

Adding to the Pedagogical Portfolio: Launching a Student Business in a Semester Course

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Common pedagogical approaches to entrepreneurship education include business plan writing, case studies, consulting, and simulations. Yet, in effect, these learning vehicles are simply proxies for the venture launch process. Operating under the assumption that learning entrepreneurship is a complex endeavor best addressed by a portfolio of pedagogical techniques, some instructors have experimented with launching student businesses in addition to traditional approaches. The challenge is how to do this with inexperienced undergraduate students within the confines of a 15-week semester. Included in the article are an outline of the process, a qualitative assessment of student learning, and suggestions for further research.

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Although starting primarily in the United States (Katz, 2003) university-level entrepreneurship education has become a world-wide phenomenon (Lautenschläger & Haase, 2011), including—but not limited to—Scandinavian (Rasmussen & Sorheim, 2006), Asian (Lee, Lim, Pathak, Chang, & Li, 2006), Eastern European (Mitra & Matlay, 2004) and Latin American (Tiffin, 2004) regions. Its popularity stems from several factors, including venture creation's potential to create jobs (Fölster, 2000), spur innovation (Audretsch, 2002; Fritsch, 2008) and mitigate social problems (e.g., Martin & Osberg, 2007). A fundamental assumption driving much of the popularity of university-based entrepreneurship education (EE) is that it will help students develop the mindset, skills, and knowledge needed to create new enterprises; in other words it can provide, "education for entrepreneurship" as well as "education about entrepreneurship" (Kirby, 2004; Rasmussen & Sorheim, 2006). The hope is that this, in turn, will increase the number of new firms and nonprofit organizations created by these students after they graduate, or perhaps even before.

For several decades, the foundation of a majority of university entrepreneurship education classes was based on writing a formal business plan. This approach made sense because it lent structure to the course, enabled systematic

coverage of relevant entrepreneurship topics (e.g., pro-forma financial statements, marketing plans, product development, industry analysis, etc.), and seemed integral to venture success. Indeed, a number of entrepreneurship scholars have presented evidence indicating that having a formal written business plan was associated with a number of positive outcome measures like revenue growth (Orser, Hogarth-Scott & Riding, 2000; Upton, Teal, & Felan, 2001; Schwenk & Shraeder, 1993), and avoiding business termination (Perry, 2001).

More recent work, however, is mixed. While some studies do find positive correlations between formal business planning and measures of entrepreneurial success (e.g., Delmar & Shane, 2003; Shane & Delmar, 2004), another group of respected researchers argues that the jury is still out; their data provide no empirical support for the premise that formal planning is directly correlated to a number of performance variables, including survival or profitability (Honig & Karlsson, 2004); revenue, net income, and number of employees (Lange, Molloy, Perlmutter, Singh, & Bygrave, 2007). Indeed one article explicitly stated that "unless a would-be entrepreneur needs to raise substantial start-up capital from institutional investors or business angels, there is no compelling reason to write a detailed business plan before opening a new business" (Lange, et al., 2007, 237).

Some faculty have come to the conclusion that although knowing how to write a formal business plan is a good tool to have in the entrepreneurial skills toolbox, it is not the only tool needed, and perhaps it is not even the most important. With this new perspective as the founding premise, alternative approaches to introductory entrepreneurship education are needed to ensure the curriculum is still relevant. "Relevance is important to entrepreneurship pedagogy because it influences the perceived legitimacy of courses and programs among stakeholders, including students, administrators, and parents" (Edelman, Manolova, & Bush, 2008, 57). For this, and likely other reasons, some instructors have been moving toward other pedagogical approaches, such as field trips, guest speakers, case studies and experiential learning (Daly, 2001; Jones & Iredale, 2010). In particular, experiential learning has been getting traction since it is based on the assumption that learning a skill-based process is best accomplished by doing the activity.

A review of experiential learning techniques used in entrepreneurship education listed a wide range of alternative pedagogies, such as role-playing, consulting, computer simulations, and internships (Solomon, Duffy, & Tarbishy, 2002). Yet, while all of these can be useful active learning vehicles, they are still, in effect, proxies for the actual process of starting a new venture. Students do not have “skin in the game,” do not build real relationships or experience any real consequences (Bilimoria, 1998). Neck and Greene have recently proposed that since entrepreneurship is “a continuous cycle of action, learning, testing, and experimenting, developing students as reflective entrepreneurs requires reflection-on-practice and reflection-in-practice as part of a pedagogy portfolio (Neck & Greene, 2011, p. 66).

The ideal would be for students to start their own business as an integral part of the course, and reflect periodically on the experience. This would give them opportunities to build self-efficacy, learn from failure, practice value creation and opportunity development, among many other potential learning outcomes. The challenge is, however, how can faculty members do this, especially with inexperienced undergraduate students within the confines of a traditional 15-week semester?

After analyzing the situation, some faculty members have acknowledged that the length of time typically needed for start-up and operations does not fit the academic calendar. One institution, Babson College, offers a two-semester course spanning an academic year in which student teams plan, launch, and close a business. Unfortunately, that approach is not feasible for many business schools that are limited to single-semester courses. Therefore, some schools have moved the experience “outside the curriculum, even outside the university institution” (Daly, 2001, 204). However, this solution, in effect, moves the start-up experience closer to “entrepreneurial training” than “entrepreneurial education” (e.g., Lautenschläger & Haase, 2011). Extracurricular activities, in general, do not provide as much structure, support, or reflection as activities assigned as a part of formal coursework.

What is described here is a “bridge” model that acknowledges the limitations of a traditional 15-week semester when designing and launching a business, while at the same time not losing the tangible outcomes and the potential for reflection generated by students over the course of an academic semester. In this model, the entire class creates and develops one new venture and brings it as far along the supply chain as possible, preferably to market. When the semester is over, it is officially handed off to the Entrepreneurship Club to fill in any remaining gaps and to run the business on an ongoing basis. While this idea was developed independently by the author, subsequent research revealed a similar approach has been successfully implemented at another institution of higher learning as well, although that was an Internet-based busi-

ness (Daly, 2001). What is presented below is a blueprint of how the course was run, followed by a preliminary assessment of learning outcomes, and suggestions for other entrepreneurship faculty interested in using this challenging but highly rewarding technique. The article concludes with suggestions for additional research on entrepreneurship education.

Before the Semester Began

While designing the course, I had to keep in mind the institutional constraint of a traditional 15-week semester with 2.5 hours of contact time per week. Launching a business in the “real-world” often takes a considerably longer timespan even when the entrepreneur works on it full time. Several techniques were used to fit the project to the constraints, including pre-selling, leveraging existing resources, and limiting the students’ product options.

First, prior to the start of the semester, I reached out to the key players in the project, including the bookstore manager, the Entrepreneurship Advisory Board, the Entrepreneurship Center Director, the supplier, and, of course, the Dean of the Business School. My goal was to pre-sell the concept to them and ensure their support. From the bookstore manager I sought her support for stocking the product in the campus store, which is run by a national chain. We also discussed specific issues, such as shelf set—which is usually done at the store’s corporate headquarters—pricing, and the need for a bar code on the product label. Approaching her before the semester started gave her an opportunity to reach out to her regional manager to get answers to potentially “deal-breaking” issues. Fortunately she got permission from her management to stock the product and sell it on a consignment basis, which meant that the normal rules (such as having the usual price mark-up and the need for a bar code) would not apply.

Our business school has a Center for Entrepreneurial Studies with a very active Director and Advisory Board. The board helps develop curriculum (two members also teach as adjuncts in the program), hosts the annual Entrepreneurship Hall of Fame dinner, raises funds for scholarships and the student business plan competition, and its members serve as frequent guest speakers in classes and at Entrepreneurship Club events. I approached them to see if they would be willing to offer technical advice to the students if needed, provide “external” oversight, and most importantly loan us funds for working capital. They were very enthusiastic about the project and quickly authorized a budget that was more than sufficient for our needs.

I met with a very active alumnus who, along with partners, owns a successful contract manufacturing firm in the state. This company fabricates and manufactures health and beauty products for many well-known clients in the United States and around the world. I toured the factory and as we

walked we discussed the project. We agreed that, given the significant time constraint, the students could only work with nonproprietary products that the firm had already produced and tested for quality and safety (such testing typically takes several months). She scanned the inventory, looking for overages, products produced “on spec,” and orders that were subsequently cancelled by the client. What resulted was a diverse list of potential products that included body powders, cosmetics, perfumes, lotions, shampoos and conditioners, body sprays, and air fresheners in various scents. Some of the products were “all natural” or contained botanicals. In total there were about seventy different products among which the students could choose. While allowing the participants to explore any opportunity would have perhaps been more realistic since real-world entrepreneurs are free to start any kind of legal business they would like, it just was not feasible in this case. However, given the range of products available, I felt confident that the students would still get a realistic feel for the process of finding an opportunity to exploit in their target market.

Finally, I spoke at length with the Dean of the Business School. My primary concern was the legal structure of the course. An advisory board member offered to form a limited liability corporation (LLC) for the class, but we ultimately decided not to go that route, mostly due to the ongoing reporting requirements. Our logic was that the company was being launched under the auspices of the university and solely for pedagogical purposes. We were selling the product only on campus and to the university community. Therefore any liability issues we encountered should be covered by the university’s existing legal structure. If we earned any profits after paying all our expenses, the monies would be either remitted to the school (perhaps to be allocated to scholarships or Entrepreneurship Club activities) or donated to charities.

Fortunately each person or entity contacted during the pre-sell phase enthusiastically embraced the idea and pledged their assistance. The students were still expected to engage with these partners (as outlined below), but I wanted to ensure, to the extent possible, that the partners would be active and supportive participants. I tried to anticipate and mitigate any factors that would significantly delay the project, such as getting an official bar code and doing shelf-life and other product quality testing.

In addition, I contacted a few university departments that I thought might be useful to the project, namely the Public Relations Department, Debit Card Services, and the Print Shop. I wanted to learn the policies and procedures my class would need to follow to access services. Given the supply chain delays that ultimately ensued, we did not avail ourselves of the PR Department’s services (although the business school’s PR manager did speak to the class about Public Relations and how it is implemented at the university). And,

since finals were rapidly approaching, the team decided not to sell their product at nonbookstore campus locations, so we did not need to draw money from students’ campus debit accounts through Card Services. Our product labels, however, were printed at the university’s print shop, so understanding the department’s procedures was useful.

Also, prior to the semester I carefully reviewed a wide range of entrepreneurship textbooks. Had this been a graduate-level course, I might have attempted the course without a book at all, but for undergraduates I felt the book would provide a much-needed “course anchor” (Edelman, Manolova & Bush, 2008, 59). Unfortunately, finding a textbook to support the course’s aims was quite difficult. Most undergraduate textbooks either focused on writing a formal business plan, which we were not going to do in the course, or they presented a broad overview of the field, including topics like social entrepreneurship, corporate entrepreneurship, family business, buying an existing business, franchises, etc. I settled on the book *Launching New Ventures* by Kathleen R. Allen, which did not focus on formal business plans, but instead focused on such things as proof of concept and developing a viable business model.

During the Semester

The class was oversubscribed, with 32 students on the roster; upper-level undergraduate classes are usually capped at 30. All the students were from the business school. The students’ motivations for registering for the course were mixed: for students earning an Entrepreneurship Certificate, this course was required; another subset was counting the course toward their management major; finally, for still others, the class was serving as a general business elective. The students’ primary majors were as follows: accounting (1); finance (2); management (which houses the Entrepreneurship Certificate program; 22); and marketing (7).

To start a company in this short period on a part-time basis, it was critical that the work be delegated to the “partners.” Thus, I set up a self-managed team structure. In an effort to keep the teams small—I wanted the students to get to know each other well, since working with others is a critical entrepreneurship skill—I created 11 different work groups with 3 members each (except for one team with 2 people): (1) Accounting, (2) Advertising, (3) Graphic design, (4) Investor Relations, (5) Legal, (6) Market Research, (7) Pricing, (8) Public Relations, (9) Project Management, (10) Sales, and (11) Supply Chain. At the beginning of the term each student designated their top 3 team assignment choices; fortunately there were enough divergent interests that all the students got either their first or second choice with only one exception. That student indicated she was happy to serve where she was needed. The teams were assigned tasks periodically throughout the semester (see Table 1 for examples

Table 1. Sample Team Assignments

<i>Team</i>	<i>Examples of Team Assignments</i>
Accounting	• What kind of financial reporting is required for an LLC? • Compile a list of the information you are going to need from the various teams to create a Profit & Loss Statement (P&L). • Investigate borrowing a scanner so students can use their Campus Debit cards to pay for our product if we sell it in nonbookstore locations. • Put together a preliminary P&L in Excel so we can do “What if analyses.” State the assumptions.
Advertising	• Design a prototype of an informational ad that classmates can post on their Facebook wall. Draft a poster that could be posted around campus. • Contact the college radio station & get the student advertising rates. Write a 30-second radio commercial announcing our product launch. • Create a storyboard for a YouTube-type video. • Brainstorm other advertising ideas and present to class.
Graphic Design	• Investigate Food & Drug Administration (FDA) rules about labels for health & beauty aid products. • What are the university rules regarding using the university logo on products? • Using the sketches we all generated in class, create 2 or 3 logos for our product (so we can vote). • Create a few different label layouts so we can vote. Overall label size will be about 7.5” by 3.75”, but there will be about a 0.5” overlap.
Investor Relations	• Attend the next Advisory Board meeting to describe the project and answer questions. • Write an executive summary as described in Chapter 9 in the textbook for the members of the Advisory Board. • Write a status report for the Advisory Board.
Legal	• What is an LLC (Limited Liability Corporation)? • Check the availability of the proposed product and fragrance names (at uspto.org). • Search for examples of legal issues regarding our product. What risks might we be facing?
Market Research	• Use the market research questions generated by the class to do an electronic survey. Then compile the results. What product type would most likely be successful? • Do an electronic survey of the proposed names listed above to see what students find most appealing. • Do an electronic survey of how students learn about things on campus: Facebook, college radio station (what shows do they listen to?), posters/flyers, message board in front of Student Center, etc.
Pricing	• What are the prices of the HBA products in the university Bookstore? How do they compare to the prices at the drug stores in town? Also, take a few pictures of the HBA shelf sets at both locations. • Propose about three possible price points for our product, and justify why you recommend each one. Assume the labels cost \$.90 each and the product itself costs \$1.50 per unit. • What does it mean to sell a product “on consignment”?
Project Management	• Collect project deliverables from all teams. • Use project management software to layout the project. • Monitor project progress.
Public Relations	• Write a press release (with the entire class as the “entrepreneur”) describing our efforts. Assume this is for the university newspaper. • Write a press release for an external audience (e.g., local newspaper).
Sales	• Create an elevator pitch for our product. • Plan our sales meeting with the bookstore manager. Write a sales pitch (5-10 minutes long). Include all benefits to the consumer and the customer. Remember a good sales pitch tells an interesting story! • Investigate other potential locations for selling our products.
Supply Chain	• Tour the manufacturing facility and report back to your classmates. • How do we get a bar code? • Get bids & lead times for 1- and 2-color labels from three or more printers. The labels will be about 7.5” by 3.75”, quantity 350. • Contact our supplier to let them know our production estimate (350). Confirm that we will be using the bottle that we were given at the start of the semester. Ask for our estimated production date! • Contact the bookstore manager and ask how many cases of product she would like on hand.

of work assignments), and then they presented their progress or results to the class. Other tasks were done by the class as a whole, such as naming the company, selecting and naming the product, and designing the logo. Aside from external relations and some coordination, I tried not to do any of the work, including making decisions.

To facilitate making class decisions, I used our university's proprietary survey software, sometimes even creating a survey on the fly if a decision came up during a class session. Students used their laptops to vote in the classroom, and I was able to post the survey results in real time. This meant the decision-making process was transparent (in fact, students were sometimes surprised at the distribution of responses—a good learning outcome in-and-of itself), yet kept the individual votes of the students anonymous. Thus, the more extroverted students did not inadvertently suppress the quiet students' perspectives, and students were not subjected to as much pressure to vote a certain way simply to please the instructor or their peers, as might occur with a simple show-of-hands approach, for example.

The class met twice a week for an hour and 15 minutes per session. Typically one session a week was devoted to lectures, which covered basic course concepts, reviewed material from the textbook and introduced various tools, such as nominal group technique, project premortems and mind-maps. During the other session, we either applied those tools to our project—for example, we used the nominal group technique to generate our product name—or reported on the work teams' results.

The original course schedule called for us to launch our product just prior to the Thanksgiving break. However, we had two glitches related to the supply chain that caused us to postpone our launch. First, our first prototype was not what the class expected, and it did not seem like it would appeal to our target market. Therefore, we had to “go back to the drawing board” and select a more appropriate formulation. After that issue was resolved, we then faced some production delays that caused us to miss our revised deadline of the first week of December. Our supplier was a tremendous resource and a generous benefactor. However, this firm was also growing very rapidly (over 75% last year) and had just recently added a new layer of management. Upon reflection, it was an unplanned, but valuable lesson for students to learn that an unknown start-up with no track record will often slide to the bottom of a supplier's priority list when the supplier's reliable, established customers or a hot new prospect needs attention.

The original goal was to launch the business by the end of the course; however, as of finals week, the product was produced and labeled but was not yet available in the Bookstore. Instead of letting the project drop, it was decided that it would be “bridged” over to the Entrepreneurship Club on

campus. Members of the club took the materials generated by the class, including the product itself, advertising materials, and press releases and then completed the launch at the start of the following semester. Of course, all the students from the course were invited to participate in this final phase, and many enthusiastically did. However, several had graduated, a few were working at internships and some were simply not interested.

Student Learning and Reflection

Given this was the first time I taught the class using this method, I asked for a lot of feedback from students. In addition, reflection was an integral part of the course on a periodic basis. For example, in a written, in-class reflection assignment toward the end of the semester many students were very positive regarding their evaluation of the course. For example, one student wrote, “The experience of launching [our product] was one of the most beneficial projects I took part in at business school” (Student #6, Senior, Marketing). Another student shared, “I don't think there is a better way to be better prepared as a future entrepreneur than to create an actual company and product (Student #24, Senior, Management). Finally, a student wrote, “This was a great experience that I heavily valued (Student #22, Senior Management).

A common theme was the hands-on, experiential nature of the course. For example: “From the first choices we made as a team, till the last choice we made, it has been a very ‘hands-on’ experience that gave me more knowledge and insight into entrepreneurship than I would have gotten simply out of a textbook” (Student #7, Junior, Management). Another agreed, “This [class] was so useful because unlike an exam or an essay, this semester was a real experience. It allowed me to learn what entrepreneurship is all about with real hands-on experience (Student #13, Senior, Management). A participant similarly reflected, “The development of [our product] allowed me to put these valuable concepts to use and view the effectiveness of them in a real-life, business atmosphere” (Student #20, Senior, Management). Finally, one student drew a parallel between the course and fieldwork: “[Our product] was actually a great experience for me. I am getting my certificate in entrepreneurship and we invented a product! The main reason why this was so useful was because I witnessed a product from start to end, seed to plant. The experience I obtained almost felt like fieldwork.” (Student #21, Senior, Marketing).

But not all was wine and roses. Some students were a bit surprised about how complex and difficult the process of launching a business can be: “The most important idea that I learned from the creation and launch of [our business] is how much actually goes into creating a company and product. It was truly amazing to me to learn how much coordination and effort went into creating this one product” (Student

#22, Senior, Management). This was a common theme: “Only through starting from scratch in class with a brand new product was I able to see how much is truly involved in selling a single product in a controlled environment” (Student #16, Senior, Management). Another student concurred: “Our new product was not a failure but the course made us students realize that in the real world there will be delays, confusion and hurdles, which may at times be out of the entrepreneur’s control” (Student #24, Senior, Management). This perspective was also shared by another participant: “The most important thing I have learned about launching a [business] is how unpredictable the whole process can be. Before seeing the actual process firsthand, I had a bit of a misconceived notion that launching a product would not be too difficult and the people involved would be cooperative and punctual. I have learned that patience is essential to launching a product as is your network” (Student #32, Senior, Management). Finally, a student observed: “Starting a new company within a class was a very ambitious and experimental endeavor on behalf of the students in our entrepreneurship class. I do not think anyone involved had the slightest clue of how many moving parts there would be throughout the whole process” (Student #25, Senior Management).

Interestingly, the realism of the project also seemed to bolster self-efficacy for some of the participants, as was shared by this student: “I gained confidence and know what to expect” (Student #26, Junior, Management). Another student wrote: “These ideas are useful to me. [The course] showed that the concepts I learned...help [launch a business] and [will] prove to be effective if I were to start a venture like this on my own” (Student #28, Senior, Management). Another confident participant shared: “The most important idea that I learned is how everyone has the opportunity to become an entrepreneur and that it does take time so do not get frustrated. We came into this class with little knowledge and by the end we have what it takes to make it in the entrepreneurial world. We did everything an entrepreneur did except actually [manufacture] the product” (Student #29, Junior, Management). In another example a student observed: “Throughout the process we faced many difficulties and we saw firsthand how we needed to improvise on the spot to get things done when we were presented with setbacks” (Student #7, Junior, Management). Another noted, “If I ever need to launch a product in the future, I now know all the steps” (Student #13, Senior, Management). Finally, a student reflected, “This semester gave a good insight into the steps and processes that it takes to launch a business, which has helped to develop my own business skills. Experiences like these are very useful to me because I someday want to launch my own business. Doing these things hands-on and seeing the importance of each step has given me a better understanding of how to launch a busi-

ness” (Student #31, Senior, Management).

While many students were inspired by actually launching a business, others realized that entrepreneurship may not be for them. This, too, is a valuable outcome. For example one student confessed, “In the end, I realized that I’m still not positive whether or not I’d like to become an entrepreneur” (Student #16, Senior, Marketing). Better to learn this in the university setting, than to learn it after quitting your job and mortgaging your house!

At the end of the course, all the students were asked to respond to the following prompt: “What was the most important thing you learned this semester in this course? Why was it important to you?” What was fascinating was the wide range of responses, everything from the importance of contingency planning to the concept of bootstrapping. See Table 2 for a complete listing.

Instructor Learning and Reflections

This approach to entrepreneurship education is challenging, but it was not much more involved than preparing for any new course. The difference is that it would be a “new course” every time you taught it. Teaching a class like this is difficult to plan, except, perhaps, for the certainty that something will go wrong at some point in time. Therefore the flexibility to switch to contingency plans and the ability to see failure as an opportunity for reflection and learning are necessary qualities of the instructor, as well as the students. This approach to entrepreneurship education is not recommended for faculty who dislike ambiguity. However, if you do decide to pursue it, the major benefit will be that the course will be fresh and exciting each time you teach it.

What was surprising—and upon reflection I’m not sure

Table 2. What Was the Most Important Thing You Learned in this Class?	
<i>Course Concept, Process, or Tool</i>	<i># of Students Mentioning Concept, Process or Tool*</i>
Analytical & decision-making skills	2
Bootstrapping	2
Collaboration & team work	4
Contingency planning	2
Coordination & communication	4
Developing a marketing/branding strategy	3
Entrepreneurship/business launch process	6

why this was surprising to me after decades of undergraduate teaching—about this course was how much supervising the supposedly self-managed work teams needed. In addition, perhaps because they are so used to “academic” exercises, they needed constant reminders to follow through. For example, the Public Relations team wrote a press release for the university newspaper, presented it to the class for approval, and then never sent it. I speculate that they thought, as per their other courses, once it was submitted to the professor or presented in class, it was done. Next time I will be more explicit throughout the semester about the importance of taking initiative and following-through to completion. This course is not just another “academic” exercise.

Overall the experience was very rewarding for both me and the students. However, there are a number of things I would do differently, if I were to teach it again. In the next few paragraphs I reflect on the aspects of the project that needed improvements, especially the need to (1) decrease the number of work teams & better balance the workload, (2) leverage more outside resources, (3) require more updates and formal reporting, and (4) shift the instructor’s role to include less “teaching” and more “consulting.”

First, I would have fewer teams with slightly larger membership per team. The problem with the team structure I designed at the start of the semester was that it did not smooth out the workload across the semester very well. For example, until the market research results were available, several teams had nothing to do. In addition, some teams just had more work to do overall than other teams. For instance the sales and pricing teams only contributed a small portion to the overall project, while the marketing research and advertising teams did more than their fair share of the work. This was not a function of the teams’ motivation or efforts; rather it was primarily due to the kinds and numbers of tasks assigned to them. Therefore, in the future I would organize the following teams: (1) Accounting & Pricing, (2) Public & Investor Relations, (3) Project & Supply Chain Management, (4) Advertising & Sales, (5) Market Research, and (6) Graphic Design (which would include research into trademarks). This would result in teams of approximately five to six students each—still a manageable size, but with a more balanced and evenly distributed workload.

Second, I would better leverage my outside resources. The two times I had guest speakers—the print shop manager and the public relations manager—were very effective. The speakers provided concrete advice and real-world perspectives, much of which was directly related to our project. Next time I will invite members of our Entrepreneurship Advisory Board to speak to the class, even if what they are sharing is not directly applicable to what we are doing. For example, one board member is a lawyer who specializes in start-up and small to medium-sized businesses. In the future I will invite

him to speak even if we do not plan to incorporate the business. In addition, despite her heavy schedule, I would invite the supplier to speak to the class mid-way through the term, to share her perspective of the project and perhaps even to speed up decision making. While two students did tour our supplier’s production facility, the experience would have benefited all the students, many of whom have never been in a manufacturing plant. With all guest speakers, I will encourage a two-way dialogue, with the students asking the experts for mentoring and specific guidance on the project.

Although the student teams did “report out” their results on a periodic basis, I would, in the future, have them give weekly updates. This would keep the other teams informed, while also serving to keep the project top-of-mind. Our students are very busy with internships, job interviews, part-time jobs and full-time coursework, not to mention social lives. Sometimes, I suspect, the project sank down on their list of priorities. Finally, this semester I was the de facto project manager, but going forward I would require the Project & Supply Management team to use project management software to keep track of what work has been accomplished, what still needs to be done, and who will be responsible.

Conclusion

Launching a new enterprise is considered the heart of entrepreneurship (e.g., Gartner, 1988; Delmar & Shane, 2004). It requires three major skill sets for success: the ability to “create a needed product or service, sell it, and work with people” (Aronsson, 2004: 290). Unfortunately, few of the pedagogical approaches used in entrepreneurship education today encompass all of these skill sets in a holistic manner. Many common entrepreneurship techniques are focused on proxies or abstractions where student decisions do not have impact on the “real world” and are based on non-experiential methods (see Figure 1). Such pedagogies can be efficient and effective means of conveying entrepreneurship content—

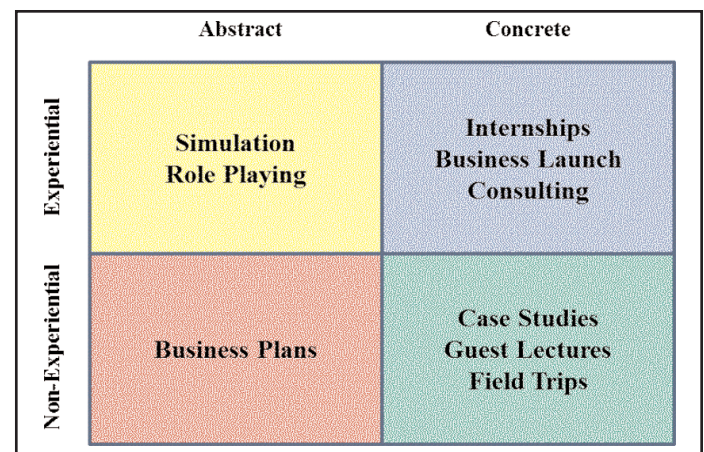


Figure 1: Pedagogical Approaches to Entrepreneurship Education

such as the elements of a business plan, types of financing available to entrepreneurs, how to incorporate, the product development process, and so on. These techniques actively involve students in entrepreneurial cognition, “the knowledge structures that people use to make assessments, judgments or decisions involving opportunity evaluation and venture creation and growth” (Mitchell, et al., 2002, p. 97). However, becoming an entrepreneur requires more than acquiring the right knowledge structures; it involves a holistic combination of motivation, skills, and experience as well.

By not providing a venture experience in class, students must wait until they launch their own business to have this kind of multidimensional, holistic experience, and, hopefully, learn from it. Yet, students in the “real world” might just move on to the next challenge, issue or opportunity, without taking the time to learn from their successes and failures, especially since they would not be required to do course reflection assignments. And even if they do reflect, learning from these experiences would probably be facilitated through coaching and mentoring offered by faculty members.

As a result, “a change in curriculum is needed” (Aronsson, 2004: 290). Indeed, there have been several calls for entrepre-

neurship education to highlight “the process by which people [actually] go about transforming an idea into something tangible” (Gendron, 2004). Given that entrepreneurship is a practice-oriented discipline, we need to be sure to include teaching techniques located in the upper left-hand quadrant of Figure 1 in our portfolio of entrepreneurship pedagogy.

Multiple learning outcomes were experienced by the students who participated in the venture creation project during the semester, as indicated by their unprompted reflections (see Table 2). In particular, I propose that self-efficacy, which has been defined as “the strength of a person’s belief that he or she is capable of successfully performing the various roles and tasks of entrepreneurship” (Chen, Greene, & Crick, 1998: 295), is more likely to be developed through a course-related business launch experience than another other activity in the pedagogy portfolio. An additional benefit to this technique would be that students would also likely have a better idea if they “really [want] to take the entrepreneurial career path” (Aronsson, 2004: 291), or would prefer to pursue other employment options. But both suppositions are empirical questions that need further research.

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