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Prior Knowledge and Entrepreneurial Discovery: A Classroom Methodology for Idea Generation

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Abstract. This paper pursues two objectives. First, we describe how the consideration-set method was converted into five training sessions and delivered in an educational setting. Graduate students, engaged in an Opportunity Discovery course, participated in classroom training using the consideration-set search processes to discover opportunities with wealth-generating potential. Each individual recorded the opportunities discovered during the process in a personal Idea Journal. A knowledgeable panel scored each opportunity for potential wealth-generation based on the idea's value, imitability, and entrepreneurial fitness. We provide considerable details and worksheets so that others may incorporate the training into their curriculum. Second, we briefly examine the results and effects of introducing this opportunity discovery method into an entrepreneurship education setting. Results indicate that about 7% of the opportunities discovered during the classroom experience had wealth-generating potential, suggesting that the experimental consideration-set search methodology was translated, taught and applied effectively in an educational setting. We argue that using this methodology in an Opportunity Discovery course will enhance the quality of ideas discovered.

Keywords: entrepreneurship, education, discovery.

1. Introduction

Recent research has provided theoretical (Fiet, Piskounov & Patel, forthcoming; Fiet, 2002) and empirical support (Fiet, Nixon, Gupta & Patel, forthcoming; Fiet, Norton & Clouse, forthcoming; Fiet & Migliore, 2001) for the use of a systematic search process to discover valuable, wealth-generating opportunities. Consistent with Kuhn's (1970) oft quoted saying that "…there really isn't anything quite as practical as a good theory" we argue that if good theories are useful, then the theory of systematic search should be useful in applied settings.

One arena in which scholars disseminate useful knowledge is the classroom. However, empirical results must first be translated into training appropriate for classroom settings. This is consistent with Fiet's (2002:205) call for "…scholars [to] integrate research findings and theory in a way that can be understood and

applied by students". This paper is the first to present an integration of the consideration-set method into pedagogical processes and its purpose is to describe how the consideration-set methodology has been adapted for use in the entrepreneurship education classroom. This is accomplished in a step-by-step manner, with examples and worksheets so as to be completely replicable by the reader. First, we provide a background for the use of the consideration-set method of idea discovery. Second, we offer an exposition regarding how we pedagogically integrated the consideration-set method into classroom processes. This is accomplished in a step-by-step manner, with examples so as to be replicable by the reader. In the third section, we explain the theory and process for evaluating the ideas generated by the consideration-set methodology. We continue in the fourth section by presenting venture discovery outcomes from the classroom experience. We conclude with our reflections on the training process and provide suggestions for future improvement in both training and training transfer.

2. Consideration-Set Background

The consideration-set method for discovering venture ideas is based on theory that emanates from informational economics. This research suggests that entrepreneurs are able to optimize their searching by limiting it to a self-selected, consideration-set of information channels (Fiet, Nixon, Gupta & Patel, forthcoming; Fiet, Norton & Clouse, forthcoming). A *consideration-set* is a grouping of information channels (i.e., a comparatively low-cost source of frequent signals) that emit clues that may indicate a potential discovery (Fiet, Piskounov & Patel, forthcoming). A consideration-set is established by identifying areas of prior knowledge and skills that individuals uniquely enjoy using (Fiet, 2002) and where they are most competent. This method limits the number of self-selected knowledge areas within a consideration-set to six. For each area, there are many sources of information that use and expand an individual's areas of knowledge. The consideration-set method helps focus search energies toward those areas where individuals are most competent. This process tailors the search process to the unique knowledge and experience of each individual. Because of this, rarely would any two people have duplicate consideration-sets due to their different levels of prior knowledge and different preferences for searching across the same six areas. When information is gathered on all six areas at once, insightful linkages among those areas of knowledge are more likely to be made, discovering more unique opportunities, which, in turn, increase the potential for generating wealth.

Entrepreneurs can select channels in their consideration-set using prior knowledge (Fiet, 1996; Hirshleifer & Riley, 1979). They also can change the composition of their consideration-sets as their searching continues and as they

scan the environment. Because a consideration-set contains a finite number of sources to search (information channels), the individual can design an optimal search. Ultimately, an optimal, systematic search may increase the number of discoveries actually identified. Both this greater number of discoveries and the fact that the discoveries are tailored to the individual's knowledge and preferences increases the odds that an individual will be able to exploit discoveries to create new wealth. The primary reason for using a consideration-set based approach is that it offers aspiring entrepreneurs a choice – they can either exploit a venture idea with their present knowledge or they can continue searching for additional, related signals (Fiet, 1996; Hayek, 1945; Hirschleifer, 1970). Because searching for information within a consideration-set is less costly (due to economies of scope) and less risky than actually launching a venture, this recognition offers entrepreneurs a chance to better leverage even minimal resources. Interestingly, using this approach, entrepreneurs with fewer resources may be able to compete with those who possess greater resources.

3. Adapting Consideration-Set Methodology to the Classroom

Classroom Setting – Consideration-set training was presented in an Opportunity Discovery class for graduate business students at a large, public Mid-western U.S. university. The class enrolled 25 students. In this particular lock-step cohort MBA program, all subject content areas of the curriculum are integrated and include a focus on entrepreneurial thinking and behavior as well as team dynamics. The program's first year curriculum included an Opportunity Discovery, New Venture Creation, Business Plan Development sequence. Consideration-set training consisted of five focused training sessions conducted during the traditional Opportunity Discovery entrepreneurship class. Each training session lasted about 45 minutes of the 150-minute class period, the remaining class time being devoted to traditional entrepreneurial discovery topics (Kirzner, 1997) taught in an introductory graduate entrepreneurship class. Each consideration-set training session is described in the following details.

Training Session One – The objectives of the first training session were to provide an overall outline of the training, introduce the concept of consideration-sets as a methodology for discovering ideas, provide an opportunity for questions and answers, and explain the purpose of certain tools/worksheets used within the methodology. Instructions on how to fill out the first tool, the Personal Accomplishments Worksheet (see Figure 1), were presented. This worksheet provided space for each student to list and describe 10-15 of his or her most significant personal accomplishments. Each listed accomplishment was described in a short paragraph with an indication of the age at which each accomplishment was achieved. In addition, each accomplishment had to be one

of which they were proud AND enjoyed doing AND did very well. For example (see Figure 1), Student A listed several accomplishments among which were founding a new business and completing the staffing of an engineering department. Student B identified establishing a new product line within an existing business and solving a complex, long-lived problem as two of several accomplishments. Students were then asked to prioritize each accomplishment according to its personal significance to them.

Figure 1:

Examples from Student A

Personal Accomplishments Worksheet

Age: 35 Description: Founding partner of Darwin Networks focused on DSL commercial and residential services business. Assisted with business plan and soliciting funds for $600,000 in seed capital in 1998, a $30 million series A round in 1999 and a $90 million series B round in 2000. As VP of Engineering Operations, I recruited and staffed a team of 100+ in 20 cities following the A round.

Age: 37 Description: Hired in 2000 by Telemics, a six-person start-up wireless networking company, to recruit an engineering staff. Need was to engage in proof of concept product production. Concept product produced on time by a three-person team. Grew engineering group to 15 within 11 months. Helped with road show presentations to secure investors for a series A round of funding totaling $3million

Examples from Student B

Personal Accomplishments Worksheet

Age: 26 Description: I am a member of a core team consisting of only 3 people, including myself. This team has been responsible for starting up a new product line within our company's largest business. This is a global product line, with a completely new way of doing business, a new way of recovering value, a new way to improve the environment. We have had huge success and this program has become a corporate priority. The company has chosen to support this program by giving us any resources we need. They see this program as the means to grow and sustain any future business.

Age: 25 Description: My first career break happened when I led a team of engineers to solve a 40+-year-old problem. I used the Six Sigma methodology, which required 6 full weeks of off-site training. This was an exciting situation, again since I was leading my peers and also since it was an enormous challenge. The other aspect was that the problem was global in that it was an issue in both the US and UK. The team was also global.

Training Session Two – The second training session involved detailed discussions regarding the importance of the roles of specific information, market efficiency, information channels and the advantage of systematically searching unique areas of knowledge and experience as compared to searching the whole world. Each student was provided with the second tool, the Accomplishments Matrix Worksheet (see Figure 2) and given the following instructions for completion. First, the left column of the matrix should contain an identifying label or name for each item from their previously completed Personal Accomplishments Worksheet. Second, the top row should consist of a series of student designated personal attributes/skills/knowledge (factors) that contributed to the success of the various accomplishments (e.g., problem solving, technical knowledge, leadership, people skills, physical prowess, etc.). In developing the factors across the top row, students were told to avoid listing personality traits (e.g., perseverance, hard worker, intelligent, etc.). Third, students were instructed to fill in the central matrix area by indicating which factors across the top row applied (at a significant level of importance) to each individual accomplishment listed down the left column. Finally, each student was asked to identify (circle) for each accomplishment the single factor, among those indicated, that most greatly influenced the success of that particular accomplishment. The factors circled most often suggest those skills/abilities/knowledge that each individual might want to rely upon to achieve future success. For example (see Figure 2), Student A indicated that the business formation accomplishment employed people skills, technical knowledge, conceptual skills, problem solving and network skills as well as education and creative skills; the most important being problem solving skills. Student B suggested that while creative ability, networking skills, people skills, education, leadership skills, technical knowledge and problem solving skills were all important, networking skills were preeminent in establishing a new product line.

Each student then received the third tool, the Idea Journal (see Figure 3) with instruction for use. The Idea Journal consisted of a title/identification page and 20 additional idea template pages. Each template page provided space to record various details regarding a venture idea, including the date, a description of the idea, a name for the idea, and why the idea had potential to generate new wealth. For example (see Figure 3), Student A described an idea for a medical device and Student B explained a sports equipment idea. Students were encouraged to begin identifying new business ideas and recording them in the journal.

Figure 2:

Examples from Student A

Accomplishments Matrix Worksheet

Prior Knowledge or Ability / Accomplishments	People Skills	Technical Knowledge	Conceptual Skills	Problem Solving	Networking Skills	Education	Creative	
Darwin Founding & Start-up	X	X	X	[X]	X	X	X	
Patent for Telemics		X	[X]			X	X	
General Contractor	X	X	X	[X]	X	X	X	
Papa John's Franchises	X		X	X	[X]	X	X	
Home Remodeling	X			[X]	X			
Virtu								

Examples from Student B

Accomplishments Matrix Worksheet

Prior Knowledge or Ability / Accomplishments	Creative	Networking Skills	People Skills	Education	Leadership	Technical Knowledge	Problem Solving	
Established new product line	X	[X]	X	X	X	X	X	
Solved 40 year old technical problem			X	X	X	X	[X]	
Won Team Tech competitions	X		X	X	[X]	X	X	
Wrote piano music	[X]				X			
Graduated as Valedictorian				[X]				
Earne								

Figure 3:

Sample from Student B

Idea Journal Page

Date:_____ **Idea # _____**

Describe your idea:

A real-time monitoring system for spinal fusion surgery. This idea was originally conceived by a team of researchers at the University's Medical School. This team is seeking an individual with experience in technology commercialization

What would you name your idea?

OrthoData

Why do you think this idea is worth considering for a business?

Producing real-time telemetry to replace follow-up CT and MRI scans will improve patient care following spinal surgery

What were you thinking when this idea occurred to you?

Producing real-time telemetry to replace follow-up CT and MRI scans will improve patient care following spinal surgery

From what information channel did your idea come?

I spent the past two years working on a wireless telemetry device for roadway light monitoring and control. My knowledge is related to the design and development of telemetry devices

What strategy did you employ to tap the information channel you used?

I investigated the new medical start-up accelerator near the medical school complex. Explored support for commercializing promising technologies throughout the university and community

Sample from Student B

Idea Journal Page

Date:_____ **Idea # _____**

Describe your idea:

A product that golfers use for concentrated repetition to improve their swing. This product allows golfers, even those who are wheel chair bound, to practice their swing without releasing the club or changing their position. Rather, this product automatically places the ball at the desired location with the push of a button that can be done with the club near the golfer's feet. The product is adjustable in that the ball can be placed at varying tee heights or directly on the surface

What would you name your idea?

Auto-Tee

Why do you think this idea is worth considering for a business?

More people are learning to play golf (even teenagers). It is a key social activity for many business professionals who invest significant time practicing their swing at driving ranges. It is inexpensive to make and an effective tool to teach/improve one's swing

What were you thinking when this idea occurred to you?

The inventor originally conceived this device for the handicapped golfer. I was listening to the inventor and thinking about the need for the product at driving ranges.

From what information channel did your idea come?

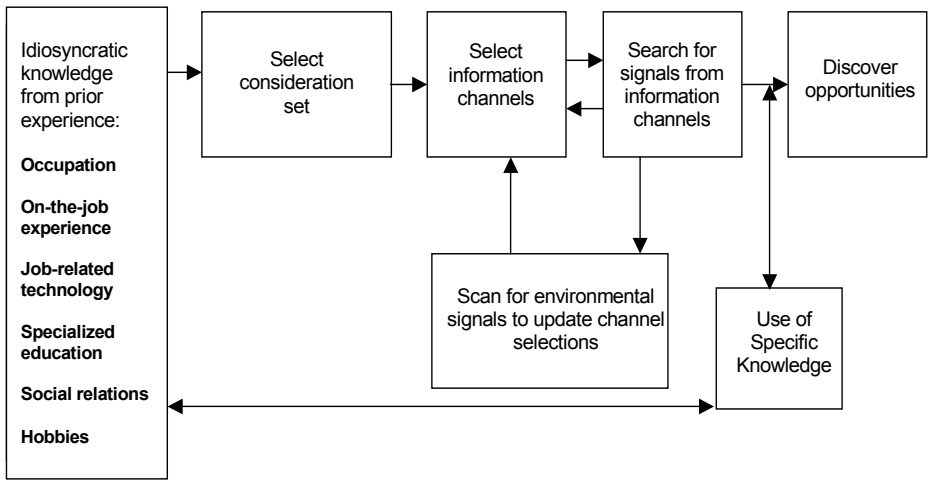
Family member who invented the device

What strategy did you employ to tap the information channel you used?

Follow-up meetings, networking with driving ranges, and general research

Training Session Three – In the third session, the concepts of considerations-sets (e.g., areas of prior knowledge, skill, ability, and prior experience) and information channels (e.g., places, people, events, etc.) were presented by introducing a Consideration-Set Based Model of Entrepreneurial Competence (see Figure 4). Each portion of the model was discussed along with the flow of the model (for more information regarding the model, see the citation in Figure 4).

Figure 4: Consideration Set-Based Model of Entrepreneurial Competence



*Modified from Fiet, J.O. *The Systematic Search for Entrepreneurial Discoveries*, Westport, CT. Quorum Books: p:98

Students were then asked to identify six categories of prior knowledge using their own informed experiences, as well as their list of accomplishments from their Personal Accomplishments Worksheet and their knowledge/skills/abilities identified from their Accomplishment Matrix Worksheet. The identification of these six areas of prior knowledge was in preparation to use the fourth tool, the Consideration-Set Worksheet (see Figure 5). This worksheet serves to assist students in building a focused consideration-set consisting of six areas of prior knowledge, one information channel for each area, and an indication of the priority they wish to use to direct their first attempt at searching each information channel. The worksheet contains six rows across three columns, with Column A listing the student-devised six categories of prior knowledge. Column B notes the student's best source of information (e.g., trade publications, trade events, private information, specific individuals, web sites, search engines, etc.) about future signals regarding venture ideas related to each knowledge category in Column A. Column C indicates the priority the student will use to search each information

channel identified in Column B before the next class. For example (see Figure 5), Student A listed six knowledge areas including program & project management, international telecommunications, franchising, general contracting, start-up funding and start-up recruiting and staffing, with a single information channel identified for each knowledge area.

Students were instructed to search within a consideration-set of only the six areas of prior knowledge and information channels. This limitation of sources encourages the student to consciously focus on specific information channels and limits the demands on a student's cognitive/attentional resources, allowing free resources to make linkages and insights among the information gathered to contribute to idea generation. Students were instructed to make notes about the results of this first search activity. Any ideas for new ventures were recorded in the student's Idea Journal.

Figure 5:

Example from Student A

Consideration-Set Worksheet

	A	B	C
1.	**Program and project management**	**Personal network**	3
2.	**International telecommunications**	**Local chapter IEEE**	1
3.	**Franchising, specifically Papa John's**	**Local venture capital network**	4
4.	**General contracting**	**Personal network**	6
5.	**Start-up funding – public and private**	**Local venture capital network**	2
6.	**Start-up recruiting and staffing**	**National venture capital org.**	5

Example from Student B

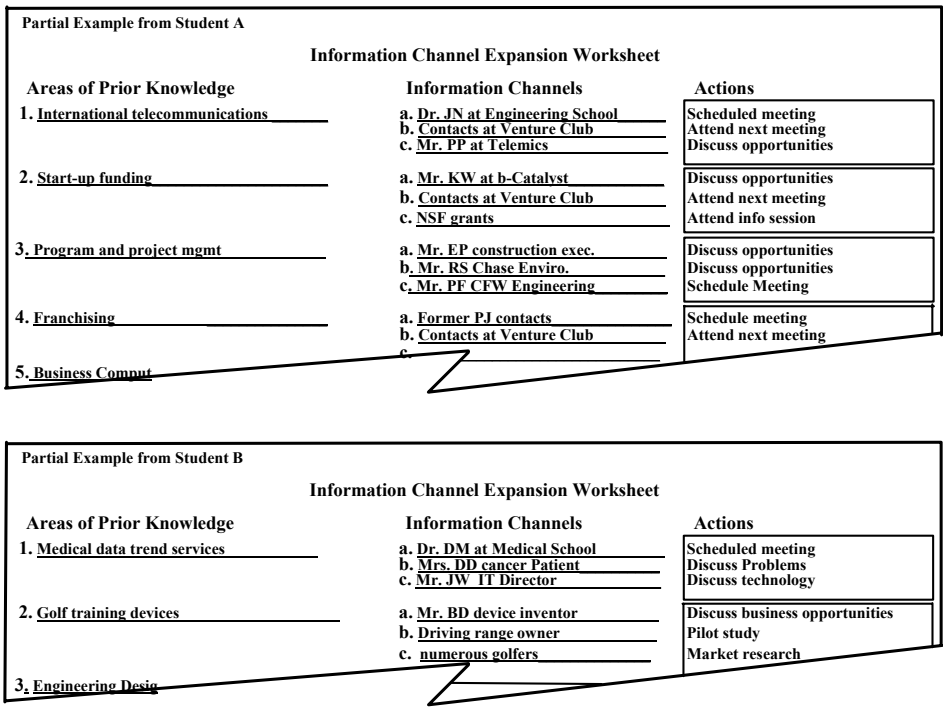
Consideration-Set Worksheet

	A	B	C
1.	**Medical data trend services**	**Dr. DM, Cancer Center Director**	1
2.	**Golf training devices**	**Inventor and Father of Student**	2
3.	**No further entries made**		
4.			
5.			
6.			

Training Session Four – Session four presented two new learning objectives. First, students were instructed to think of a discovery as information about an idea for creating new wealth that would place potential competitors at a cost disadvantage if they attempted to imitate it. Second, students also were instructed on how to expand the number of information channels used and how to update the composition of information channels based on interim search activities since the previous session. Session Four also included introduction of the final worksheet, the Information Channel Expansion Worksheet (see Figure 6), that assisted each individual to expand their consideration-set to three information channels for each of the six areas of prior knowledge where they might have a comparative advantage over most other individuals. This worksheet was used to take the next step beyond the student's more limited Consideration-Set Worksheet begun in the previous session. The Information Channel Expansion Worksheet is similar to the Consideration-Set Worksheet except that there are three information channels for each area of knowledge. In addition, a portion of the worksheet set aside to allow the student to make notes about the results or information gained from the actions taken in searching the expanded number of channels. For example (see Figure 6), Student B expanded his medical data trends services area of prior knowledge from a single information channel (Dr. DM at the Cancer Center) to three information channels (Dr. DM at the Cancer Center, Mrs. DD cancer patient and Mr. JW IT Director). Student B also identified actions taken, including meetings to discuss problems and technology.

Students were instructed to develop an explicit sequence for, and then *intensively* search, all the information channels. Based on their previous week's search experience, there may be reason to change subsequent information channels or even areas of prior knowledge and experience. For example, once searching began a student might discover that they no longer found an area of knowledge as productive as in the past and, consequently, decide to substitute a different knowledge area with three new designated information channels. Search would then continue on the updated consideration-set, with new ideas for new ventures recorded in each student's Idea Journal.

Figure 6:



Training Session Five – During the fifth (final) session, a review of the previous session's exercise was completed. Discussion among students regarding their experiences in searching expanded information channels within their consideration-set was emphasized, along with their related notes of actions and activities. Each student was encouraged to continue to update their relevant information channels as they continued their search for new venture ideas. Continually updating the information channels in the consideration-set was stressed, as it is likely their search would lead to links to new information channels. By this time, the areas of knowledge should be relatively settled and expansions only occurring in search of additional information channels. It also was reinforced that altering and/or adding information channels would help to focus their search more efficiently and provide linkage to their new venture ideas. The training then shifted the students' focus to making entries of promising new venture ideas in their Idea Journals for the balance of the semester, during which other traditional topics of an Opportunity Discovery class were presented. Students were informed that their Idea Journals would be collected and the ideas evaluated by knowledgeable individuals at the beginning of the New Venture

Creation class in the following term. Each student was encouraged to make entry of a new venture idea each day, if possible.

4. New Venture Idea Evaluation

At the beginning of the following semester, in the New Venture Creation class, all Idea Journals were collected. Each idea was evaluated by four entrepreneurship professors, all having had their own businesses and well grounded in the scholarship of new venture creation and the theory-based evaluation of a venture's potential to create new wealth. Creating substantial new wealth depends on a venture enjoying a sustainable competitive advantage. Wealth creation also depends on an entrepreneur's competencies being suitable to exploit an idea's potential. Thus, the resource-based literature (c.f., Barney, 2002, chapter 5), as well as literature on entrepreneurial competence (Fiet, 2002) was used to explicate four attributes of the venture ideas generated in the students' Idea Journals that could indicate a potential for success in generating future wealth.

As identified in previous research (Fiet, Nixon, Gupta & Patel, forthcoming; Fiet, Norton & Clouse, forthcoming; Fiet & Migliore, 2001), the four attributes used to evaluate the students' discoveries were value, rarity, inimitability, and entrepreneurial fit. Ideas evaluated as having have all four attributes were judged to contain the greatest potential for wealth generation. The first attribute evaluated was the *value* of the idea. If appropriately exploited, does the idea have the potential to increase a venture's profitability by increasing its revenues and/or decreasing its costs? Some would argue that it is impossible to predict an idea's value because it will be determined in the future. However, the future normally evolves from the past and in only rare cases will the progression of events reach an inflection point, which appears to lead in a direction that is unrelated. Sometimes the environment or the needs of customers do shift so that continuity does not work anymore. Nevertheless, Michael Porter argued that these inflection points are relatively rare and that it is a mistake to assume that they are everywhere (Hammonds, 2001). Thus, the value question was based on an idea's current value, not a projection into the future, unless such a projection was widely accepted. In most cases, an idea's current value should serve as a workable proxy for its future value. In those rare cases where the value is unknown due to an inflection point in the environment or customer needs, it would be conceded that an idea's future value is unpredictable.

The second attribute evaluated the idea's *rarity* or *rareness*. Are there so many current or potential competitors threatening the market for an idea that there is little chance that it could be exploited for an economic profit? For an idea to be rare, there must be fewer competitors for its use in its market for information than would be necessary to generate near perfect competition. Although 10 to 12 firms

is often cited as the threshold for creating near perfect competition (Oster, 1999), the number varies depending on market characteristics and is in reality a starting point from which to further competitive evaluations and industry analysis.

The third attribute evaluated each idea's capacity to create new wealth in terms of its *costliness-to-imitate* or *inimitability*. Would potential imitators be at a cost disadvantage if they attempted to use the idea to pursue a similar strategy or venture? One way for an entrepreneur to create a comparative cost advantage is to focus on the exploitation of ideas within his or her consideration-set, which presupposes the possession of prior knowledge. Potential imitators would have to acquire information that an entrepreneur already possessed, which would create a disadvantage for potential imitators. Even when ideas noticed through alertness identify valuable and rare opportunities, they frequently fail the costly-to-imitate test.

The fourth attribute evaluated is *entrepreneurial fitness*. Does an entrepreneur already possess the requisite prior knowledge to exploit an idea? Because entrepreneurs vary in their knowledge-based competence, they are not equally competent to exploit all ideas, which may be the reason that venture capitalists pay so much attention to the experience of the entrepreneurial team.

An idea that possesses all four attributes was determined to have the greatest potential for the creation of a sustainable competitive advantage. These attributes also provided standard criteria against which the knowledgeable raters could evaluate a diverse collection of ideas and assign the ideas a score. Raters reviewed and scored the ideas individually and then collectively, reaching a consensus on the final rating for each idea. Because these attributes accumulate (or are cumulative), the idea's corresponding scoring mechanism increases multiplicatively as follows: valuable ideas earned 1 point; valuable and rare ideas earned 2; valuable, rare and costly-to-imitate ideas earned 4; and an idea that possessed all of these attributes, plus entrepreneurial fitness earned 8 points.

5. Classroom Training Outcomes

After evaluating and scoring the new venture ideas, the results from the classroom experience were tallied. We were interested in two general outcomes. First, we wanted to identify the average number of ideas generated per student without regard to the wealth-generating potential of those ideas. Second, we were interested in ascertaining the level of wealth-generating potential (i.e., value, rarity, inimitability, and entrepreneurial fit) of the ideas generated in the classroom experience. One of our purposes in focusing on these outcomes was to provide a baseline for comparison to successive iterations of consideration-set training within an Opportunity Discovery class.

We found that among the Opportunity Discovery students, 143 ideas were recorded in the Idea Journals, averaging 5.8 ideas across the 25 students. Each

idea was evaluated according to the process described above. Of the 143 ideas, 31 (21.6%) were judged as having little to no value (the ability to generate revenue or reduce costs) as new ventures. Ideas judged to have some reasonable level of value totaled 63 (44.1%) of the total. Those identified as having value *and* rarity included 26 (18.2%) ideas. Ideas that were valuable *and* rare *and* costly-to-imitate totaled 13 (9.1%) ideas. Finally, 10 ideas (7%) were recognized as valuable, rare, costly-to-imitate *and* fit with the submitter's prior knowledge. These results are shown in Table 1.

Table 1: Comparisons of Results of Classroom Training and Prior Research

Study	**Ideas**	**Valuable Rare Inimitable with Fit**	**Valuable Rare Inimitable**	**Valuable Rare**	**Valuable**	**Non - Valuable**
Classroom Training n=25						
Total Group Ideas	143	10	13	26	63	31
Ideas per Person	5.80	.40	.52	1.04	2.52	1.24

Our primary learning goals for inclusion of the consideration-set method in a classroom setting were twofold. First, we wanted each student to have sufficient practice in using the consideration-set method for opportunity discovery. This would ensure that they developed enough knowledge in using the method to allow knowledge transfer to future idea/opportunity search activities. This is particularly important for this program, since new venture creation knowledge is of primary interest to the students. Second, we wanted each student to learn how to generate venture ideas of high wealth-generating potential consistent with the experience of the previous research noted. This would indicate that such experiences had been successfully transferred to a classroom setting. Again, this is particularly important for this program, since students expect to gain knowledge in how to exploit ideas with high potential for wealth-generation. The results illustrated in Table 1 show that both of these primary goals were met. The average number of ideas generated per student (5.8) suggests that the students achieved the first learning goal. The average number of ideas generated per student which were evaluated at the highest wealth-generation potential (i.e., valuable, rare, inimitable and with fit) was .4. This average per person was within the range of means reported in previous research, indicating that students also achieved the second learning goal of identifying high potential ideas.

Although not initially set forth as a primary learning goal, the class as a whole received an unanticipated benefit from learning the consideration-set method of opportunity discovery. Following the training, the same cohort of 25 students was

divided into six teams for the subsequent New Venture Creation class. The New Venture Creation class teams then performed an extensive industry and competitive analysis on the *best* (high scored) six of the 10 ideas with wealth-generating potential identified in the Opportunity Discovery class. Compared to previous New Venture Creation classes, the instructing professor of this New Venture Creation class observed an increase in the interest of (and challenge to) the students as well as the quality of those analyses and attributed these increases to the enhanced wealth-generating potential of the six ideas generated through the consideration-set process. These comparisons suggest that the consideration-set method for entrepreneurial discoveries can be taught and that effective application of the classroom methodology described above in an educational setting is a beneficial addition to entrepreneurship education.

6. Reflections and Suggestions

The typical entrepreneurship class pedagogy begins with a discussion of the new venture idea, then explores approaches to determine if the idea represents a market opportunity, subsequently providing an overview of the development of a business plan, and educating students in the intricate nature of acquisition and exploitation of necessary resources (Timmons & Spinelli, 2004). Often the culminating educational experience is presentation of the business plan to a panel of experienced investors. The critical, often missing, link in this pedagogy is the discovery of the idea itself. Ideas are often discussed in nebulous terms with little theory-based development concerning the idea's origin. A major contribution of the pedagogy discussed herein is the demonstrated effectiveness of introducing a theory-based approach to discovery training into entrepreneurial education.

As the cohort of entrepreneurship MBA students described in this study completed their Opportunity Discovery class and entered the New Venture Creation course, they did so with 10 ideas rated by an expert panel as valuable, rare, costly-to-imitate, and fitting with the submitter's prior knowledge. As part of the classroom experience, students were invited to share with their classmates those discovered ideas they thought had the most potential for creating wealth. In the New Venture Creation class, the students chose six of the 10 ideas presented for further analysis and viability testing. As teams formed around these six ideas, team members did so with increased confidence that the upcoming additional opportunity analysis and business plan development would proceed with a greater likelihood of success. In fact, a complete industry and competitive analysis at the conclusion of the succeeding New Venture Creation class confirmed the potential of a market opportunity with favorable competitive dynamics for each of the six ideas.

Compared to the previous eight cohorts of this MBA program that completed a similar entrepreneurship education experience using an alertness methodology

in the Opportunity Discovery component, the cohort using the consideration-set method in this study developed their business plans around superior new venture ideas. In prior cohorts, one or two teams might eventually develop business concepts that had a high probability of achieving competitive success. Teams in the consideration-set trained cohort started with concepts of much higher potential. The resulting business plans appear to be superior to those developed by preceding cohorts. While other factors might impact this outcome, we believe the students' experience in using consideration-set methodology is primarily responsible.

The basic assumption of the consideration-set method is that the subject actually accesses and uses their idiosyncratic knowledge to discover these ideas. This suggests that for the ideas discovered using consideration-set training, a self-audit process is at least partially involved. While much of the innovation literature suggests that market-led innovation is typically superior to self-discovered innovation, we argue that both self-discovered (i.e., technology-led) and market-led approaches are integrated in the consideration-set training described herein. We believe the educational process we describe begins with helping students develop a self-awareness of their knowledge and motivation and is indeed a self-audit at the initial stage of the process (see Training Sessions One & Two). However, as individuals engage in their individual information channel search efforts, they expand beyond a self-audit toward environmental data that includes market information (see Training Sessions Three, Four & Five). This expansion toward market information refines the search process, improves the quality of the ideas and moves the student closer to the stage of investigation that is almost exclusively market based, that is the subsequent business plan development. Thus, the process moves from an initial focus on self-audit toward a more inclusive process that also considers market-led/environmental information in idea formation and rationalization.

The successful first translation of consideration-set methodology into a classroom training setting has pedagogical implications for entrepreneurship education. These results further encourage us to base our classroom experiences on well-developed and empirically tested theories. The thoughtful use of future descriptive and proscriptive empirical research can inform our knowledge of how entrepreneurs and future entrepreneurs can best use their own knowledge to discover ideas with more wealth-generating potential. Sarasvathy (2001) suggests that entrepreneurship is more of an actor dependent effectuation process than an effect dependent causation process. She suggests that it is the "…creation of artifacts by imaginative actors fashioning purpose and meaning out of contingent endowments and endeavors…" (Sarasvathy, 2001:261). If these statements are true, we are called to change our approaches to education to reflect more of the constraints and resources that each actor brings to the discovery and exploitation processes. This pedagogical experience has only just begun to answer that call and additional research and application are needed. For example, the assumption

that subjects actually access/use their idiosyncratic knowledge to discover ideas has not been empirically tested. In addition, observation, testing, and analysis of the actual training process are needed to understand where its strengths and weaknesses lie in its support of the discovery of new ideas.

Classroom time is limited and the more efficient and effective the training process and knowledge transfer can be, the more value we provide our students. This may be particularly true of entrepreneurship education, because those who seek such education are the most focused on becoming future entrepreneurs. Greater efficiency and effectiveness in opportunity discovery is an important step in improving the overall entrepreneurial process.

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