March 20, 2016.

Course Development Project: Final Report

Brian P. Reschke
Department of Organizational Leadership and Strategy
brianreschke@byu.edu

The following report describes my course development for BUS M 470: Entrepreneurial Innovation.

COURSE BACKGROUND

I teach Business Management 470: Entrepreneurial Innovation. This is among the first set of courses undergraduate entrepreneurship majors take after being accepted into the major. Additionally, students from other Marriott School of Management majors (strategy, organizational behavior and human resources) take this course as an elective. The purpose of the course is to help students *engage in entrepreneurship* in an intentional, systematic way, and to *gain confidence* in their ability to identify and innovate solutions for problems. My course focuses on the generation and evaluation of ideas for new ventures; from this course, the majors will go on to learn other skills fundamental to actually launching new ventures.

While I have generally inherited most of the course content and activities from a predecessor, this past Fall semester I conducted a significant course revision. This was in part driven by the creation of a new course that ran concurrently with BUS M 470 and that absorbed about one third of the content I taught last Fall. This required and allowed me to generate several new learning experiences, as well as to allocate more time to some course Learning Objectives requiring more emphasis.

LEARNING OBJECTIVES AND RELEVANT COURSE ACTIVITIES

The following section describes the Learning Objectives and associated Course Activities for BUS M 470. Prior to teaching this course in Fall 2016, I revised these outcomes to better align with program Learning Outcomes. These Learning Outcomes reflect

the entrepreneurship major's priority of developing critical thinking skills, as well as the university's and Marriott School's emphasis on "Learn, Do, Become". For instance, the required and elective courses that follow this course generally take as a given that students are able to supply a creative new idea for a new venture: some of the electives require visible progress on a business idea as a pre-requisite for admission. Additionally, the outcomes reflect an orientation towards learning that leads to action, and, ultimately, personal development—as students learn systematic approaches to idea generation and design, they immediately apply these lessons in course-long projects that are regularly evaluated by me and their peers. In all, the outcomes described below are well-suited for the course's timing relative to student's entry to the major, and encourage a pedagogical strategy of reinforcing content through application.

Generate Creative New Ideas

Cultivate your ability to think creatively and generate new ideas.

- Supports the Program Learning Objective of "Innovate" to solve real-world problems by increasing students' awareness of their world and considering ways it could be different.

Relevant Course Activities

- Students keep an Idea Log throughout the entire semester in which they record and develop novel ideas for potential customer problems and associated solutions. They submit entries each week and also use the Log as a place to capture learning from some class exercises. Many have described this project as one of the best takeaways from the course, as it has spurred their development as critical thinkers. I also keep a Log and share insights periodically throughout the semester; this helps model certain patterns of creative thinking and provides a chance for students to connect with me on a personal level.
- Students complete an online assessment of their Discovery and Execution behaviors. We use this as a springboard for discussing what creativity and innovation are, and how these attributes and activities are pliable and can be developed with practice. They also engage in a number of personal improvement projects in which they strive to do such things as ask more questions and seek new experiences. These activities broaden students' sources of new ideas, which in turn helps them participate in a higher rate of idea recombination.

Understand Customers and Competitive Contexts

Develop rich descriptions of customers' experiences with a specific problem and the performance of existing solutions.

- Supports the Program Learning Objective of "Managing Uncertainty" by cultivating a deep understanding of sources of uncertainty in potential markets they may enter as entrepreneurs.

Relevant Course Activities

- Prior to attending a certain session of class, students view an instructional video by Brene Brown distinguishing between *sympathy* and *empathy*. Students then design and execute a self-improvement project in which they intentionally engage in more empathetic behavior towards those around them. While applying empathy towards significant others (spouses, friends, roommates), they also acquire greater awareness of customers' challenges.
- As a component of their second major term project, students design and implement two empathy experiences in which they try to simulate or directly experience the challenges of their customer of interest. They are then encouraged to identify a problem or pain of customers to solve based on learning from these experiences. Throughout the rest of the course, we emphasize the importance of understanding customers, particularly as we base solutions out of direct interaction with them and their problems.
- Student groups participate in a "Domain Deep Dive" project, in which they are to exhaustively identify the existing solutions for the problem they are trying to solve.
- We also lead the course with a case entitled "R&R", which permits a discussion of Porter's Five Forces, a tool for competitive analysis of industries. We return to this model in future discussions of market entry.

Formulate and Prioritize Hypotheses

Identify and prioritize assumptions about customers, their problems, and new solutions.

- Supports the Program Learning Objective of "Managing Uncertainty" by giving students a method of organizing their approaches to problem discovery and solution generation. By positing cause-and-effect relationships (hypothesizing) and then acquiring data to test these assumptions, students can see uncertainty is as manageable as our ability and resources to engage it scientifically.

Relevant Course Activities

- As a class, we conduct several in-class activities that teach the principles of effective hypotheses and hypothesis testing. For example, in a discussion of a Ducati Corse Motorcycle case, we generate hypotheses for why Ducati failed to maintain their success rate in industry competitions; we also discuss how Ducati's approach to innovation did not facilitate hypothesis testing.
- Additionally, students are asked to identify and justify the hypotheses that they examined in each of their project presentations.

Create Elegant Solutions

Apply principles of design to create and validate elegant solutions to customers' problems.

- Supports the Program Learning Objective of "Innovate Solutions" by facilitating students' direct participation in creating and applying solutions.

Relevant Course Activities

- After a course lecture on principles of elegant solutions (Strategic Inventive Thinking), students conduct several in-class activities that allow them to apply the principles. For example, students were asked to bring a prototype of the solution their group was developing, and peers evaluated (among other things) the elegance of the proposed solution.
- As part of their Solution pitch, student groups were required to evaluate the elegance of their proposed solution.

Validate Entrepreneurial Opportunities

Evaluate desirability, feasibilty, and viability of potential new ventures through rigorous hypothesis testing.

- Supports the Program Learning Objective of "Create New Businesses" by supplying criteria whereby students can gauge whether a business opportunity should be pursued. In so doing, this objective supports the Program Learning Objective of "Manage Uncertainty".

Relevant Course Activities

- This outcome is best realized as students engage in the course-long group projects, in which they are assessing a potential business idea in terms of the demand for

a solution, the feasibility of a solution, and profitability/sustainability of delivering a solution.
- The final exam consists of a class presentation in which students synthesize the evidence of the semester and make an up or down decision on whether to pursue the entrepreneurial opportunity in subsequent months.

DISCUSSION OF COURSE ACTIVITIES

The course activities highlighted above demonstrate a mix of individual projects and group assignments. This distribution of course activities helps encourage personal application and initiative, while also facilitating natural stretching through the presence of peers on team projects. Thus, in addition to the feedback I provide on individual assignments, students are receiving formal and informal feedback on their efforts from peers on an even more frequent basis. The activities also represent an assortment of learning types: daily "catalysts" (pre-class activities or quizzes that spur in-class discussion); case analysis and discussion; personal improvement projects reported through essay responses; video supplements; discussion of current events; and group projects. In encountering a variety of instructional mediums, students experience course concepts and principles in a manner that caters to diverse learning styles and also have more opportunities for concept reinforcement. Additionally, as described at the beginning of the previous section, I am continually updating course activities in response to curriculum changes and student feedback; I also strive to stay abreast of current events in entrepreneurship and draw on the experiences of local startups for "mini-case" discussions. I have also updated cases to reflect more contemporary questions and challenges, while retaining "classics" whose lessons are even more important in increasingly turbulent environments. In these ways, I seek to provide students with the most current thinking in the field, and I direct them to outlets and habits that will help them continue to be so.

ASSESSMENTS OF STUDENT LEARNING

The assessments of student learning are intermingled with the activities I conduct. As described in the previous section, they arrive at varying frequency: for example, "catalysts" are administered as quizzes before class sessions begin; as we debrief the quiz, we can naturally assess what learning did and did not occur, and often I have altered plans accordingly. The assessments are also timed to provide multiple attempts at significant milestones. Particularly, there is not just one final project presentation, but four spaced at three to four week intervals. I also have a "practice" group project in which the consequences for the grade are not as great as the four major project pre-

sentations; several groups successfully re-tool after an enlightening evaluation at this stage. Additionally, I incorporate students' assessments of their peers in the weighting of group grades. This helps bolster accountability to one another, and also allows me to assess what groups are having interpersonal difficulties that are obstructing learning.

The assessments are valid measures of learning. This is because they are largely behavioral in nature. For example, the Learning Outcome "Generate Creative Ideas" is assessed by means of the Idea Log they submit weekly and in a culminating project at the end of the semester. It is a stretch to stay consistent with this habit, but students that complete it have clearly been applying themselves to their environments, and many have described in personal conversations that they are more generative than they have been before. (The degree to which they are "creative" is hard to standardize, of course, but by varying the prompts that I supply them, they are more likely to ideate in new ways. See the Idea Log prompt in the Appendix.) Also, the activity they engage in to Create Elegant Solutions or Validate Entrepreneurial Activities generates artifacts in the forms of prototypes, qualitative and quantitative responses, models of customer behavior that did not exist prior to their efforts. These are activities students and future employers can point to as evidence of ability. In all, the behavioral nature of the course provides ample opportunity to view assessment validity.

STUDENT ACHIEVEMENT OF LEARNING OUTCOMES

Below, I describe evidence that students have achieved the Learning Outcomes.

Generate Creative New Ideas

Every student except one achieved a 90% or higher on the final idea log deliverable; that is, the vast majority of students were consistent in their frequency of idea generation, and thus merited high credit on this assessment. Had more students failed the assignments entirely—that is, not generated ideas—there would be cause for concern that idea generation was not happening as a result of this class.

Understand Customers and Competitive Contexts

The most direct assessment of students' ability to understand customers is seen in their performance on the empathy development project. I was quite surprised with the quality of students' efforts to develop empathy with others—many students accumulated extra credit as a result of this assignment. Particularly convincing is that all students except two completed this project, thus expending considerable time and effort directing their attention to others rather than themselves.

Additionally, a generally high score for each group on the presentation components focusing on customer understanding suggests this Learning Outcome is being reached.

Formulate and Prioritize Hypotheses

While I am familiar with students' engagement in hypothesis development, I do see that my present course assessments are sparser in the evidence for this Learning Outcome. I will discuss plans for improvement for this area in the section to follow.

Create Elegant Solutions

One of the most convincing points of evidence for this learning outcome is summarized in the students' performance on an in-class exercise (evaluating a peer's prototype) they then reported on in a subsequent turn-in assignment. Students did well on this assignment, with very few achieving less than 80% on the assignment. The qualitative evidence is more striking: as I look back over student responses, I see that they understand that elegant solutions can be achieved by applying the steps of strategic inventive thinking (SIT). Students were detailed in adhering to the steps of this paradigm, and they provide cogent recommendations for how their peers' projects could improve. I saw several groups modify their solutions based on the feedback generated by this assignment.

Validate Entrepreneurial Opportunities

Evidence for this outcome is visible in the strong performance of almost all groups in the final pitch assignment. This was the culminating assignment of the semester, and students recognized that they were supposed to take stock of all they had learned to that point and make a clear decision on whether to pursue their ideas or not. I was impressed with how students stepped up to the challenge—on the whole, they did better than last year's cohort of entrepreneurship students. In particular, students did well in making clear recommendations, bolstering my confidence that they can similarly advise companies on new product launch decisions or evaluate future entrepreneurial opportunities. I feel that having an additional project milestone—the Existing Solution Deep Dive—contributed to this stronger performance.

PLANS FOR IMPROVEMENT

As mentioned above, I see that the Learning Outcome "Formulate and Prioritize Hypotheses", while having several learning activities allocated to it, the nature of the as-

sessments does not provide clear evidence one way or another (for myself or for students) that students are mastering this topic. Accordingly, I will incorporate a new assignment in the spirit of that for assessing SIT in which they have to evaluate the quality of peers' hypotheses. This will not only provide feedback to student groups that should improve their projects, but also allow me to see where students may not understand effective hypothesis generation.

Additionally, as a result of reading student comments and soliciting feedback from colleagues who observed me, I would like to do better in helping students see how each class session fits into the broader picture of the course. Some students described enjoying the class activities, but not really understanding the purpose behind it or how it connected to course objectives. This is something I take seriously, since Learning Objectives have little value if students are not able to see the change in their own attitudes and behavior over the course of the semester. I want to address this by an adjustment to my start of class ritual: I want to have a slide up at the start of class as students file in identifying (if appropriate–I may want to surprise them) the agenda for the day and how it connects to the Learning Objectives. I was pleased to see that students reported higher levels of spiritual development and character building as a result of the class: this was an area that I identified for improvement last year. I will continue to interweave testimony and gospel principles organically in my teaching.

CONCLUSION

In all, the process of preparing this course development report has helped me see areas for course improvement. Particularly, it has helped me see why the feedback on giving students more clear connection with Learning Objectives is so important. I look forward to the next opportunity to implement these plans for my development as a teacher.

Appendix

IDEA LOG PROMPT

What is your best new idea? Why is it a good idea? (See instructions on the idea log below for features you may address to describe the quality of an idea.)

Keep an idea log throughout the semester and record your ideas.

"If you want to have good ideas you must have many ideas. Most of them will be wrong and what you have to learn is which ones to throw away." (Linus Pauling). To have and keep more ideas, keep an idea log throughout the semester. In addition to describing the idea, you may want to describe what knowledge was recombined, the associative thinking involved, target customers and their pain, possible solutions, and/or market conditions. You will submit the idea log at the end of the semester for me to evaluate. You may use any means to record your ideas – it does not have to be pen and paper.

Your idea log will be the place you will record and develop your many ideas. Individually, you will deliver at least ten (10) novel ideas using the tools of the course. (Ideally, you will discover far more than ten novel ideas but I will evaluate ten.) You will submit your best ideas in Gradebook and submit no more than one idea per week.

You should be having, recording, and developing many more than ten novel ideas. At the end of semester, you will submit your completed idea log for evaluation. You may submit an electronic copy through LearningSuite or a paper copy in class. You will already be getting credit for the novel ideas during the semester so I will primarly be evaluating the other ideas in your idea log.

My goal here is to help you build a habit that is one of the keys skills of innovators. It is notoriously difficult to evaluate the quality or novelty of an idea. I am not going to try. I will evaluate the habit you are forming and the process you use to find, record, and refine your ideas.

Criteria I use to evaluate your idea log:

- The number of ideas in addition to those submitted as weekly novel ideas.
- The quality of ideas entered. Are they just simple statements of a cool product or thoughtful entries of pain and solutions that use the principles of the class? Are the top ideas being revisited over time as new evidence sheds new light on the ideas.
- The pattern/timing of entries. Is there evidence of a habit of entering ideas or were they entered in a rush at the end of the semester?
- Were the ideas clearly dated? Are the submitted ideas clearly marked to distinguish them from non-submitted ideas?

Criteria I use to evaluate your submitted ideas:

- I will evaluate the novel ideas based primarily on your process for discovering them. I will probably not provide much feedback on all of your ideas. If you have a particularly good idea on which you want more extensive feedback, please let me know. In addition to the basic idea, you may include information

such as (you do not need to include all of these facets, the list is here to remind of you things you may want to record about your idea)

- Where did the idea come from? Which of our creativity tools generated your idea? What knowledge did you combine? What additional knowledge do you need? How will you get it?
- What is the problem to be solved? Who has this problem? How deep is their pain? What are the existing solutions? Why is there residual pain?
- What is your proposed solution for this pain? Is it likely to be adopted? Is it elegant? What does the solution landscape look like and how will you search it?
- What is the market you are entering? What is the market size? Who are the competitors? What are your competitive advantages and how do they serve the customers' pain?
- Why are you well-positioned to see and pursue this opportunity? What supplemental expertise or insight do you need to improve your odds?
- How much value do you expect to be created? Who is likely to appropriate the value that is created? How much value are you likely to appropriate?