

**SBI 2015 Conference
Distinguished Teaching Paper
Awarded by the Small Business Institute®**

**WHAT PEDAGOGICAL METHODS IMPACT STUDENTS'
ENTREPRENEURIAL PROPENSITY?**

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ABSTRACT

There is a dearth of research that investigates the effectiveness of different pedagogical methods for teaching entrepreneurship. This paper focuses on three learning design choices: experiential learning, use of teamwork, and focus on quantitative methods. The paper examines pedagogical variables that could contribute to raising student scores on constructs of change, risk taking, goal setting, feedback, and achievement as measured by our customized entrepreneurial propensity survey. Results offer moderate evidence to confirm effects of experiential learning designs for goal-setting and weak evidence for feedback. Additional findings suggest the need for rethinking the role of teamwork in entrepreneurship courses.

Keywords: entrepreneurship pedagogy, experiential learning, entrepreneurial propensity

INTRODUCTION

The enormous economic, social, and educational benefits resulting from entrepreneurship have caused the proliferation of entrepreneurship education programs in colleges and universities around the world. In the U.S. alone, more than 1,500 colleges and universities offer entrepreneurship-related training in different formats (Charney & Libecap, 2000). The exponential growth of entrepreneurship education is a challenge to educators, and prompts more thinking and research on what to teach and how to teach entrepreneurship in a classroom setting. The entrepreneurship education literature highlights two dimensions relating to the outcomes of entrepreneurship education. One is the development of an individual's skill set (e.g., the skill to identify opportunity and to set up a business and manage its growth), the other is to build an "entrepreneurial mindset", meaning to mold an individual's entrepreneurial personalities or attributes (e.g., an individual's creativity, innovation, and risk-taking) (Fayolle, Gailly, & Lassas-Clerc, 2006; Garavan & O'Connell, 1994; Weber, 2011).

Some scholars (Müller & Gappisch, 2005; Roberts, 1998; Stormer, Kline, & Goldenberg, 1999) emphasized the second dimension and argued that entrepreneurship is a personality trait: a combination of personality and talent that can be cultivated and trained. Cognitive declarative knowledge, individuals who are goal-setters, who need achievement, and who are risk takers, tend to become successful entrepreneurs (Welsh & Tullar, 2014). Entrepreneurship education can strengthen individual's entrepreneurial attitudes (Harris,

Gibson, & Taylor, 2007/2008). To train and cultivate entrepreneurial traits requires an integrated learning and teaching strategy that aligns intended learning outcomes with the effective selection of pedagogy. There is a strong belief that the most effective pedagogical approach to teaching entrepreneurship is action-oriented and experientially based learning that embeds hands-on project-based activities (Minniti & Bygrave, 2001; Sherman, Sebor, & Digman, 2008).

Although researchers and educators have extolled the alleged benefits of entrepreneurship education, there has been little rigorous research on its effects (Gorman, Hanlon, & King, 1997; McMullan, Chrisman, & Vesper, 2002). Specifically, how effective is such an experiential approach in enhancing students' entrepreneurial propensity? Do experientially based activities have an impact on students' intent to become entrepreneurs? And is the extent of the impact positive or negative? To date, there is a dearth of research that investigates the impact or effectiveness of different pedagogical methods for teaching entrepreneurship (Honig, 2004; Winslow, Solomon, & Tarabishy, 1999). This paper focuses on the impacts on critical measures associated with entrepreneurial propensity of three learning design choices: experiential learning, use of teamwork, and focus on quantitative methods. The paper aims to unlock the pedagogical variables that could contribute to student scores on constructs of change, risk taking, goal setting, feedback, and achievement as measured by our customized entrepreneurial propensity survey (Welsh & Tullar, 2014).

BACKGROUND LITERATURE

Entrepreneurial Propensity/Intention for Entrepreneurship

The basis for our Entrepreneurial Propensity survey (Welsh & Tullar, 2014) is to measure student task motivation in entrepreneurship courses. The constructs measured are: Change, Risk Taking, Goal Setting, Feedback, and Achievement. We follow the Task Motivation Theory (Miner, Smith, & Bracker, 1989) in designing the survey. Task Motivation Theory is largely synonymous with McClelland's (1961) work on the need for achievement which has been widely recognized as one of the first good predictors of entrepreneurial success. Miner and colleagues recast McClelland's (1961) concepts into Task Motivation Theory (Miner et al., 1989). Task Motivation Theory (Miner et al., 1989) follows a more holistic approach to the entrepreneurial role. While it measures achievement motivation, it also measures risk taking, feedback of results, personal innovation, and planning for the future.

Task Motivation Theory (Miner et al., 1989) holds that the pushes and pulls of sanctions are built into the entrepreneurial task itself. Control over a person's behavior does not proceed from superiors, or professional norms, or peer group members, but rather it comes from the work itself and the way it is structured. Entrepreneurs expect financial rewards, status in their communities, and personal satisfaction. At the same time they experience the threats of business failure, personal ruin, and bankruptcy.

Five constructs essential to entrepreneurial propensity were drawn from the above theories. The first of the five constructs is

Change. The pull of individual achievement works only to the extent that the individual can attribute change to something the individual has done him/herself. Original or creative changes have a distinctive quality that makes it easier to identify them as one's own and to take personal credit for them. A desire to introduce such changes is more likely to make task inducement function as it should.

The next construct is Risk Taking. The successful entrepreneur must face considerable challenge and the prospect of being overextended. To accept this, an individual must have a desire to take risks; tasks that the individual already knows well don't exert any pull because there is no sense of achievement in accomplishing them. In addition, the desire to take risks where personal effort cannot ultimately reduce the risk is not part of the entrepreneurial mindset. In neither case can a person anticipate a sense of individual achievement with any reasonable probability. Entrepreneurs desire to take risks where they can have an influence on the outcome.

Goal Setting is a hallmark of the entrepreneurial mindset. The entrepreneur is pulled by the prospect of anticipated future rewards. S/he must approach life with a strong future orientation. Such a person must have a desire to plan and to set personal goals that will signify achievement. Having set the goal, the entrepreneur must plot ways to attain the goal. The entrepreneurial mindset is future oriented without inordinate fear of failure.

Feedback is generally a need of entrepreneurs. Feedback on the amount and results of one's performance are the only way to attribute any degree of success to one's efforts.

Entrepreneurs need to know whether they have succeeded or failed. Consequently, the individual must be motivated to seek out results-oriented feedback in measures such as profitability, productivity, waste, course grades, etc.

The last and most recognizable of the constructs is Achievement. Based on McClelland's seminal work, Achievement has been shown related to entrepreneurial success in a wide variety of contexts (cf. McClelland, 1961). The major source of this motivation is an intrinsic desire to achieve through one's own efforts and ability and to experience the enhanced feelings of self-esteem and self-worth that achievement affords. Individuals high in this motive typically look for situations where the risks that they take and their hard work can produce tangible results that they can tell themselves they have caused.

These five separate motives may substitute for one another in producing an overall index of task motivation (Locke & Henne, 1986). The Thematic Apperception Test (TAT) was developed by Henry A. Murray and Christiana D. Morgan at the Harvard Clinic at Harvard University during the 1930s (For a history, see Morgan, 2002). Although McClelland's work was based on a single construct, the need for achievement (McClelland & Winter, 1969), the scoring of TAT stories for need for achievement included some risk taking, feedback, and innovation, but these factors were not measured separately. Task Motivation Theory (Miner, Smith, & Bracker, 1989) is based on the notion that it is necessary to measure each of these five features of the entrepreneurial role separately which is the approach used in this paper.

Experiential Learning

The concept of experiential learning is not a recent phenomenon. There is a long history of ideas regarding the importance of experiential learning, rooted in the early work of John Dewey (1910, 1938). Dewey believed learning and democracy would be advanced if people were engaged in "active, real world problem-solving" combined with "reflective thought and action" (Harkavy & Benson, 1998, p.16). Dewey integrated the idea of experiential learning into traditional higher education, believing that experiential learning could be used as a bridge between the academic and the practical. Scholars such as Kurt Lewin, Jean Piaget, William James, Carl Jung, Paulo Freire, and Carl Rogers helped to model the theory of experiential learning (Kolb & Kolb, 2005). Carl Rogers differentiated between two types of learning: cognitive and experiential; and indicated that experiential learning focuses on the needs of the learner, and is conducive to personal change and growth (Rogers, 1969). These scholars believed that learning is a holistic process of adaptation to the world, resulting from synergetic transactions between the person and the environment, and it is the responsibility of education to connect student learning to the real world.

Kolb's Experiential Learning Theory. Kolb's experiential learning theory is one of the best known educational theories in higher education, and defines learning as "the process whereby knowledge is created through the transformation of experience. Knowledge results from the combination of grasping and transforming experience" (Kolb, 1984, p. 41). The theory presents a cyclical model of learning, consisting of four stages. The first stage, *concrete experience*, is where the learner actively experiences an activity. The second

stage, *reflective observation*, is where the learner consciously reflects back on that experience. The third stage, *abstract conceptualization*, is where the learner attempts to conceptualize a theory or model of what is observed. The fourth stage, *active experimentation*, is where the learner tries to plan how to test a model, theory or plan for a forthcoming experience. A person passes through these modes repeatedly in a way that helps them learn from the past and take new information into future learning situations (Kolb, 1984).

Benefits of Experiential Learning.

Experiential learning focuses on learning by doing, which is regarded as one of the best instructional techniques to provide students with opportunities to internalize material, and is understood by a great number of students (Meyers & Jones, 1993). Experiential learning is student-centered instruction, rather than teacher-centered instruction, since the student's progress through the four experiential learning stages facilitates and drives the education process (Kolb, 1984). Active participation of the learners in the learning process often results in deeper and more robust learning than is gained from just reading or listening to lectures. In the experiential learning classroom, even students who are passive in learning are provided with opportunities to facilitate their own learning by actively applying the material at hand (Krueger, 2007). The experiential learning classroom also provides the opportunity for students to receive immediate feedback in classroom discussions, and to realize the importance of participation in group activities, which helps eliminate the competitive atmosphere that occurs when students are not

given opportunities to work together to achieve a common goal (Meyers & Jones, 1993). It is also found that real-life experiences have a lasting effect on students (Okudan & Rzasa, 2006).

Experiential Learning in Entrepreneurship

Scholars have argued that for an entrepreneurship education program to be effective, it must teach in entrepreneurial ways (i.e., Honig, 2004; Kuratko, 2003; Politis, 2005; Welsh & Tullar, 2014). Although class-based knowledge input is a vital component of learning, the traditional lecture-based didactic pedagogy alone is not sufficient (Cooper, Bottomley, & Gordon, 2004). Sherman, Sebor, and Digman (2008) pointed out that traditional approaches such as reading the text have little impact on a student's decision to choose entrepreneurship as a career, while activities that are more experiential in nature, or with more hands-on activities, pique students' interest in becoming entrepreneurs.

To achieve real understanding of the meaning of entrepreneurship, new pedagogical approaches that embrace active and experiential learning, such as student business start-ups, live cases and simulations, should be incorporated into teaching (Honig, 2004; Kuratko, 2005; Ronstadt, 1987). Studies reviewing entrepreneurship programs around the world found experiential activities have been widely utilized to increase the depth of the program, including guest speakers focused on entrepreneurship/small businesses; business plan competitions; student club/organizations focused on entrepreneurship/small businesses; internships focused on entrepreneurship/small businesses; on-site visits focused on entrepreneurship/small

businesses; and feasibility studies (Wilbanks, 2013; Winkel, Vanevenhoven, Drago, & Clements, 2013). Research also has demonstrated that experiential learning opportunities increase students' desire and intention to become an entrepreneur (Fiet, 2000; Peterman & Kennedy, 2003); enhance their self-awareness and recognition of their entrepreneurial abilities and weaknesses (Fuchs, Werner, & Wallau, 2008, Harris & Gibson, 2008; Matlay, 2006); increase their skills in identifying opportunities (Corbett, 2005); and develop their social skills (Dhliwayo, 2008).

An experiential learning approach can be delivered in different forms to expose students to concrete experience. The most common approach used by college educators is the creation of business plans (Ronstadt, 1987). Many entrepreneurship courses include activities such as visiting small businesses, guest speakers, case studies and projects related to the development of a business that give students the opportunities to grasp the real work of entrepreneurship (Gorman et al., 1997; Vesper & McMullan, 1988). Business ventures on campus, entrepreneurship internships, or co-operative education, also allow students to develop their skills and knowledge in entrepreneurship. For the purpose of this paper, three core instructional design factors were hypothesized to have effects on the entrepreneurial propensity of students studying entrepreneurship at the university: *Experiential Learning (EL)*, *Teamwork*, and *Quantitative focus*. These have been hypothesized to have independent effects on the five task motivation constructs outlined in this paper. The following hypotheses were tested:

Hypothesis 1

There are statistically significant differences in entrepreneurial propensity between students exposed to courses adopting experiential learning and those exposed only to traditional learning designs. Specifically, Achievement, Change, Feedback, Goal Setting, and Risk Taking scores will be higher for experiential learning courses than for traditional learning designs.

Hypothesis 2

There are statistically significant differences in entrepreneurial propensity between students exposed to courses with team-work and those without team-work learning designs. Specifically, Achievement, Change, Feedback, Goal Setting, and Risk Taking scores will be higher for teamwork-based courses than for non-teamwork based learning designs.

Hypothesis 3

There are statistically significant differences in entrepreneurial propensity between students exposed to quantitative courses and those exposed only to non-quantitative courses. Specifically, Achievement, Change, Feedback, Goal Setting, and Risk Taking scores will be higher for quantitative courses than for non-quantitative courses.

METHODOLOGY

Sampling

The setting of the data collection was the experiential Learning Pilot at the University of

North Carolina at Greensboro. The B.S. in Entrepreneurship launched in the fall of 2009 and the reconfigured minor for business and non-business students launched the fall of 2008. The purpose of the Entrepreneurship program is to produce graduates that are globally ready by equipping them with Entrepreneurship skills for the 21st Century (Welsh, 2014). An innovative curriculum was built on existing faculty strengths in the business school and across the University. Students have the opportunity to choose a profile based on one of seven entrepreneurship areas based on research by one of the authors on where careers are headed for the next twenty years: Creative Industries Entrepreneurship, Family Business, Franchising, Health Care Entrepreneurship, International Entrepreneurship, Science, Innovation, and Technology, and Social Entrepreneurship.

As of fall 2014, there are 46 undergraduate and graduate courses available in 26 departments with three more being proposed for 2015, which will bring the total to 49 courses in 26 departments. Majors, minors, and graduate students have the opportunity to take elective courses in the above areas. To our knowledge, this is the second largest number of cross-disciplinary courses developed at a school of our size and stature in the United States; Washington University in St. Louis, Missouri has the most courses available. It is the largest cross-disciplinary program in the State of North Carolina. As of fall 2014, there are approximately 130 majors and 90 minors, business and non-business students, in the program.

Sample Design. As noted, student scores for five constructs, Change, Risk, Goal-setting, Feedback, and Achievement, were obtained from students at the end of their entrepreneurship courses. For the purpose of this study, the initial dataset was refined in multiple ways to ensure the usability of the input data for analysis. The final dataset resulted in the following proportions by course:

- ENT 200 Intro to ENT Finance (n=13)
- ENT 201 Creativity, Innovation (n=13)
- ENT 240 Intro to the ENT Experience (n= 7)
- ENT 300 Feasibility Analysis (n=55)
- ENT 337 Family Business (n=16)
- ENT 342 International Entrepreneurship (n=15)

Three major learning designs emerged from a manual content review of the sample course syllabi: experiential learning, teamwork-oriented learning, and quantitative-focus learning (see Table 1). The determination of where to place each course on these instructional design factors was made based on manual content analysis of the course syllabi by two researcher faculty with follow up expert validation with course instructors. The seven courses were assigned systematically a value of either 1 or 0 for each instructional design factor; for example, ENT 300 and ENT 337 were assigned a 1 for experiential learning and all other courses were assigned a value of 0.

In projecting which of the courses followed an experiential based design, we evaluated the percentage of graded work falling into experiential activity versus traditional assessment (tests, quizzes). Two courses, ENT 300 and ENT 337, had respectively only 32 and 35 percent of course grades attributed to tests and quizzes, reflecting a strong use of experiential activities for teaching and

assessment purposes. The other courses each has 70 percent or more of course grade being based on tests and quizzes. Teamwork and quantitative methods were determined by verifying the teaching methods and stated learning outcomes, again reviewing syllabi to assign courses to each category on these two variables.

Table 1
Classification of Entrepreneurship Courses on Learning Designs

Course #	Course Topic	EXPERIENTIAL	TEAM	QUANTITATIVE
ENT 200	ENT Finance			X
ENT 201	Creativity/Innovation		X	
ENT 240	The ENT Experience		X	
ENT 300	Feasibility Analysis	X	X	
ENT 337	Family Business	X	X	
ENT 342	International ENT			

Instrument Development for Collection of Dependent Variable Student Scores

The constructs measured are: Change, Risk Taking, Goal Setting, Feedback, and Achievement. Our constructs are based partly on McClelland's Need for Achievement (1962) scoring system and partly on the Miner Sentence Completion Scale Form T. Task Motivation Theory (Miner et al., 1989) usually deals with the fit between a person's motivation and the organization. In this case, it is more appropriate to examine the fit between the person's motivation in class and the entrepreneurial role (Miner et al., 1989).

While we believe that Task Motivation Theory (Miner et al., 1989) is a good approach, we argue that Miner and colleagues' measure is not entirely suitable for the measurement of students. The sentence stems include items such as, "When I fill out my tax return . . ." and "Profit and loss statements . . ." Obviously, these are things that traditional students have little or no experience with. In order to follow this approach, we found it necessary to change many of the sentence stems. We converted the sentence completion feature of the revised Miner et al. (1989) measure to a multiple choice format. This was done to make our measure more readily usable across curricula.

The sentence completion format takes a considerable amount of training to score, and scoring, even after training, is always a laborious process. We revised the dimensions by Miner et al. (1989) somewhat to make the test more “student friendly.”

We made up sentence stems to fit the constructs using some of Miner’s wording and some of the wording from McClelland’s TAT scoring instructions. We gave these sentence stems to a sample of 80 MBA students. The students were instructed to complete the sentences with the ending that first occurred to them. Then we took the most common student completions and had a group of 12 different MBA students scale the completions on a five point scale from most positive to most negative.

From the scale scores, we were able to find the two most positive statements to go with each sentence stem, the two most negative statements to go with each stem, and two statements that showed no affect at all but were merely statements of fact. In doing this, we had a 40 item multiple choice assessment which yielded scores on the five constructs mentioned above. Each construct is measured with eight different sentence stems, so a construct score could range from -8 to +8. We attempted to get the negative and positive statements to be approximately equal in deviation from zero.

Validity and Reliability.

The validity of the Task Motivation Theory Scales relies on the work of Miner & colleagues and McClelland. Our items are directly derivative of Miner’s MSCS form T

constructs. We argue that they are content valid in that they include most of the same verbal content as Miner’s scales.

We also had six MBA students sort the items from our Entrepreneurial Propensity Scale into the various scale categories. They sorted the items with a 91% success rate into each of the nine scale categories. We have had two I/O psychologists sort the items into the scale categories. They had an 86% success rate of classifying the items as we have. On the basis of where the items derived from and the ability of students and professionals to recognize where the items fit, we argue that the scales are content valid. The descriptive statistics for the constructs are shown in Table 2. The Alphas are somewhat low, but we argue that given this method of measurement, it is difficult to produce higher alphas. This is so because the participant taking the assessment would have a hard time understanding what is being measured. We also tried to make the social desirability of the choices approximately the same even though some of them are undesirable as entrepreneurial answers. For instance, in answer to the stem “Inventing something new . . .” the possible answers are a. is very difficult, b. is something I excel at, c. is good for the market, d. is fun and exciting, e. is something I’m not interested in, and f. is important for economic growth. Choices a and e are scored -1. Clearly, people who choose these two options are not interested in inventing a new product. Choices c and f, while positive, are just statements of fact and are therefore scored zero. Choices b and d show positive affect toward inventing something new and are therefore scored as +1. Each construct is measured with eight different sentence stems, so a construct score could range from -8 to +8. We attempted to get the negative and positive statements to

produce approximately equal in deviation from zero. However, as may be seen in Table 2, we have a positive bias in our scales. This may be due to the fact that all our participants are

entrepreneurship students. We might expect students with other majors to score lower on these scales, closer to zero.

Table 2
Descriptive Statistics of Entrepreneurial Propensity Constructs (n = 1076)

Construct	Mean	Standard Deviation	Cronbach's Alpha
Change	1.45	2.46	0.627
Risk Taking	-0.09	2.13	0.680
Goal Setting	2.43	2.22	0.560
Feedback	3.77	2.52	0.589
Achievement	2.52	2.51	0.652

Table 3 shows the correlations among the constructs. The strongest correlation is between Feedback and Achievement. The fact that these two scales are moderately correlated is not surprising given the emphasis on feedback in most of the literature on n Achievement. With a sample this large,

significance is not much of an issue since even small correlations are significant, but Risk Taking is only related to Change significantly. That correlation is very small at just .08 and the other three correlations are very close to zero.

Table 3
Intercorrelations among the Entrepreneurial Propensity Constructs (N= 1076)

Construct	Risk Taking	Goal Setting	Feedback	Achievement
Change	.080*	.152*	.223*	.284*
Risk Taking		.030	-.036	.052
Goal Setting			.336*	.289*
Feedback				.402*

* $p < .05$

RESULTS AND DISCUSSION

T-tests were utilized to determine whether any statistically significant differences exist in terms of students' entrepreneurial propensity scores among the three learning

designs. Considering Table 4, we find moderate evidence to confirm Hypothesis 1 effects of experiential learning designs for goal-setting and weak evidence for feedback, but not for the change, risk, or achievement scores.

We found very slight evidence (see Table 5) for Hypothesis 2, i.e., that teamwork affected achievement in a negative direction. We found

no evidence (see Table 6) for Hypothesis 3, i.e., that a heavy quantitative focus of a course impacted any of the five entrepreneurial propensity measures in any significant way.

Table 4
Experiential Learning versus Non Experiential Learning courses

ENT								
Propensity Measure	Experiential Learning			Non Experiential Learning			t value	p value
	\bar{x}	SD	N	\bar{x}	SD	N		
Change	1.79	2.376	66	1.98	2.881	44	-.376	.708
Risk	-.18	2.246	66	-.39	2.212	44	.471	.639
Goal-setting	3.17	2.116	66	2.27	2.039	44	2.202*	.030
Feedback	4.35	2.587	66	3.41	2.433	44	1.910**	.059
Achievement	2.52	2.362	66	2.70	2.673	44	-.391	.697

*p<.05; **p<.1

It is notable that experiential learning produces greater goal setting motivation. Apparently, the more tangible aspects of experiential courses boosts a student's need to set goals. In addition, it appears that Feedback needs are considerably higher in experiential learning courses.

Table 5
Team-based versus Non Team-based courses

ENT								
Propensity Measure	Team-based Learning			Non Team-based Learning			t value	p value
	\bar{x}	SD	N	\bar{x}	SD	N		
Change	1.73	2.485	83	2.26	2.863	27	-.917	.361
Risk	-.24	2.223	83	-.33	2.270	27	.187	.852
Goal-setting	2.89	2.130	83	2.56	2.118	27	.713	.477
Feedback	4.10	2.658	83	3.59	2.223	27	.888	.376
Achievement	2.36	2.518	83	3.30	2.267	27	-1.716**	.089

**p<.1

The only significant, albeit weak, result in Table 4 is that of Achievement. It is not surprising that Achievement motivation is higher in courses where students are not

assigned to teams. Individual Achievement is what is measured by our Achievement scale, and such a motive cannot be taught well in a course that emphasizes group work.

Table 6
Quantitative versus Non Quantitative courses

ENT Propensity Measure	Quantitative Learning			Non Quantitative Learning			t value	p value
	\bar{x}	SD	N	\bar{x}	SD	N		
Change	2.23	3.492	13	1.81	2.451	97	.545	.587
Risk	-.38	1.938	13	-.25	2.269	97	-.208	.836
Goal-setting	2.62	1.557	13	2.84	2.192	97	-.349	.728
Feedback	3.92	1.553	13	3.98	2.669	97	-.111	.913
Achievement	3.23	2.166	13	2.51	2.517	97	.990	.324

In the comparison of quantitative with non-quantitative courses, we find no significant differences. This is not unexpected. Whether or not a course is quantitative has little to do with the motivations of our five

constructs. In the distinction between quantitative and non-quantitative, we are focusing on cognitive knowledge acquisition rather than motive strength. We argue that courses that create affect are more likely to show differences in our motives.

The present results provide limited evidence for the proposition that experiential learning produces greater levels of entrepreneurial motivation. This makes logical sense and reinforces a trend that has been growing in recent years.

Cognitive declarative knowledge may well improve an entrepreneur's chances of succeeding, but it does only a little to help him/her to want to

succeed in his/her own business. Experiential learning is more motivationally directed, so we should not be surprised that it has an effect on student motivation.

On the other hand, team-based courses may actually inhibit the Achievement motive. This is a finding that needs further investigation. If it is true, and if it is also true that Achievement motivation is a good predictor of success in entrepreneurial activity, then we may need to rethink our pedagogical strategies for teaching entrepreneurship courses. Assigned group work may dampen the Achievement motive because the student doesn't have the opportunity to produce results that are identifiably his/her own—and thus the pull of Achievement cannot be found. The literature also indicates that entrepreneurs view interpersonal relationships largely as ways to assemble needed skill and funding resources

and tend to prioritize competence of others over other social traits (Stuart & Sorenson, 2007). Thus, when teams are created without careful communication of the added value of teammates on a project, students may view teams as hindrances rather than helpful.

We should not be at all surprised that cognitive declarative knowledge in the form of quantitative vs non-quantitative courses shows no difference in terms of motives. Cognitive declarative knowledge and motivation are different things.

IMPLICATIONS FOR ACADEMIC FACULTY AND BUSINESS PRACTITIONERS

Experiential learning has been a growing idea in entrepreneurship education in recent years. These data provide good reasons to think this trend is good for students in entrepreneurship courses. Though very preliminary, it does appear that experiential learning courses in our sample foster entrepreneurial motivation better than other styles of pedagogy. Two ways in which one commonly assesses or monitors student's development of entrepreneurial propensity in courses have been noted in the academic field: rubric-driven instructor feedback and self-reported student profile instruments. This paper sought to validate the latter as a tool to compare different pedagogical techniques.

Such forms of assessment keep students/teams aware of their academic mission and remind them that course experiential activities have academic learning goals beyond the resume worthy experience and networking opportunities. Since the instructor cannot completely control the learning environment

during some experiential activities, the type and quantity of instructor monitoring of results become vitally important. The goal is to promote systematic feedback to students on constructs relevant to entrepreneurship by specifically addressing the five relevant constructs of change, risk, goal-setting, feedback, and achievement. In our case, this set of constructs has been converted into sets of behavioral and attitudinal scale items that students can use to self-report on their propensity for entrepreneurial thinking and motivation. The implications for faculty are that these scores can be used to examine instructional pedagogies and refine them in order to promote increased entrepreneurial propensity in students.

The onus on academic programs in entrepreneurship is to prepare students for future careers and innovative activity leading to the creation of new businesses. With this in mind, we believe that the careful examination and continuous improvement of academic pedagogies in entrepreneurship will yield more and better entrepreneurs and intrapreneurs for the variety of business fields that our students will enter. We also believe that by linking entrepreneurial propensity improvements to experiential learning activities involving entrepreneurship experts and partner businesses, we strengthen the potential for strategic partnerships between the academe and the field of practice.

CONCLUSIONS AND RECOMMENDATIONS

As noted, there is a dearth of research that investigates the impact or effectiveness of different pedagogical methods for teaching entrepreneurship. This paper focused on

closing that gap by studying the impacts on critical measures associated with entrepreneurial propensity of three learning design choices: experiential learning, use of teamwork, and focus on quantitative methods. Experiential learning was defined as student-centered instruction through the use of active participation of students, rather than teacher-centered instruction via lectures and testing. The constructs measured comprised Change, Risk Taking, Goal Setting, Feedback, and Achievement following the tenets of Task Motivation Theory.

As discussed, we found moderate evidence to confirm effects of experiential learning designs for goal-setting and weak evidence for feedback. While an interesting finding, this study represents a relatively small sample due to the difficulties of managing instructor and student engagement with the entrepreneurial propensity survey. The authors plan to continue collecting data from students to increase the sample size and provide insight that will support the impact of pedagogical methods on enhancing students' entrepreneurial propensity. Further research is clearly needed to clarify the relationship and answer additional questions of interest: What kinds of activities instill the most motivation? Can we design experiential learning that will increase the Change, Risk, and Achievement motives? Should all entrepreneurship courses include some experiential instruction and what is the proper weight to assign to this critical activity? Further research and consistent results along these lines could make entrepreneurship education stronger and more efficacious than it now is.

REFERENCES

- Charney, A. & Libecap, G. D. (2000). Impact of entrepreneurship education. Retrieved from http://entrepreneurship.eller.arizona.edu/Docs/Evaluation/Impactevaluation_Entrepreneurshipprogram_UA.Pdf
- Cooper, S., Bottomley, C., & Gordon, J. (2004). Steeping out of the classroom and up the ladder of learning. *Industry & Higher Education*, (18)1, 11-22.
- Corbett, A.C. (2005). Experiential learning within the process of opportunity identification and exploitation. *Entrepreneurship Theory and Practice*, 29(4), 398-473.
- Dewey, J. (1910). *How we think*. Mineola, NY: Dover Publications Inc.
- Dewey, J. (1938). *Experience and education*. New York, NY: Touchstone.
- Dhliwayo, S. (2008). Experiential learning in entrepreneurship education: A prospective model for South African tertiary institutions, *Education + Training*, 50(4), 329-340.
- Fayolle, A., Gailly, B., & Lassas-Clerc, N. (2006). Assessing the impact of entrepreneurship education programs: A new methodology. *Journal of European Industrial Training*, 30(9), 701-720.
- Fiet, J.O. (2000). The pedagogical side of entrepreneurship theory. *Journal of Business Venturing*, 16(2), 101-117.
- Fuchs, K., Werner, A., & Wallau, F. (2008). Entrepreneurship education in Germany and Sweden: What role do different school systems play? *Journal of Small Business and Enterprise Development*, 15(2), 365-81.

- Garavan, T.N. & O’Cinneide, B. (1994). Entrepreneurship education and training programs: A review and evaluation—Part 1. *Journal of European Industrial Training*, 18(8), 3–12.
- Gorman, G., Hanlon, D., & King, W. (1997). Some research perspectives on entrepreneurship education, enterprise education and education for small business management: A ten year literature review. *International Small Business Journal*, 15(3), 56–77.
- Harkavy, I., & Benson, L. (1998). De-Platonizing and democratizing education as the basis of service learning. *New Directions for Teaching and Learning*, 73, 11-19.
- Harris, M. L., Gibson, S. G., & Taylor, S. R. (2007/2008). Examining the impact of Small Business Institute participation on entrepreneurial attitudes. *Journal of Small Business Strategy*, 18(2), 57-75.
- Harris, M. L., & Gibson, S. G. (2008). Examining the entrepreneurial attitudes of US business students. *Education & Training*, 50(7), 568–581.
- Honig, B. (2004). Entrepreneurship education: Toward a model of contingency based business planning. *Academy of Management Learning and Education*, 3(3), 258–273.
- Kolb, D. A. (1984). *Experiential learning: experience as the source of learning and development*. Englewood Cliffs, NJ: Prentice Hall.
- Kolb, A. Y. & Kolb, D. A. (2005). Learning styles and learning spaces: Enhancing experiential learning in higher education. *Academy of Management Learning and Education*, 4(2), 193-212.
- Krueger, N. F. (2007). What lies beneath? The experiential essence of entrepreneurial thinking. *Entrepreneurship Theory & Practice*, 31(1), 123-138.
- Kuratko, D. F. (2003). Entrepreneurship education: Emerging trends and challenges for the 21st century. Retrieve from http://www.unm.edu/~asalazar/Kauffman/Entrep_research/e_ed.pdf
- Kuratko, Donald F. (2005). The emergence of entrepreneurship education: development, trends, and challenges. *Entrepreneurship Theory and Practice*, 29(5), 577-598.
- Locke, E. A., & Henne, D. (1986). Retrieval work motivation theories. In C. L. Cooper & I. T. Robertson (Eds.), *International Review of Industrial and Organizational Psychology* (Ch. 1, pp. 1-35). New York: Wiley.
- Matlay, H. (2006). Researching entrepreneurship and education. Part 2: What is entrepreneurship education and does it matter? *Education & Training*, 48 (8/9), 704–718.
- McClelland, D. C. (1961). *The achieving society*. Princeton, NJ: Van Nostrand.
- McClelland, D. C. (1962). Business drive and national achievement. *Harvard Business Review*, 42, 103-105.
- McClelland, D. C., & Winter, D. G. (1969). *Motivating economic achievement*. New York: Free Press.
- McMullan, W. E., Chrisman, J. J., & Vesper, K. H. (2002). Lessons from successful innovations in entrepreneurial support programming. In Chrisman, J.J., Hoibrook, J. A.D. & Chua, J. H. (eds.). *Innovation and Entrepreneurship in Western Canada: From Family*

- Businesses to Multinationals*. Calgary: University of Calgary Press.
- Meyers, C. & Jones, T. B. (1993). *Promoting active learning: strategies for the college classroom*. San Francisco: Jossey Bass.
- Miner, J. B., Smith, N. R., & Bracker, J. S. (1989). Role of entrepreneurial task motivation in the growth of technologically innovative firms. *Journal of Applied Psychology*, 74(4), 554-560.
- Minniti, M., & Bygrave, W. (2001). A dynamic model of entrepreneurial learning. *Entrepreneurship: Theory and Practice*, 23(4), 41-52.
- Morgan, W. (2002). Origin and history of the earliest Thematic Apperception Test. *Journal of Personality Assessment*, 79(3), 422-445.
- Müller, G., & Gappisch, C. (2005). Personality types of entrepreneurs. *Psychological Reports*, 96, 737-746.
- Okudan, G.E. and Rzasa, S. E. (2006). A project - based approach to entrepreneurial leadership education. *Technovation*, 26(2), 195-210.
- Peterman, N., & Kennedy, J. (2003). Enterprise education: Influencing students' perceptions of entrepreneurship. *Entrepreneurship, Theory and Practice*, 28(2), 129-144.
- Politis, D. (2005). The process of entrepreneurial learning: A conceptual framework. *Entrepreneurship Theory and Practice*, 29(3), 399-424.
- Roberts, L. P. (1998). Home-based entrepreneurs, non-home-based entrepreneurs and white-collar, non-management workers: A comparative study of attitudes toward achievement, personal control, self-esteem, innovation and business growth. Doctoral Dissertation, The University of Calgary: Calgary, Alberta, Canada.
- Rogers, C. R. (1969). *Freedom to learn: A view of what education might become*. Columbus, Ohio: Charles E. Merrill Publishing Company.
- Ronstadt, R. (1987). The educated entrepreneurs: A new era of entrepreneurial education is beginning. *American Journal of Small Business*, 11(4), 37-53.
- Sherman, P. S., Sebor, T., & Digman, L. A., (2008). Experiential entrepreneurship in the classroom: effects of teaching methods on entrepreneurial career choice intentions. *Journal of Entrepreneurship Education*. 11, 2942.
- Stuart, T. E., & Sorenson, O., (2007). Strategic networks and entrepreneurial ventures. *Strategic Entrepreneurship Journal*, 1, 211-227.
- Stormer, F., Kline, T., & Goldenberg, S. (1999). Measuring entrepreneurship with the General Enterprising Tendency (GET) Test: Criterion-related validity and reliability. *Human Systems Management*, 18(1), 47 -52.
- Vesper, K. H., & McMullen, W. E. (1988). Entrepreneurship: Today courses, tomorrow degrees? *Entrepreneurship Theory and Practice*, 13(1): 7-13.
- Weber, R. (2011). *Evaluating entrepreneurship education*. Munich: Springer
- Welsh, D. H. B. (2014). *Creative cross-disciplinary entrepreneurship: A practical guide for a campus wide*

program. New York: Palgrave MacMillan.

- Welsh, D. H. B., & Tullar, W. (2014). A model of cross campus entrepreneurship and assessment. *Entrepreneurship Research Journal*, 4(1), 95-115.
- Wilbanks, J. E. (2013). Mentoring and entrepreneurship: Examining the potential for entrepreneurship education and for aspiring new entrepreneurs. *Journal of Small Business Strategy*, 23 (1), 93-101.
- Winkel, D., Vanevenhoven, J., Drago, W. A., & Clements, C. (2013). The structure and scope of entrepreneurship programs in higher education around the world. *Journal of Entrepreneurship Education*, 16(1), 15-28.
- Winslow, E. K., Solomon, G.T., & Tarabishy, A. (1999). Empirical investigation into entrepreneurship education in the United States: Some results of the 1997 national survey of entrepreneurial education. *Proceedings of 1999 USASBE conference*.

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