), 226- 235.
- Westhead, P., & Wright, M (1998). Novice, Portfolio, and Serial Founders: Are They Different? *Journal of Business Venturing*, 13 (3), 173-204.
- West, G. P. (2007). Collective Cognition: When Entrepreneurial Teams, Not Individuals, Make Decisions. *Entrepreneurship Theory and Practice*, 31(1), 77-102.
- West, G.P., Meyer, G.D., 1997. Temporal dimensions of opportunistic change in technology- based ventures. *Entrepreneurship Theory and Practice*, 22 (2), 31-53.