

## Teaching a Craft – Enhancing Entrepreneurship Pedagogy

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As the number and types of entrepreneurship education programs have grown, the discipline's pedagogy and learning models have increased correspondingly. However, there is little analysis as to the effectiveness of these learning tools. For example, there are many resources and techniques that aid with preparation of a business plan; however, the value of most of them has not been tested. Building upon situated learning theory, we examine the effectiveness of using a business plan evaluation model that was built upon data collected from investors and academic research. Based upon an exercise using 150 graduate and undergraduate students, we tested and offer a model for teaching the craft of business plan writing and analysis.

The business plan is considered by many researchers as one of the first steps toward the creation of a venture (Delmar & Shane, 2004; Honig & Karlsson, 2004; Liao & Gartner, 2006; Shane & Delmar, 2004). Selling a business idea to investors and other prospective stakeholders typically requires the creation of a business plan. The value of the business plan is in its ability to convey the goals of the firm, the intent of the founders, and the promise for the future value of the venture. A well-crafted business plan is one of the most important communication tools for an entrepreneur and provides a sense of legitimacy to the firm and the founders. The lack of a good business plan may be perceived as a lack of intent or commitment on the part of the founder(s) (Salancik, 1977).

Many entrepreneurs discover that a well-crafted business plan can be a daunting task. A well-written plan is concise, yet comprehensive, and requires a myriad of decisions about all aspects of new venture creation from exploiting the opportunity to garnering resources and building the top management team. A deep understanding of not only the product, but also the competitive landscape, the business model and the prospective financial model is required to construct a convincing business plan. However, understanding the business is not enough – a business plan must also be persuasive. Shaping a compelling business plan also requires marketing savvy and strong communication skills.

A business plan is often required when entrepreneurs can least afford to invest time in the effort. Early stage companies are demanding and little time is left to devote to shaping a convincing document for investors and other stakeholders. Yet, in most cases, it is nearly impossible for someone outside of the founders to effectively develop a compelling business plan.

Entrepreneurship educators understand the primacy of the business plan, and thus, a majority of the entrepreneurship curricula around the country include classes related to preparing and writing business plans (Edelman, 2004; Vesper & Gartner, 1999). Business plan design is often considered as much an art as a science. A review of the top entrepreneurship textbooks and research revealed many different models for content and the process of crafting a compelling business plan. Since a business plan may be required for many different audiences – prospective lenders, investors, employees, key managers, vendors, etc. – perhaps a wide variety of business plan models should exist.

For the purposes of this paper, entrepreneurship education is defined as the conveyance of entrepreneurial knowledge to students in terms of concepts, skills, and behaviors (Gartner, 1990) that entrepreneurs possess and use (Pathak, 2003; Young, 1997). Researchers such as (Fiet, 2001a), (2001b),

Lewin (1951), Tushman, Fenollosa, McGrath, O'Reilly, & Kleinbaum (2007), and Van de Ven and Johnson (2006) observe the importance of theory in teaching entrepreneurship to students. However, other researchers suggest that there are a number of problems associated with the way theory is conveyed to students in entrepreneurship education today (Harris, Forbes, & Fletcher, 2000). One area that is of particular concern is that a number of entrepreneurship courses continue to emphasize the transfer of knowledge and information (Garavan & O'Connell, 1994) in ways consistent with traditional academic methods, which might not be suitable for the field of entrepreneurship (Fiet, 2001b; Gibb, 1993). This could be due to the fact that it is difficult to analyze and teach "acts whose nature is not yet known and whose effectiveness relies to a considerable degree on the difficulty others have in foreseeing them" (Baumol, 1983: 30). Therefore, our research question is: how can the structure, meaning, and levels of importance of business plans be transferred to students in a way that they can see the application and can demonstrate the behavior necessary for success?

Consistent with Ghoshal's (2005) plea for research that is application oriented, we build on the theory of situated learning and suggest that it could be used in teaching entrepreneurship and business plan writing in particular. We argue that the design of a compelling business plan begins with the audience in mind. Furthermore, we suggest that effective pedagogy for teaching business plan skills requires a mix of theory and application. Given these two assumptions, we propose that educators may be able to construct learning models for the design of an effective business plan for a variety of audiences.

Theory suggests that in order to do so it is necessary that 1) criteria from the targeted audience are correctly identified, and 2) the identified criteria are transferred to students in a way that they can internalize. Once developed, these models can be used to help students better understand the components and structure of an effective business plan for a specific audience. Therefore, we first use a grounded approach in collecting business plan criteria that one such audience, venture capitalists (VCs), deem important when screening business plans, followed by an exercise to see how the structure, meaning, and importance of those criteria can be transferred to students.

The paper proceeds as follows. First, we discuss the importance of business plans in general, and then focus on their importance in obtaining VC funding. We do this by reviewing the existing literature (research papers as well as top selling entrepreneurship textbooks) that have focused on business plan criteria. We then review the literature on situated learning and suggest that it can be used to teach the importance, understanding and structure of business plan criteria. This is followed by a section wherein we discuss data collection and the development of the two tools used in the exercise to test for the transfer of tacit knowledge from practitioners to students. We then discuss the exercise, followed by a section on the results. Finally, we discuss our findings and possible directions for future research.

## **LITERATURE REVIEW**

### **VALUE OF BUSINESS PLANS**

A business plan can be defined as a document in writing that is used by a firm to describe both its current state as well as its proposed future (Honig, 2004; Honig & Karlsson, 2004). It is a vehicle commonly used by a founder to communicate to others the vision, strategic plans, and tactical plans of the venture (Busenitz, Fiet, & Moesel, 2005; Simon, 1997; Van de Ven, 1980). The business plan can show internal consistency (Shane & Delmar, 2004) and may demonstrate that the founder is committed to the venture (Salancik, 1977) and in turn increase the cognitive legitimacy of the firm (Aldrich & Fiol, 1994). Moreover, writing a business plan before adopting customers, promoting the firm, or looking for funding reduces the likelihood that the venture will be terminated (Shane & Delmar, 2004).

Researchers differ regarding whether the process of writing a business plan is helpful to an entrepreneur. Some argue that writing a business plan is not a valuable exercise for entrepreneurs (Bhide, 2000) since the process requires a considerable investment of time when the founder(s) could be focusing energy on more important tasks (Carter, Gartner, & Reynolds, 1996). On the other hand, goal setting theory, suggests that the process of writing about planning business activities before undertaking them may enhance actions as well as the performance of new ventures (Rousseau, 1997; Shane & Delmar, 2004). In other words, planning may facilitate the integration of goals into behavior (Bandura, 1997) by identifying skills and information necessary to achieve those goals and by forcing the decision maker to prioritize and focus on the most important tasks to be achieved (Locke & Latham, 1990; Simon, 1997).

It can be argued that the value associated with the planning process required in the writing of a business plan may be even more relevant in uncertain environments such as the start-up of a new venture. Planning may clarify how actions and performance are related and may in turn reduce effort in areas that are not goal focused (Campbell, 1988; Shane & Delmar, 2004). In the same vein, strategic theory suggests advantages that accrue from planning include clarification of both content (choices and plans) and process (creation, analysis, and implementation of strategy) (Honig, 2004; Weir, Kochhar, LeBeau, & Edgeley, 2000) of firm strategy.

## **VENTURE CAPITAL AND BUSINESS PLANS**

Research has shown that VCs place significant emphasis on the business plan when making a decision about a new venture (Roure & Keeley, 1990; Zacharakis & Meyer, 2000). For a new venture to receive funding, it must pass an initial screening (review of the business plan) followed by a due diligence process (Tyejee & Bruno, 1984; Zacharakis & Meyer, 2000). Previous studies have focused on the identification of evaluation criteria used by VCs and have found that VCs base their decision on three main categories: 1) entrepreneurial/team capabilities; 2) product/service and market characteristics, and 3) financial needs of the firm (Fried & Hisrich, 1994; Macmillan, Siegel, & Narasimha, 1985; Macmillan, Zemann, & Subbanarasimha, 1987; Tyejee & Bruno, 1984; Wells, 1974). Further, a review of the leading entrepreneurship textbooks shows that the most common model for teaching about business plans is based on the “outline approach.”

Research suggests that entrepreneurship education is enhanced through the addition of application-based problems to more traditional theory driven ways or *transmission* models (Harrison & Leitch, 2005) of learning. This is primarily due to the fact that learning within the entrepreneurial context is experiential in nature, and the best way to learn is by creating experiences from which students can learn. Similarly, research suggests that experiential learning helps individuals develop stores of accessible knowledge, which can be utilized in similar future situations (Cope, 2005; Kim, 1993)

These models, sometimes encapsulated in the broad area known as experiential learning, enhance learning by engaging students deeply in the learning process. The importance of skills acquired through practical experience has been a topic of research for some time now because of the need to bridge the gap between theory and practice (Strong et al., 1994; Wroblewski, 1991), especially in business schools (Gavetti & Levinthal, 2000).

We suggest that a method for teaching skills essential to writing a business plan for equity investment may be achieved by incorporating research on best practices into the classroom. Moreover, we suggest that, in the particular case of teaching skills associated with understanding essential criteria of a business plan, the appropriate pedagogies are similar to those used to teach a craft.

## TEACHING A CRAFT

Proper understanding of a craft such as medicine or architecture requires students to gain both procedural knowledge as well as declarative knowledge (Anderson, 1976, 1983). We propose that this is also true for a field such as entrepreneurship education, and business plan writing in particular. Declarative knowledge can be understood as information that people can clearly report, of which they are consciously aware (e.g. facts) (Turban & Aronson, 1998), and that can be acquired from textbooks (Ambrosini & Bowman, 2001). Procedural knowledge, on the other hand, refers to expertise that people find difficult to verbalize. This type of know-how can be acquired through practice (e.g. internships and residencies) and is generally more difficult to capture and teach (Ambrosini & Bowman, 2001).

Academic learning usually consists of offering information in a consistent and predictable way (Honig, 2004) where students are allowed to “review, digest, and repeat” (Honig, 2004) solutions to problems that have been previously dictated, while demonstrating proficiency in exams (Honig, 2004). It has been argued that this model does not work well in situations where students are to tackle dynamic problems that are commonly faced by entrepreneurs (Honig, 2004; Mintzberg & Gosling, 2002; Wood, 1995). Traditional approaches to teaching entrepreneurship often do not completely facilitate deep learning within students. This in turn may increase the gap between academia and practice and make it difficult for students to apply what they have learned (Ball, 1995; Gibbs, 1992). However, learning can be enhanced by involving students in a problem situation that requires integration of prior knowledge and identification of alternative solutions.

## SITUATED LEARNING

Resnick (1987) suggested that there are gaps between theoretical learning and real life application. This research was followed by the work of Brown, Collins and Duguid (1989), who suggested a model of *situated learning*. In their analysis of successful models of education, they found the following common features: *apprenticeship, collaboration, reflection, coaching, and multiple practice* (McLellan, 1991). They also found that truly meaningful learning would only take place if it was embedded in the social as well as the physical context within which it was intended to be used. Due to the fact that classroom learning is often distinct from real world endeavors, a number of activities undertaken by students in the classroom are unrelated to the sort of activities carried out by practitioners in their day-to-day functions (Herrington & Oliver, 1995).

However, while the notion of situated learning is easy to understand, the implementation of such learning techniques, especially in the case of entrepreneurship education is far from easy. For example, apprenticeship is a teaching method used in fields such as medicine and architecture where individual coaching is used to learn a craft. This process involves a continuous dialogue between the educator and the students, where the educator uses *think aloud through protocols* which make the task and the application supporting the task transparent and available to the students (Wroblewski, 1991). This apprenticeship is usually practiced in a monitored risk-free environment where errors are explained, and individuals learn from direct experience (Wroblewski, 1991). This method, though ideal for training students, is extremely costly and time consuming (Piaget, 1950).

Similarly, *constructivism* suggests that people construct their own understanding and reflection of past experiences (Piaget, 1950). As opposed to meaning being transmitted by the educator, learning occurs through projects such as simulations or experiments that engage students (Piaget, 1950). Deep learning can be achieved through problem based learning (students are responsible for their learning and development of critical learning skills) as well as collaborative project based learning (Donnelly & Fitzmaurice, 2005).

Therefore, Brown et al., (1989) suggested that a need existed to “enculturate students into authentic practices through activity and social interaction” (Brown et al., 1989: 37). Lave and Wenger (1990) took the concept of situated learning a step further by suggesting that students would benefit largely from the process if they had the opportunity to interact with the ‘community of practice’ in which the practitioners interacted. “To be able to participate in a legitimately peripheral way entails that newcomers have broad access to arenas of mature practice” (Lave & Wenger, 1990: 110).

Situated learning theory suggests that if skills and competencies are to be successfully acquired, it must be presented in authentic settings, (Lave & Wenger, 1990). In order for this pedagogy to be effective, the problem specified needs to be “credible, relevant, and illustrative” (Honig, 2004) of the situation being studied. Learning is viewed as a process of becoming associated with others in a population by collaborating with them and having related experiences (Brown & Duguid, 2001). Further, McClellan (1994) suggests that while it is important that knowledge is learned in a context that is the same as the real world, the context within which the learning actually occurs could be a surrogate of the actual environment.

As discussed earlier, effectively understanding business plan writing requires not only a mix of theory and application, but also adapting that theory and application to each specific business plan concept. In other words, there is not a not *one size fits all* model. Moreover, we have argued that understanding essential criteria in a business plan is a craft and requires a teaching model that will immerse the student in the learning process. Finally, we argue that the situated learning approach to teaching a craft is the most appropriate given the common need to create a business plan for a specific audience.

Therefore, based on the theory above, we use a three-step method for teaching the craft of business plan writing. First, we identify the appropriate community of practice. VCs are considered by many to be an authority on business plans, and their success often lies in their ability to effectively evaluate them. Thus, one might assume they are a knowledgeable community of practice with which to associate business plans. Second, we solicit knowledge from practitioners that can be shared with learners concentrating on criteria that prior research, as well as our own, suggests that VCs pay attention to when screening business plans. Third, we conduct an exercise with both VCs (the community of practice) and students to determine the efficacy of the model developed from the input of the community of practice. Based on the findings of this analysis, we suggest a model in which the *knowledge is codified in a way that can be shared with learners*.

## MODELS

Research has shown that the transferability of knowledge is greatly enhanced when it can be expressed in terms of common language (Grant, 1996). However, prior research on business plan evaluation processes suggests that VCs lack a strong understanding of how they really make judgments (Shepherd, 1997; Zacharakis & Shepherd, 2001). Therefore, to assess whether VCs use common investment criteria, we examined both mental and behavioral aspects of the investment decision and sought a method that would allow us to analyze common mental and behavioral meanings.

First, we selected a model that had been developed and presented in the literature. Then we developed our own model based on the data collected from the community of practice. Using these two models we conducted an exercise with students.

The first model, a Theory-Based Tool (hereafter TBT), was developed by Fiet and Patel (2006) and Fiet, Norton and Clause (2007) and based upon the principles associated with the Resource Based View (RBV) of organizations (Barney, 2002). This tool takes into consideration the concepts of Value, Rarity, Inimitability, and Fit (FVRI) of a potential idea and how each of these factors influences the wealth generation potential of a venture. Interested readers can see the model in Fiet and Patel (2006).

The Experience-Based Tool (hereafter EBT), on the other hand, is a tool based on criteria identified by VCs as important when making funding decisions. We used an adapted form of free listing data collection technique wherein respondents are asked a question about a particular domain and are invited to respond with a list of answers that represent pertinent elements in that domain (Weller & Romney, 1988). Free listing is recommended when little is known about a domain because it allows participants to provide information without researcher bias (Weller & Romney, 1988). The free listing technique presents problems if different individuals have different definitions for the same term, or if different respondents use the same term but have different meanings. To avoid this problem, we first identified 22 criteria that are believed to affect VC funding decisions based on content analysis of the VC funding literature. This list of terms with their definitions was distributed to participants who were asked to identify the criteria they used to determine whether they would invest based on a particular business plan. The respondents were also asked to rank the criteria they used based on their importance. Generally, 20 to 30 respondents are recommended to get a complete picture using free listing (Weller & Romney, 1988). Our first round involved gathering information from 58 VCs, angel investors, and commercial lenders of a Midwestern city in the US. Additionally, so as not to miss out on criteria not mentioned in the literature, we requested that respondents list any criteria that were not part of the list provided to them. They were also asked to include in their ranking any criteria they added and to explain what they meant by the criteria they added. Six additional criteria were added from the responses at this stage. Based on the information gathered, seven criteria were eliminated, giving us a total of 21 criteria that the respondents believed to be important when funding a business venture based on a business plan.

This set of 21 criteria was presented to a focus group of 12 individuals that again included venture capitalists and angel investors (both institutional and private). Cumulatively, the participants in this group were the lead investors in over 50 different companies. The purpose of this focus group was three-fold: 1) to determine whether the terms and definitions used earlier were consistent, 2) to weight the different criteria in terms of their importance in funding decisions, and 3) to categorize the 21 criteria into easily manageable groups.

Finally, the groups and the criteria within each group obtained from the focus group above along with definitions for the items were presented to a group of 12 VCs. These participants were asked to indicate how important each group was in their funding decisions. The data gathered in this stage, together with the data gathered from the focus group was used to weight the different groups that are perceived essential in the VC decision making process. Based on this review, we reduced the final version by six more criteria. The 15 remaining criteria along with their weights were used to create the EBT.

The EBT was designed to provide a framework for first stage screening for investment decisions in business ventures. It was not meant to replace the more advanced due diligence process. In other words, it might be used by a junior associate in a VC firm to determine which business plans merit further investigation and attention. To use the tool, the evaluator rates the business plan on the following criteria: market size, customer adoption, revenue potential, competitive market, competitive strategy, entry timing, intellectual property, technological advantage, value added, product margins, startup experience, industry experience, leadership experience, team experience and strategic partners. Interested readers can see a summary of this model in White, Hertz and D'Souza (2011).

The efficacy of the EBT was further tested by Dos Santos, Patel, and D'Souza (2011). In this study, the authors asked nine experts from a mid-western city in the US to evaluate business plans using the EBT. On average, these experts had 18 years of VC financing experience. According to this study, the experts were given a total of 144 plans – 72 funded and 72 unfunded. This balanced sample improved assessment of expert accuracy in evaluating the plans (i.e., reduced the likelihood that the experts' evaluations could be right by chance). The business plans were randomly distributed among the experts

and each plan was evaluated by three experts to reduce potential measurement problems. In addition to rating each plan on the established criteria, each expert was asked to indicate whether a plan should be funded. All business plans except for one received three evaluations and it was, therefore, dropped from the sample. The final sample consisted of 72 funded business plans and 71 unfunded business plans.

In this study, the authors performed a series of tests on this data to establish quality and reliability of the ratings. The authors assumed that the information pertaining to the nature of the product, type of market, availability of substitutes, competition, and the nature and experience of the founding team in the business plan are easily verifiable by VCs during their due diligence process. On the other hand, factors relating to milestones and financial projections in the business plan are based on the presumptions of the founding team and those of the VCs.

The inter-expert (three experts evaluated each plan) reliability was 0.93 while the difference between funded and unfunded business plans based on expert ratings was significant (t-test:  $p < 0.015$ ). In addition, logistic regression, using expert ratings, explained 89% of the variance between funded and unfunded business plans. The authors computed an average of the three ratings for each criterion for each plan. The average evaluations for each plan on the individual criteria are used in our analysis.

### EXERCISE

For our exercise, we invited 150 graduate and undergraduate students at a mid-western university to participate in the evaluation process of the same 143 business plans used by the experts. In an attempt to provide students with accurate and thorough knowledge on the industry of the business being evaluated, they were assigned a specific industry based on information gathered from them prior to the study. The information gathered included educational level and work experience. This was done in order to assign students industries they had no prior information or experience in, thereby, making it more likely that their decisions would be based solely on information provided to the students by the researchers.

At the beginning of the exercise, the students were provided with industry specific information based on the focus of the business plans assigned to them. Industry information was gathered using the S&P 500 Indexes and the Hoovers industry databases for the years the ventures were originally evaluated by VCs. The students were encouraged to use this information during the evaluation process. Unlike the researchers, the students were not aware which plans had been funded and which had not. The students were also randomly assigned either the EBT or the TBT evaluation instruments. In a controlled setting and under the supervision of the researchers, the students evaluated the business plans and were asked whether they would fund or not fund each of the plans based upon the tools described above and the industry information given to them. The student generated investment decisions based on the application of the assessment tools were compared to the decisions of the VCs for each company represented by the business plans. Of the 150 completed assessments, 7 were randomly dropped from each sample to match the 143 assessments completed by the experts.

As was the case with the experts, there was a possibility that students could make decisions randomly without using the exercise protocols. Therefore, to increase the validity of the test, one funded and one unfunded business plan was given to each student. This step allowed us to determine whether there were biases to fund or not fund based upon preconceived notions. Had we provided plans that align with funding proportions in nature, we would not have been able to determine whether these biases influenced their decisions. For example, if students had blindly rejected the plans, the students would have been correct most of the time (even in range of Type I errors between  $p < 0.1$  to  $p < 0.01$ ) because less than 10% of business plans are funded (Sahlman, 1990). Thus, by providing a 50-50 distribution (i.e.

one funded plan and one unfunded plan) to each student we were able to determine whether the tendency existed among our study participants to reject plans on the basis of their expectations that most plans are not chosen for investment by VCs. On a continuum of randomness, students could have also blindly accepted the business plans. Moreover, on the continuum of zero to complete acceptance, the maximal accuracy of random decisions could have been obtained if students randomly allocated funded/unfunded decisions on each of the two business plans. In order to test if maximal similarity with the VC decisions was not a result of 'luck' and hence random assignment, we also conducted a binomial test. The binomial test showed significant difference ( $p < 0.001$ ) from the estimated proportions, thus, indicating the limited role of guessing in the decision processes used by students.

## RESULTS

To assess the degree to which students understood the structure, importance and meaning of criteria used by VCs to screen business plans, we conducted analysis at the individual, group and structural levels. Individual and group level analysis, including logistic regression and general linear modeling (GLM), was used to differentiate individual decisions and item assessments at individual and group levels, respectively. Structural analysis, specifically, Pathfinder scaling was used to assess the degree to which structural assessments between VCs and students match. While individual and group level analysis focus on the degree to which the decisions are similar, structural analysis ensured that decisions are not an outcome of equifinality in analysis or cognitive processes of the students. In other words, both groups might arrive at the same decision using different weights and parameters.

Thus, structural similarity is important in decision making. Similarly, group and structural analysis is important to ensure significance of similarity and reduce effects of heterogeneity in abilities and knowledge across students. In other words, random effects due to students' cognitive structures may otherwise produce misleading results. This was followed by a Pathfinder analysis. The Pathfinder scaling algorithm helps assess similarity in concept structure between the two groups (experts and students using the EBT). Using pair-wise judgments of similarity in assessment between an expert and a student, Pathfinder shows the latent structure of a conceptual domain. The concepts are considered as nodes and distance between nodes as links. Using proximity links as inputs, Pathfinder derives the shortest path link distance as outputs. Compared to multi-dimensional scaling (MDS) which focuses on more global relationships, Pathfinder explains more fine-grained local relationships. Pathfinder deals with two concepts -- configural similarity and coherence. Configural similarity refers to the similarity between two networks (in this case, expert and students) and is measured using index PFC (Pathfinder Closeness) – an indicator of common links between concept pairs. Coherence indicates internal consistency by measuring direct and indirect pairs of similarity between each concept pair. First, the indirect index of relatedness is computed using correlations between an item and all other items. Second, coherence is computed by correlating original proximity data with indirect measures. Similar values can be computed for networks derived from aggregate data. Third, raw proximity data from all subjects is averaged to yield an aggregate data set and network representation.

We present the logistic regression results, with the outcome variable being whether a student's decision to fund or not matches a VC's decision. This group level analysis helps us assess any significant differences based on the particular evaluation instrument used. In other words, does using an evaluation instrument based on the community of practice (EBT) lead to significantly different results than using one based on academic theory (TBT)? Logically, one would expect this to be the case. Table 1 below suggests that the community practice (EBT) developed instrument had a significant effect on making the proper decisions ( $\beta = -.85$ ;  $p = .03$ ). We also compared graduate and undergraduate students and found that belonging to either the graduate or undergraduate group did not lead to significant differences in the results. Also noted was the fact that the impact of the instrument used was not moderated by belonging to the graduate or undergraduate group.

Table 1. *Logistic Regression Results*

	B	Sig.
Tool Used†	-.85	.03
Student Type‡	.21	.37
Student Type x Tool Used	.31	.59

Pseudo-R2 = 0.43

† Tool Used = 0 if TBT, 1 if EBT

‡ Student Type = 0 if Undergraduate, 1 if Graduate

Proximity data for each group was averaged and network structure for each group was derived using the aggregate data from which a coherence index was computed. After conducting an analysis within and between groups, a similarity measure for each student network was compared with the expert network. Then, similarity data was averaged to assess the degree of similarity between the student network and the expert network. For each group, the configural similarities were high. Specifically, students 0.83 ( $SD = .08$ ) and experts 0.91 ( $SD = .07$ ). Additionally, similarity across both groups was high (0.85;  $SD = .09$ ). A comparison of within and between group similarities also showed significant differences ( $t = 7.52$ ;  $p < .001$ ). The coherence index for student and expert groups are 0.77 and 0.83 respectively, which indicates a high degree of learning and similarity in assessment at the group level.

While the Pathfinder scaling algorithm is based on distances among concepts, we use a variance-based technique to assess differences between students and experts (Table 2). We used GLM with experts and students as a between group analysis with link function as logit. The between subjects – experts and students indicate no significant differences in assessments on each item. However, ratings of market size and management team criteria were significantly different between experts and students. Overall, the model shows a statistically significant relationship between students and experts (Omnibus test:  $\chi^2 = 54.867$ ;  $df = 14$ ;  $p = .000$ ).

Table 2. *GLM Model: Between subject differences: EBT Students and Experts*

Assessment Items	$\beta$	Sig.
Market Size	.03	.05
Customer Adoption	.05	.11
Revenue Sales	.83	.79
Competition	.12	.21
Strategy	.07	.81
Timing	.36	.74
Intellectual Property	.03	.14
New Technology	.07	.24
Value Added	.12	.32
Margin Analysis	.05	.68
Startup Experience	.08	.67
Industry Experience	.29	.68
Leadership Experience	.11	.68

Therefore, at the individual, group, and structural level, we see a high level of internal consistency among experts' and students' decisions and high degrees of similarity, not only in the final outcomes and on similarity, but also in the degree of assessments for each item.

## DISCUSSION AND IMPLICATIONS

We began by looking for a better way to prepare students to understand the structure, meaning and importance of concepts, behaviors, and skills necessary in the practice of entrepreneurship. Using the example of business plan development and analysis, we suggested that this could be achieved using the situated learning and community of practice approach.

Perhaps the most important finding of the study is that experts and students using the EBT assessment tool did not differ significantly in terms of the overall decision to fund or not fund the business plan. This is an important finding for educators and students (potential entrepreneurs) alike. From the educator's perspective, the results of this study suggest that using pedagogical theories such as the situated learning approach is useful in teaching a craft such as entrepreneurship. From a student's perspective, this finding suggests that individuals can be better prepared when dealing with situations such as approaching VCs for funding.

As noted in our results, we utilized two different tools in our exercise and found that the assessment tool that included community of practice input (EBT) allowed students to better replicate the decisions of investment experts than the assessment tool without this input (TBT).

It is important to note that the goal of the research was not to test the two models but to show that by adding input from a community of practice to a model enhances the efficacy of the pedagogy described. Because the two models were vastly different, we were unable to make a criterion-by-criterion comparison. Instead, we showed that students are more likely to replicate the decisions of VCs using the model with community of practice input.

Interestingly, the results of the study do not show significant differences between graduate and undergraduate students. This leads us to suggest that this format is suitable at the undergraduate as well as the graduate level of education. More importantly, students and experts using the EBT instrument rated the business plans they evaluated similarly in terms of the decision about whether to fund as well as in terms of most of the individual criteria. There were two notable exceptions -- market size and management teams.

Since market size and management teams are likely to be two of the most significant criteria for investors, it is important to further examine this result. As previously discussed, this exercise attempted to replicate the first screening stage of a business plan, not the full due diligence process. In fact, it might be argued that management teams and market size are criteria that require more in-depth analysis and, therefore, are more likely to be examined under the lens of experience and due diligence than based upon any information one might glean from a business plan. However, since there was no significant difference between the experts and students regarding the decision to fund individual plans, we suggest that a model based on community of practice offers a viable solution for effectively teaching students the important criteria that investors look for when *screening* a business plan.

We acknowledge that the decision to invest in a business is often based on emotion, a personal interest in a market space or an institutional focus on an industry where an investor or group of investors have experience or expertise. Thus, our attempt was to create a model that would educate students on the criteria used by investors in general, not in specific. In other words, we cannot guarantee a student that his/her plan would be capitalized by an individual investor, but that given a broad pool of investors, a business plan that appropriately addresses the criteria in the EBT model will be more likely to move to more advanced levels of screening and, thus, more likely to find an investor. Again, we support using the EBT as one model in a multi-model pedagogy for teaching business plan writing.

We believe the exercise described in this study more closely replicates the complexity of investment decisions than the typical case study or textbook business plan outline and has proven to provide excellent opportunities for experiential and applied learning within the classroom. For example, the authors have used the EBT in entrepreneurship classes at all levels with the following assignments: read plans, evaluate and discuss differences in evaluations among students; evaluate plans and determine investment levels; reviewing financials and tying them back to the plan via the EBT model; review plans at various stages of investment; read plans and determine investment decision and write papers regarding decisions about investment; and use the EBT to evaluate their own plans or plans written by their classmates.

This study exposes some avenues for future research. First, we used a limited sample size of students from a single university; future studies could replicate this study with a larger and more diversified sample. Second, in this study, we focused on the criteria that venture capitalists deem important when initially screening a business plan. Future research could look at other communities of practice, such as the SBA, banks and other lending institutions, and angel networks. Finally, we have provided evidence that educators can utilize pedagogical theories to help improve the transmission of knowledge from practitioners to the classroom as far as identifying important criteria in business plan development. Future research could also look at other entrepreneurial behaviors or competencies and try to transmit those behaviors, skills and competencies to students in a similar fashion.

### **LIMITATIONS**

This study like any other is not without its limitations. First, we acknowledge that prior knowledge and experience of students could have played a part in their assessment. As noted, we attempted to control this by giving the experts and students business plans that were in industries where they had little or no prior knowledge. Second, the limited sample size could influence generalizability of the study's results; however, considering the fact that we used undergraduate as well as graduate students for this exercise does suggest that these results apply to both levels of education. Third, even though the cognitive aspects of decision making remain unexplored, our results suggest that transferring of meaning and structure are the first steps towards helping aspiring entrepreneurs. Finally, we understand that the ever-changing nature of the environment will influence the usefulness of this particular study, as criteria that were important when this study was conducted might not have the same importance over time. Therefore, researchers need to ensure that such criteria as well as structures are updated periodically.

### **CONCLUSION**

This research provides an example of how we can inform our teaching with our research. Writing a business plan is one of the most common assignments in many entrepreneurship programs. Moreover, we often evaluate the success of our educational efforts by the ability of our students to win business plan competitions and, more importantly, write a business plan that is funded by investors such as venture capitalists. Further, an effective business plan is also one of the most challenging tasks for any entrepreneur. The need for a plan often occurs when an entrepreneur is busy with the survival of an early stage company and when the entrepreneur cannot afford to buy help with the design and writing of the plan. It can be argued that writing a business plan is one of the most important elements in sound entrepreneurship education. Yet, the discipline has not yet agreed on accepted criteria for how this craft can most effectively be taught. Thus, we offer a teaching tool for how the craft can most effectively be taught.

This paper provides some insight into the use of a teaching pedagogy that can help in teaching students the skills associated with the design and crafting of an effective business plan. This way may be proven effective after additional testing in different universities and with varying types of students. In addition, it may prove to be valuable when adapted to other audiences and to other topics in entrepreneurship education.

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