



Experiential Entrepreneurship Exercises Journal

***Enabling More Active Entrepreneurial Classrooms
Through Sharing, Learning & Doing***

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If you are passionate about increasing the role of experiential learning in entrepreneurship education, and are interested in joining the Editorial Board, please contact Doan Winkel at dwinkel@ilstu.edu.

Call for Articles

Experiential Entrepreneurship Exercises Journal (EEEJ), published quarterly, is a forum for the dissemination and exchange of innovative teaching exercises in the fields of entrepreneurship, creativity, innovation, and small business management. EEEJ is currently seeking original contributions that have not been published or are under consideration elsewhere.

The scope of all articles published in EEEJ is limited to experiential exercises, with maximum relevance to those teaching entrepreneurship, innovation, and small business management. The Journal appeals to a broad audience, so articles submitted should be written in such a manner that those outside of academia would be able to comprehend and appreciate the content of the material.

Format

All formatting requirements and author guidelines can be found at http://launchideas.org/?page_id=2

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All articles submitted to EEEJ will be double-blind reviewed. Authors will normally receive reviewers' comments and editor's publishing decision approximately 60 days after submission.

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Setting the Stage: Thoughts from the Ivory Tower

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[@Trep_Ed](#)

Entrepreneurship is a collaborative and collegiate endeavor. Or at least it should be! Great minds think alike – or, as a good friend of mine pointed out, you might prefer to think fools seldom differ. In this spirit of great minds (or fools) and entrepreneurship, this journal is an offering of exercises and activities surrounding the practice of entrepreneurship, creativity, innovation, and small business management. Due to the very nature of this subject matter, and the premise upon which this journal is being built, there will often be significant overlap between exercises you find here and others being conducted in classrooms and workshops around the world.

This overlap creates the very value we are trying to create and enable. One way we hope to achieve this is through cross-disciplinary utilization. For instance, one exercise might be highlighted in one discipline – perhaps the sciences. A reader could pluck that exercise into their discipline – perhaps the arts – and inform the readership how they adapted it, how it did or did not work, and what were the implications for improving the exercise and student experience in the new discipline.

Another way we hope to achieve this is eventually through commentary and follow-up articles. If you find an exercise in these issues that you have used and tweaked to fit your circumstance, please write that up as a commentary to that specific exercise, and we will publish it. If you use an exercise you find in these issues, please take time to share with us your experience and we will publish it. Our hope is to provide not only a constant stream of engaging exercises, but also a constant stream of updated, reshaped, and enhanced versions of the exercises originally published in this journal.

Very few of us are going to “invent” an exercise, just as very few of us “invent” a new product or service. Please share your exercises freely with the community here, in an effort to enhance the experience of students languishing in classrooms around the world. My hope is that authors and readers not get caught up in ownership and territory (the sort of things that have created the silos that many of us are now trying to tear down), but instead get caught up in sharing and learning and the notion that a rising tide lifts all boats.

I appreciate the efforts and patience of all our Editorial Board members, authors, reviewers and readers as we work through the sometimes difficult process of legitimizing an academic journal focused on practice.

Micro-Enterprise Group Project: Start a small business with \$20.00 US

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Abstract

The purpose of this experiential project is to provide students an opportunity to understand and experience the various aspects of entrepreneurship and small business ownership and management at a deeper level. This is accomplished by: identifying an opportunity, taking a small risk, creating their own small business, meeting customer needs with products that have value, promoting their business, and managing cash. Secondly, the profits are donated to charity. This solidifies in students minds that business can and does play a positive role in society. So far, \$3940.00 has been raised for charity.

Keywords: New venture, startup, small business, experiential learning, group exercise.

Subject Area: Entrepreneurship

Subject Topic: Opportunity Recognition and Analysis

Student Level: Undergraduate

Time Required: Semester (15 minutes per week classroom time)

Recommended Number of Students: 50-100

The Introduction to Business course was created in response to an issue at our University concerning students dropping Business for other majors. California Baptist University undergrad business students take accounting and economics as their introductory courses but many students found the quantitative courses not very interesting as well as often times difficult). Comments such as “if this is what business is, I don’t like it”, were often heard. The mandate for change came from CBU’s Administration to make this new class “fun”, not to allow it to be perceived as hard, and yet still allow the students to learn business principles and concepts. Now in its third year, Introduction to Business continues to evolve. Textbooks, which were used during the first five sections, have now been eliminated. Bloomberg BusinessWeek subscriptions were purchased for each student and the publication is reviewed in class in order to make the learning current, timely, and to aid in discussion.

In order to answer the “fun and enjoyable” mandate, an experiential class project/competition was created as the best way to introduce students to the principles and concepts of business. This project has been operating for three semesters, spanning five different class sections with a total of 293 students participating. After teambuilding and getting-to-know-you-exercises, students self-formed teams of 3-4 students each. Teams were given up to \$20.00 in investment capital by “the bank”, the professor. The objective was to create a small micro business with the mission of maximizing their profit and then donating the entire profit to charity. To add some fun and competition to it, it was turned into a contest with extra credit awarded to the top three revenue earning teams.

To date, student efforts have raised a combined total of \$3,940.00 for charities. The highest single team sales volume was \$330.00 from two female students who created a decorative plastic grip making pens more comfortable to hold. Other enterprises included dorm room cleaning, cell phone accessories and chargers, water bottle sales, hand painted ceramic cups, framed photographs, a wood pallet repair service, guitar lessons, book sales, knitted hats, jewelry manufacturing, ticket sales, raffles, and clothing sales. Much of the promotion and distribution was done directly, however, eBay, Amazon, Craigslist and social media were also used. The first winning team utilized the free section on Craigslist to access products without cost and then resold those products on Craigslist, i.e. a couch for \$50.00.

As a professor, there is nothing more fulfilling than seeing the lightbulb go on in students’ eyes. When students agreed in class on average prices for cell phone covers and accessories, skateboards, and other miscellaneous products and were then shown the low cost they could be purchased for by visiting the Chinese ecommerce website Alibaba.com and its sister website, Aliexpress.com, the “lightbulb moments” were numerous. Cell phone covers that retailed for \$35-\$50 in the US could be purchased for \$0.50 to \$1.50 each. One team spent their \$20.00 immediately on cell phone accessories during the initial introduction to Alibaba. This activity also allows for several other teaching moments concerning international business, specifically the role of China, counterfeit products, intellectual property rights, cultural differences, ethics of sweatshops, etc.

Issues to Overcome

The most difficult part in planning the project was determining how to reward good performance without severely penalizing mostly young freshman students, who did not yet know one another well and may not have made good choices in their group members. In other words, grading was the most difficult aspect. Not desiring to have the assignment be demotivating by having too much of the course grade be based on a group activity, it was decided to make the assignment worth 200 points out of 1000 total points or 20% of their course grade. The grade was further split into two halves: The group performance aspect, and an individual reflection paper of their learning.

The breakthrough with the grading dilemma came upon reflection that the majority of entrepreneurs often fail several times before finding success (Schrager, 2014), that it may take several years for

the average business to break even (Rambo, 2013), and that one third of new ventures close within two years, and half within five years (Small Business Administration, 2012; Schrager, 2014). That was the answer to the dilemma! If a group lost money, or broke even in the few short months of the semester, that was on par with experience in the real world. Therefore, a loss or breakeven would result in a grade of C, since that was average. A freshman desiring to earn an A in the course would not be demotivated by the assignment if they were on a poorly performing team, since they would at minimum get 70% on the performance portion of the assignment. By having an individual paper worth the other half of the grade, the student could balance out a possible "C" grade on the group performance, with a potential "A" grade on the individual paper. The grading components have subsequently been well received by the students. There is some student anxiety when the assignment is first announced, however, once the grading components are discussed, the anxiety is reduced or removed.

Results of the first semester revealed that a team had cheated by simply chipping in money rather than receiving a C. This influenced the professor to more thoroughly explain the rules and grading policies at the outset of subsequent semesters. For more grading information, see the syllabus in the appendix.

Problems with Teams

The first iteration of the project further exhibited problems with several teams who had members which were not participating, showing up to meetings, or following through on tasks. This was obviously frustrating to the team, but free riding is often common in workgroups (Ruel, Nauta, & Bastiaans, 2003). In the real world, many founders who take on venture capital financing and then miss milestones or do not scale fast enough often get fired from their own company (Khanin, Baum, Turel, & Mahto, 2009; Bailey, 2003). The decision was made to allow teams to "fire" non-participating members. Those members would then need to try to join another group, without success, or consult with the professor and perform the task on an individual basis. So far, three individuals have needed to perform the work on their own.

To more fully attach grades to effort and performance students are required to anonymously evaluate their teammate's participation. This is where the professor has discovered evidence of free riding, who did the work, who did not, or breaking of the rules, and the feedback is used to properly assign a grade for each student.

Provide Time in Class

The evaluations of the first semester showed that students found it difficult to meet often outside of class. More in class time is now given for them to collaborate on their business operations. This also allows the professor time to visit with each group to coach, counsel and provide advice. Currently, the last 5-10 minutes of a class which meets once a week are used for the project.

Sharing of Best Practices

In the first course, the plan was to have each group share their progress with each other and see what was working and what was not. This was not met with success. Since the teams were in effect competing with one another, they did not want to share and possibly lose their advantage. This perception was changed by offering the entire class extra credit if the amount they raised exceeded a specified dollar amount or the amount raised was higher than the other sections of the class. Once this alteration was instituted, sharing increased.

Individual Student Reflection

The major learning came from the students' own reflection of the project. This is where they discussed what they did and why they did it. Students explained how they came up with the product or service, what they learned, and most importantly, what they would do differently next time as a result of that learning.

The following is an individual Student Reflection:

Jillian D.

“To start with, we brainstormed ideas for our micro enterprise for the first few weeks of class. We had a few ideas to make artsy products like hair clips, shoes with our own designs, CBU themed apparel, and other accessory oriented items. The idea to start a sort of delivery service of Starbucks coffee to students was popular, but we were limited in that I am the only non-commuter so I would have been doing a lot of the work. We thought we had settled on selling backpacks we found on Alibaba for a great price, but then we learned that we had been reading the site incorrectly and it would be much more expensive than we initially thought.

Finally, I remembered my cross necklace that is made out of horseshoe nails and colored wire that my friend made and sold. The same necklace is sold on Amazon in several different colors. It took a few weeks to get everyone to agree that the cross necklace was the best option we could come up with, which was a little frustrating because I knew we didn’t have very much time left to sell our product as we were already several weeks into the semester. We finally pulled the trigger after a week or so and ordered four crosses to start with, spending our entire twenty dollars. We advertised our product by word of mouth at first, and then when the first order came in and we could take a picture, some of our group spread the word on Facebook. Over spring break I sold the entire first order and, shortly after, my team members started texting in more orders. I did all of the ordering, except for one last minute order, on my amazon account and subtracted my costs from what we charged our customers.

Keeping track of all the order invoices, I created an excel sheet that monitored our orders, the number of necklaces purchased, the number sold, costs, profit, and any notes about specific orders. We sold the crosses for ten dollars to start with and each necklace cost us five dollars at that time. After we ordered ten or fifteen necklaces from the only two sellers on Amazon though, they raised their prices so that we were paying around seven dollars per necklace. We then chose to raise our price to twelve dollars so that we would still be making about five dollars in profit with each necklace. In all we sold twenty-five necklaces and raised \$110.53.

I learned that we should have maybe raised our price sooner after the crosses started selling well, not only to increase our profit but also to protect us from our supplier raising their price. Since we did not raise our price until after the supplier’s raises, we took a hit on a few of our orders. For our excel sheet, even though the syllabus explains the breaking even concept, I did not actually calculate for it until about a month ago when I realized the numbers on the spreadsheet did not match the numbers in our money envelope. After a small panic attack, I realized I had to rework the spreadsheet to include our costs, which I somehow forgot about, and made a note for myself about why the initial twenty dollars was not included in our profit. Having a certified person do the books is probably always a good idea.

The team did a great job of selling crosses and we developed a good system of texting me the orders and then exchanging the money at class. I wish everyone had decided on our product sooner, but we still did well with sales. To improve our business, I think we should have found a different seller or made the crosses ourselves because, before price raises, the price of the crosses was one cent/cross, but shipping cost four dollars and ninety-nine cents/cross. We contacted the sellers for other options but they said there were none. I am unsure if the cost of supplies and the time spent learning how to make the crosses would have been a better, more cost effective option, but it would have been something to look into.”

Team Evaluation

Channon A, Kayleigh A, Leslie A

Appendix 1

Syllabus

Micro Enterprise Project

Teams may spend **up to \$20.00** (this is your investment capital, it is limited, ALL you have is \$20.00). Your group will collectively decide how to make the most profit with your limited financial resources. It can be product-related or service-related.

The big winner is the one with the most money (net income after paying back the initial investment and any expenses) at the end of the contest. Extra credit will be rewarded for the top three winners. Extra credit points will be awarded to the **entire class** to be used for increasing your lowest test score if both sections of the class raise more than \$1500 total. This is intended to increase sharing of best practices, what is working, what is not working, etc.

PLEASE FOLLOW THE RULES, the personal reflection paper is individual, you will discuss your other team members' participation and that is where I discover who did not follow the rules. If you lose your money and go bankrupt, you *may* be able to borrow some money from other teams (at a high cost), the bank (me), or you might get bought by another team for your assets.

All of the class profit will be donated to the local homeless shelter; Path of Life Homeless Ministry, or Angel Wings Bakery.

Definition of Profit: If you invest \$5.00 of your investment capital and have \$2.00 of expenses, your breakeven point therefore will be \$7.00. Any net income after you breakeven point is profit. If you sold \$100.00 of product, that is not profit. Sales, minus costs and expenses is profit. Please use the following breakeven calculator:

<https://www.score.org/resources/break-even-chart>

Start thinking now about what you can do to create income. It can be a service or a product. It cannot be a stock market investment, products that you already own, or a service that you already perform now for money. You could buy (think Ali Baba, Ali Express, Craigslist, and thrift stores) and sell things (think Amazon or eBay), or if you have a skill, you could perform a service and charge for it.

The competition will begin within the first four weeks of class and run until the week before finals. Students are expected to grow their money as any business would.

More detailed rules, guidance and instructions, will be provided at a later date.

- No Food Businesses of any kind are allowed on campus!
- You cannot set up a table and sell products in the quad (no businesses are allowed on campus)!
- However, this is a required class assignment. You may need to go off campus.
- This is not fundraising! We do not ask for donations! Does IBM or Chevron beg for donations? NO! They earn money!
- No penny stock investments or Bitcoin (this is an enterprise, a business, not speculation).
- You cannot sell items you already possess.

It is expected you will have numerous transactions in order to maximize your sales and profits. Reinvesting your profits is strongly encouraged. Updates are expected in class as a way of encouraging other students.

Grading

The financial earnings performance of your Micro-Business is worth 100 points. The written reflection paper is worth 75 points; and your individual team member evaluations of your contribution will be worth 25 points. Total points for project: 200 points.

As in any business you can be fired for non-performance. In startup organizations, founders often get fired by their investors. Partnerships often break apart for many reasons. If your team votes you out, bummer for you! This is going to cost you participation points and of course dings in your student evaluations. You may have to go it alone. Let's work hard to keep this from happening. There will be time available in class each week to work with your group.

Grading for Micro-Business Group Project (Performance Component)

Project Grading will consist of the following three elements:

1. Your financial performance.
2. Reflection paper. Your end of project analysis of what you did, how you did it, and what you learned (a reflection paper). Please keep track of all purchases and costs in a spreadsheet.
3. Your evaluation of all group members' performance.

The average business breaks even after three years, and most will go out of business within ten years. If you lose money, or break even, this is a grade of C, *it is average*.

- A \$200.00 or more
- A- \$150 to \$199.00
- B+ \$100 to \$149.00
- B \$50- \$99.00
- B- 1.00\$ to \$49.00

C is a breakeven or loss

If you get a C, do not fear! Your reflection paper and team member evaluations can earn an A, thus averaging out at a B for the entire project. The project is worth 200 out of 1000 total points, so it is only 20% of your grade.

Any unsold products should also be donated to Path of Life.

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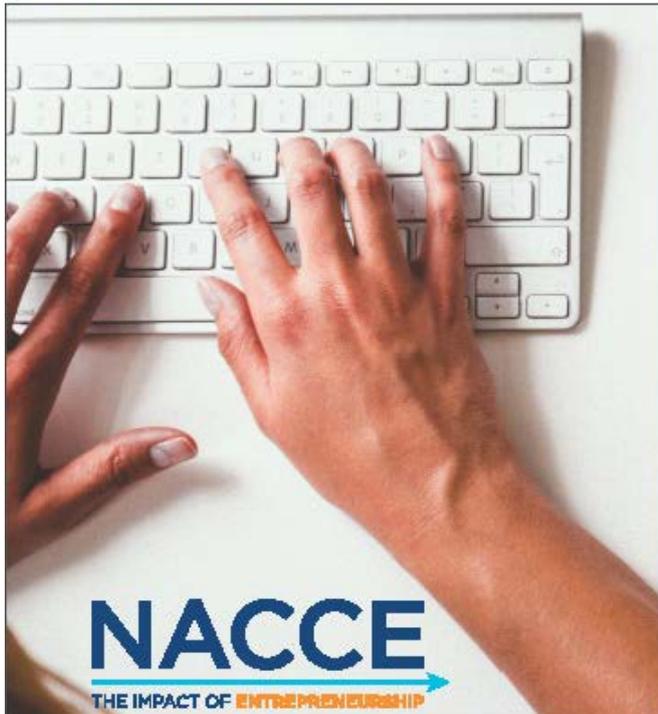
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- Laura H. Manyweather, Los Angeles Southwest College

Taking Stock

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Abstract

Entrepreneurs are often legally responsible for their endeavors (and are registered with the state as such). Consequently, there is always something they could or should be doing. Considering the enormity of tasks most entrepreneurs face in the process of creating value from what begins as essentially nothing (an idea), it is easy to feel as though one is just treading water and not moving forward, not completing significant milestones or goals. There is just so much that must be accomplished in the process of building a sustainable and profitable business. In order to keep spirits up, maintain a healthy perspective and persevere, it is important to occasionally take stock of what one has done, has accomplished and is accomplishing—both large tasks and small. Such knowledge can motivate and keep the entrepreneur putting one foot in front of the other. Recognition of momentum, of traction and goals is also important when the entrepreneur needs to inspire and motivate co-workers or demonstrate success to potential donors, supporters, fans or investors.

Keywords: Milestones, Taking Stock, Goals

Subject Area: Recognizing Accomplishments, Entrepreneurial Milestones, Goal Achievement

Subject Topic: Goal Completion, Milestone Recognition

Student Level: Undergraduate or Graduate

Time Required: 15-20 minutes

Recommended Number of Students: One or more can play.

Learning Outcomes:

- Students learn to articulate what they have accomplished
- They gain perspective regarding what they have done and are doing
- Students learn to self-evaluate their progress
- Students make goals that will enable them to continue moving forward

How to Play:

1. Make a list of everything you have done or accomplished in the service of your business. Do so when **considering this last week**. Include anything and everything you can think of.
2. Look at the list.
3. Now make a list of everything you have done or accomplished in the service of your business **during the past month**.
4. Look at the list.
5. Now make a list of all that you have done or accomplished in the service of your business **in the last calendar year**.
6. **Look** at the list.
7. With all of this information in mind, **take a moment to recognize** milestones and the volume of what you have achieved.
8. **Circle those milestones** you have written down.
9. **Make a list of goals** and milestones you wish to accomplish in the next week, month and year.
10. **Start** working to accomplish the articulated goals.

Tips for the Teacher:

Tips:

As students are reflecting on their milestones and goals accomplished from the past day, week, month and year, it may be helpful to have them draw a line, representing time. It has been the experience of this author that many creative people (entrepreneurship is a highly creative process) are visually oriented. As such, it can be helpful to see what it is they are looking at. Creating a visual timeline with labeled milestones can be helpful. However, this process is not absolutely necessary. For many, a list with headings of Day, Week, Month and Year and goals and milestones that follow are enough.

Student Written Responses to Exercise:

Angie Reisch

In my experience with Arts Entrepreneurship, this has been my favorite game thus far. The first step of the game is to write down everything you accomplished in the past week. Next, write down what you have accomplished in the past month. Finally, complete the list by adding all that you have accomplished in the past year. When your list is complete, you will have a catalogue of sorts of everything you have achieved, big and small, over the past year.

I like this game in particular because it holds value whether you have achieved a lot or a little. On the one hand, if you have pushed yourself and reached your goals over the past year, it provides a good way to see what you are capable of and how far you have come. On the other hand, if you are discontent with what your list looks like or you haven't achieved everything you wished, then it provides a great motivation to get going now and to not let time pass by without working towards your goals. In addition, I like this game because it doesn't discredit the small weekly successes and achievements, but rather presents them as stepping-stones to achieving bigger goals. For me personally, it not only reminded me of where I have been in the past year and how much I have changed, but also inspired me to envision an even greater list for the next week, the next month, and the next year. As an art student, I find that it can be incredibly easy to compare yourself and

your work to the other artists around you, which only leads to self-deprecation and creative blocks. I enjoyed this exercise because it helped me get out of the mindset that I was inferior to everyone else and reminded me that I am capable of doing great things if I push myself to achieve them. I have continued to do this exercise outside of class and use it as a tool for keeping a positive perspective towards my work and myself.

Sterling Gavinski

The “Taking Stock” game is perhaps one of the most useful Arts Entrepreneurship games I’ve played in class with Jim Hart. This game in particular I have applied in real life situations more than any other. “Taking Stock” requires students to look back on past accomplishments and evaluate their progress in order to plan the future of their current endeavors. Students are required to look back at their accomplishments over the past week, month, and even year in order to assess their milestones and the direction they are taking in attempting to achieve their goals. “Taking Stock” gave me a clear, healthy view of my approach to life and a better way to balance my goals. This game made it easier to critique my own progress and develop ways to improve and eventually succeed. By evaluating my own efforts, I was able to determine alternative methods for observing and eventually achieving my goals, both small and big.

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CARD SORTING EXERCISE: A HIGHLY ADAPTABLE EXPERIENTIAL EXERCISE

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Abstract

This interactive exercise involves asking students to work in teams to sort cards. Through a simple twist in how the cards are sorted before being given to the students, the resulting experience can be used to discuss a wide variety of topics in entrepreneurship and organizational behavior.

Keywords: Entrepreneurship education, experiential learning, teamwork

Subject Area: Entrepreneurship, Organizational Behavior

Subject Topic: Entrepreneurial Mindset, Entrepreneurial Competencies, Leadership

Student Level: Undergraduate or Graduate

Time Required: 60-90 minutes

Recommended Number of Students: 20-40

Introduction

Recent research (Morris et al., 2013) has proposed a list of thirteen competencies (i.e., knowledge, skills, attitudes, values and behaviors) that allow entrepreneurs to successfully engage in “entrepreneurial action” (McMullen and Shepherd, 2006). This exercise helps introduce four of these competencies (tenacity/perseverance, resource leveraging, resilience, building relationships and using networks, and opportunity assessment) along with a number of important organizational behavior and leadership topics. The versatility of the card-sorting exercise allows instructors to use it in a variety of business classes.

Conducting the Exercise

Implementing the card-sorting exercise involves four steps, discussed next.

Step 0: Pre-exercise Preparation

To conduct this exercise, two decks of playing cards are needed for each team. Decks with different colored backings are recommended. Appendix A details how the cards should be sorted.

Step 1: Forming Teams

Students are grouped into teams. We recommend 4-5 students per team.

Step 2: Choosing a Representative

Once teams are formed, each team is asked to choose a representative. It is important to not use the word “leader”, but rather the more neutral term “representative.” The instructor should also inform each team to send their representative to a designated location at a designated time to receive instructions. We typically ask the representatives to meet us outside the classroom in three minutes.

Step 3: Providing Instructions

At the designated time, give each representative a box of playing cards – each box must contain two decks of playing cards sorted as indicated in Appendix A – and the following instructions:

“The purpose of the task is as follows. Your team has two separate decks of cards which I want you to sort into suits and display 'ace-high' (i.e., aces facing up on the top of the piles) followed by king, queen, etc., down to the two, which should be at the bottom of each pile. There should be a total of ___ piles at the end of the activity. You need to tell me that the task is correct and complete when you are finished. Please return to the room and wait until I say start before briefing your team.”(Note: The number of piles mentioned in the text above should be two times the number of teams.)

It is important that the instructor begins reciting the instructions exactly at the designed time. In many cases, one or more representatives arrives late. But the instructor must not repeat the instructions for the latecomers. Rather, we recommend saying “I cannot repeat the instructions. Good luck.” Doing so perpetuates the environment of uncertainty that students are immersed in during the exercise.

Step 4: Running the Exercise

Once all of the representatives have sat down with their respective teams, announce that they may begin briefing their team. The room will immediately become noisy and chaotic as teams start sorting cards. Many teams will move around to give themselves ample space to spread out their cards and get privacy from the other teams.

At some point – usually after ten minutes have passed – teams will begin to notify the instructor that they have sorted their decks. We recommend that instructors look through the deck and, if it is not sorted correctly, simply say “no” and walk away. We advise against elaborating further so as to perpetuate the ambiguity of the situation. Analogously, when students ask questions about the exercise (e.g., “Are we allowed to share cards?”), we recommend saying “I cannot answer

any questions” and walking away. We also recommend maintaining the sense of competition by periodically saying, “It has been x minutes. Let me know when you are finished and complete.”

Eventually students will start to realize that the cards they are missing are in the possession of another team and that the duplicates they possess are desired by other teams. As students realize that it is impossible to sort the cards without interacting with other teams, the classroom culture shifts from one of competition to one of cooperation. How students respond to this realization is the most interesting part of this activity. Common responses include trying to get the cards they need from other teams without giving anything in return, trying to sell duplicate cards, and trying to setup a marketplace for exchanging cards. Some students refuse to give away any cards, much to the dismay of one or more members of their team.

We recommend that instructors let the exercise continue till either all the cards are sorted or the students do not look like they are going to make steady progress towards having the cards sorted. In our experience, the exercise should run for 20-30 minutes.

Post-Exercise Discussion

While the exercise is relatively quick, the discussion can often take much longer as the card-sorting exercise can be used to examine a wide variety of entrepreneurship, leadership, and/or organizational behavior topics. Below are some potential discussion topics that result from this exercise:

- *Building Relationships / Using Networks:* Successful completion of this exercise requires building relationships with members of other teams. One of us uses the exercise on the first day of class – when most students do not know one another – to make the point that a person is constantly being evaluated by others and developing his/her social reputation. Prompt: How did you go about getting people from other teams to agree to give or trade cards with you? What do you think made some people more likely to agree to give or trade cards than others?
- *Competition vs. Cooperation:* Organizations often default to competition over cooperation. Prompt: Did the teams feel it was a competition between teams and if so why?
- *Interdependencies:* Team members are must come together to get tasks done. There are three types of interdependence: pooled, sequential, and reciprocal (Thompson, 1967). The exercise reveals that reciprocal interdependencies are more challenging to manage than pooled or sequential. Prompt: How were you dependent on others to get the task done?
- *Leadership:* Leaders bring structure to an unstructured situation. However, there were no formal leaders assigned during this exercise. The overall lack of specificity in this exercise was intentional, as it led to teams making a number of assumptions – some of which were valid and others that were not. Prompts: What did you need to get this done more quickly? Did the initially selected representatives assume the role of leaders? What type of leadership was exhibited?
- *Opportunity Assessment:* By being intentionally vague and not answering questions directly, the instructor is mimicking customer behavior. It is unlikely that customers will tell an entrepreneur exactly what he/she wants in a product. Rather, entrepreneurs must find ways to understand customer behavior without asking them directly. Observation is an excellent way to gather information. Prompt: How did you go about figuring out how the exercise really worked?
- *Organizational Structure:* Group formation also creates barriers when it comes to collaborating with other teams as it inhibits the flow of information between teams. Thus, leaders must encourage communication across organizational silos. Prompts: Why was it so difficult to communicate with other groups? How can we make this easier?
- *Resilience & Tenacity/Perseverance:* A key competency possessed by the most successful teams was tenacity, or the ability to sustain goal-directed action during times of difficulty. At the individual level, successful teams often had at least one member who possessed a high degree of resilience – he or she was able to cope well with the stress and chaos that this exercise initially creates. Prompt: How do you handle the ambiguity inherent in this exercise?

- *Resource leveraging:* To complete this exercise, students must obtain cards from other teams. In other words, teams must access resources that they do not own or control. Prompt: How did your team go about trying to get the cards that were needed to completely sort your two decks?
- *Team Roles:* According to Benne and Sheats (1948), team members can take on task roles, social/maintenance roles, and dysfunctional roles. Both task roles and social/maintenance roles are necessary to successfully complete this exercise. It is also important to avoid bringing on team members that take on dysfunctional roles. Prompts: What was your role on the team? What were the roles of each of your team members? Who made the most significant contribution and why?

We also recommend asking the students relate their experiences to what happens in the workplace when working in teams.

Student Reaction

The following student reaction was prompted by asking: What was your experience during this exercise? What challenges did you and your team experience during this exercise? What did you learn? Would you recommend this exercise to other instructors? Why or why not?

The card sorting exercise was an interesting exercise in group interaction. Personalities were immediately evident when picking one member of the team to be the representative. Some wanted no part of a leadership role, or didn't have the confidence to even offer themselves as candidates for the role. Some couldn't wait to volunteer to "be in charge." And then lastly was the one person that turned out to be the mediator that attempted to bring some cohesion and arbitration to the group.

Once the appointed person came back to the group with our instructions, the fun began. Most of us thought this would be easy and we immediately jumped in and started sorting cards. There was little discussion of creating a process or assigning roles. The task seemed to be so simple as to not require any planning or conversation. As we moved forward with sorting, it became clear that this was not as simple and straightforward as initially assumed. Frustrations started to build as ideas were thrown out, tried and discarded. Yet there was no sitting back and creating a strategy. When I suggested talking to other teams to see how they were doing, the group dismissed the idea because that was not part of the instructions. What struck me was that it was also not explicitly prohibited in the instructions either.

I was disappointed at the lack of creativity and teamwork by our team. Members were very willing to just keep trying random ideas and waste vast amounts of effort without putting any effort into creating a methodology or structured approach to problem solving. Additionally, the concept of reaching out to others for advice or collaboration was seemingly viewed as heresy and an admission of failure.

The exercise made me more cognizant of situations governed by rules and how to identify true rules versus assumed ones. Overall, this exercise is a great means to reinforce the power and potential of both teamwork and collaboration. Some students seemed to view the task as a personal challenge they had to solve on their own. Using exercises such as this to reinforce the benefit and simplicity of collaboration is complementary to any entrepreneurship or management course.

Appendix A: Instructions for Sorting the Cards

1. Make sure all the decks being used are complete (i.e., each deck has 52 cards, 13 cards per suit) and remove the jokers. If decks with different designs are used, it is ok to create decks that are a mix of both designs (i.e., in a single deck of 52 cards, some have a blue-colored backing and some have a red-colored backing).
2. At random, remove four cards from each deck and put them into a single pile – called the “mixed-up deck”. This results in each deck from step #1 having exactly 48 cards.
3. Shuffle the mixed-up deck.
4. From the (now-shuffled) mixed-up deck, take four cards at a time and add them to the decks from step #1. Each deck should once again have 52 cards.
5. Shuffle each deck. Consider turning some of the cards in each deck upside down. If decks with two different designs are used, ensure that each deck has cards with each design. For instance, each deck should have some combination of cards with a blue-colored backing and some with a red-colored backing.
6. Separate out two decks for each team and combine into one pile. Place the pile in a small box.

Note:

You may remove more than four cards (in step #2), but keep in mind that the more cards that are removed, the harder it will be for the students to complete the exercise.

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Persona Ideation & 3 Ideas

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Abstract:

Creating with a customer in mind increases the chances of an entrepreneur's concept being liked by the customer they have in mind. When a customer or audience likes or passionately likes the concept/product/service, there is a higher likelihood that the entrepreneur will be successful in their endeavor. This article will illustrate and explore the exercise "Persona Ideation & 3 Ideas", the research done to prove its efficacy, tips for those wishing to adopt the game/exercise for their own classroom and students' comments on their experience of the exercise.

Keywords: Ideation, Customer, Persona, Hart, Entrepreneurship Exercises

Manuscript Subject Area: Ideation, Customer Needs, Experiential Learning, Service

Manuscript Subject Topic: Ideation, Decreasing Entrepreneurial Risk, Primary Market Research

Student Level: Undergraduate or Graduate

Time Required: 20-40 minutes plus time for in-class discussion

Recommended Number of Students: Two or more can play. Groups can be large or small.

Note: In teaching Arts Entrepreneurship, it has been my experience that students' eyebrows raise at the word "customer" when thinking about creation in the arts. Though entrepreneurs use the word "customer", many artist entrepreneurs think in terms of "audience", "benefactor", "donor" and other terms used to denote a customer in the arts. In this article, I will use the word "customer", which can be substituted in one's mind for "audience" or any of the above-mentioned artist-focused words.

Background and Acknowledgements:

At the time of this writing, Bill Aulet serves as Senior Lecturer Managing Director, Martin Trust Center for MIT Entrepreneurship. He is the author of the book [Disciplined Entrepreneurship: 24 Steps to a Successful Startup](#). In this book, Aulet encourages entrepreneurs to create with a customer in mind. He goes further in his book, urging entrepreneurs to create with a specific persona in mind. "Persona Ideation & 3 Ideas" is an ideation exercise, which is inspired from Aulet's work.

Learning Outcomes:

- Students learn how to create an entrepreneurial concept with a specific customer in mind.
- Students learn how to engage in primary market research through interviewing prospective customers.
- Value proposition is explored in the creation of student concepts.
- Students learn to think analytically, imaginatively and creatively.
- Students learn a technique in ideation or “concept formation”.
- In this process, students learn a technique that enables them to reduce entrepreneurial risk.

How to Play:

A. Students are divided into pairs and assigned either A or B.

B. They are asked to interview each other by asking the following questions:

1. What do you love to think about when you have free time?
2. What problems do you see in your community or the world?
3. What keeps you up at night?
4. What websites do you frequent?
5. What apps are your favorites (if any)?
6. What do you want to be doing in 10 years?
7. How would your friends describe you?
8. What are you studying and why?
9. Name three things you are passionate about.
10. If you could make your life easier, how would you do that?
11. What do you like to do with friends during free time?
12. If I gave you \$100, what would you do with it?
13. What kind of person do you aspire to be?
14. What daily life problems are you most annoyed by?
15. If you could make one simple change peoples' lives, what would that be?

C. Once the students have interviewed each other, each student creates 3 original entrepreneurial concepts with their partner in mind, based on the information they have gathered through the interviewing process. Ideas can be for-profit or nonprofit.

D. Students share the ideas they have created for each other with each other.

E. A is then asked to privately fill out a form, rating *each* of B's three ideas (and B does the same for A's) on whether they:

- Did not like the idea their partner created for them
- Like the idea
- Passionately liked the idea

F. The professor or teacher then polls each student and asks how many ideas were created for them (some students will typically come up with fewer ideas than 3) and how many of the ideas created for them they liked.

Note: Having the students privately fill out the evaluation form of their partner's ideas helps avoid some measure of dishonesty in student feedback. If students fill out the forms privately, they are less likely to want to please their partners with false positive feedback. Honesty should be stressed ahead of time by the professor or teacher. In my own class, I say, “Dishonesty in this process does not serve anyone. Please be honest with your feedback.”

G. Each Student is polled on how many ideas they “passionately like.”

Note: Each time I have conducted this exercise, 90 to 95% of the concepts created were at least

liked. Very few ideas are disliked and many are passionately liked.

I did a variation of this exercise, engaging one hundred students. These were the results:

- **100** students created **247** original concepts
- **111** of the concepts were identified as passionately liked (47%)
- **95%** of the concepts were identified as at least liked
- **13** ideas were not liked

Analysis:

Why are so many of the ideas liked?

In my experience of playing this game/exercise over the years, I have found that students are so interested in concepts created for them as their partners create concepts specifically *for them*. A is creating for B, based on B's articulated interests, pain points, perceived problems, desires, and other identifiable information found through primary market research as a result of the interviewing process and B does the same for A. In essence, A is hearing "straight from the horse's mouth" (B).

Tips for the Professor or Teacher and What is the Real Value?

Ideation:

Many students struggle to come up with entrepreneurial concepts. This game, through the interview process, provides an experiential exercise that involves students interviewing each other with self-identifying questions. The answers the interviewer gets from this process stimulates their imagination, leading them to come up with potentially viable and valuable concepts in a relatively short period of time.

Increasing Chances of Success:

By creating with a specific customer in mind, one increases the likelihood of a customer liking the idea, product or service. When an entrepreneur understands their customer in this measure, they understand what their customers want and, more importantly, need. Creating to customers' needs (and wants) reduces risk for the entrepreneur, as there is a higher likelihood of the customer patronizing the entrepreneur or their business. This is in juxtaposition to an entrepreneur creating what *they* personally like and then trying to find customers who will also like it.

In this exercise, A creates for B and vice versa. Through the professor or teacher's guidance, prospective student entrepreneurs come to learn that on a planet of over seven billion people; there are a lot of "A's" out there. By creating with a specific "A" or "B" in mind and then marketing specifically to many "A's" or "B's", the entrepreneur increases their chances of success and potentially decreases their advertising and sales costs as they know, specifically, who (what persona and within what demographic) their concept has been created for and who will likely want it.

Common Student Reactions:

Business school students seem to more readily understand and accept the concept of creating with a customer in mind. In teaching artists, sometimes artists struggle with this concept, as artists typically create out of their own impulses, imagination and instincts. They create "out of themselves" and their own passion, not necessarily for someone else, as one student reviewer below articulates.

Tips for Addressing Artists:

To help those students who are artists or "creatives", the professor or teacher can encourage them to see the idea of creating with a customer in mind as the same concept of their customer serving as their artistic "muse". Artists have created for and been inspired by a muse throughout time. Artists have also created specifically for benefactors, the benefit of donors, audiences, producers and investors. Helping developing artist entrepreneurs understand that they can create for both an audience (customer) and create out of their own imagination simultaneously (impulses and instincts), is possible and, in the opinion of this author, important. In fact, entrepreneurs of all kinds do so.

What is most required to reach artistically or creatively minded students is the encouragement and knowledge that we must overcome stale ideas of the past that lead to the starving artist stereotype (I create only out of myself, etc.). Art for art's sake has its place. But if one wishes to make a living from their art, it behooves them to create with their customer/muse/donor/benefactor/investor (as well as themselves) in mind. An example of such common artist thinking and belief is illustrated here by the first student comment found under "Student Written Responses to this Exercise".

Student Written Responses to this Exercise:

Sarah, University Arts Student

"In this game, we interviewed students in the class about their interests to try to develop an organization or company that would appeal to them. I found this game a bit extraneous, having trouble realizing the importance of knowing someone else's interests in forming a company of my own. I think in theory I learned that the ideation process is a group process. However, I think that it is important to form a company that you are passionate about, not one about which a classmate is passionate."

Samuel Lankford, University Student

I had never thought about doing something like this until I met Professor Jim Hart in my Attracting Capital course. A game that encourages you to get to know a person's interests and then use your own creativity and experience to build a concept startup for them all within the course of 5 minutes. This honestly was one of the most helpful exercises I have ever done. Playing this game encourages you to think outside the box and allows you to explore interests, other than your own, and from that, form an idea that could be completely foreign to you. The other brilliant thing I found out from playing this game is that sometimes the other person's interests might be more fascinating to you than your own and from that, one can become very inspired by another's interests. I think the most valuable thing to take away from this game, however, is its ability to foster creativity. People think of business as a cut and dry world where people go through an automated routine and it just happens to turn out money. This couldn't be further from the truth. If we take a look at the people who have shaped the world we live in today like Steve Jobs, Mark Zuckerberg, Bill Gates, and many others like them they all have one thing in common. That one thing is creativity. This is why I believe that creativity is a gift that should be fostered and not suppressed and that is exactly what Professor Jim Hart does in his classroom: encourage creativity and allow it to flourish into brilliance.

Note: This game, "Persona Ideation & 3 Ideas" serves as step one of a three-step process. It is a process that guides students through 1. Ideation 2. Market Feedback 3. Attracting Capital and Assets. This article focuses on part one (Ideation). Part two, the market feedback component, stems from an exercise I developed called "Speed Dating Market Feedback" or "Market Feedback, Speed Dating Style", which can be read about in [Embracing Entrepreneurship Across Disciplines: Ideas and Insights from Engineering, Science, Medicine and Arts](#), published by Edward Elgar Publishing. Part three (attracting capital and assets) can be read about [in this journal](#), edition three, in an exercise called "The Marble Game".

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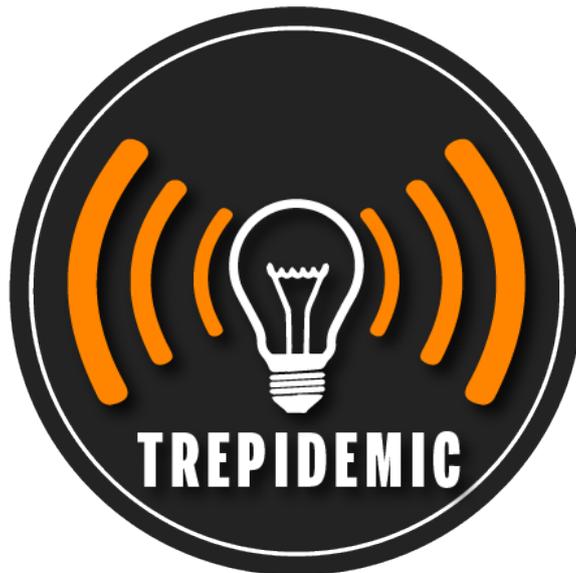
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Iteration by Design: Development of a Game-Based Workshop for Teaching Innovation and Entrepreneurship Concepts

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Abstract

Faculty are continually seeking new methods to help students develop characteristics associated with an entrepreneurial mindset. Recently, games have emerged as a popular tool to foster an entrepreneurial mindset through experiential based learning. This article provides an overview of the development of a workshop designed to teach faculty about games, and how they can be leveraged to engage students. Similar to product design, this workshop has gone through several iterations incorporating faculty feedback throughout to reach its final form, which includes a community of practice.

Keywords: games, innovation, faculty development, experiential learning, entrepreneurship, entrepreneurial mindset

Manuscript Subject Area: Faculty Development, Game-based exercises for innovation, teamwork, and communication

Student Level: Faculty

Concept:

Engineering programs across the United States have been working diligently to include more elements within the curriculum that emphasize an entrepreneurial mindset (Byers *et al.*, 2013; Kriewall and Mekemson, 2010; Luryi *et al.*, 2007). As outlined in Bodnar *et al.* (2015a), the definition of an entrepreneurial mindset, although varying depending on the source, includes elements such as opportunity recognition, tolerance for ambiguity, persistence through failure, creativity and an understanding of customer needs. There are a variety of approaches both curricular and extracurricular that have been implemented in an effort to help students in development of an entrepreneurial mindset (Yasuhara *et al.*, 2012; Shartrand *et al.*, 2010).

Researchers typically agree that entrepreneurship is a complex and multidimensional concept that is best taught experientially (Duval-Couetil *et al.*, 2015; Ohland *et al.*, 2004; Gilmartin *et al.*, 2014). Within classes, games and moving analogies are one experiential learning strategy that faculty can use to engage students and help them develop an entrepreneurial mindset. For instance, Verzat *et al.* (2009) examined the usefulness of games for developing skills related to creativity and teamwork within engineering. Their study demonstrated that the implementation of a “spaghetti game” led to learning in areas of transition and interpersonal aspects of teamwork that weren’t shown to have developed through previous forms of instruction students had been exposed to. Additionally, work done by Bodnar *et al.* (2015b) and Tranquillo (2014) have shown that both games and moving analogies, which foster the use of the body to physically experience concepts, can have benefits to students due to their simplicity and ability to trigger emotional responses allowing students to recall the concepts tied to these activities long after their implementation in the classroom.

Games have been used as tools for teaching concepts related to business since 1932 (Faria *et al.*, 2009). In their review, Faria *et al.* discussed how the use of games has reached near saturation in many business courses. This is in direct contrast to what has been observed within the field of engineering education where the utilization of games for teaching concepts is still a growing field (Bodnar *et al.*, 2015c). In the aforementioned review, it was found that publications on the use of games to teach engineering undergraduate concepts has steadily increased since 2000 although the total number of publications in this subject area is still below 200. Of these 200, only a small number focus on teaching an entrepreneurial mindset. There are many possible reasons for this with one being that the inclusion of entrepreneurship within engineering is still in its infancy.

The “Ideas at Play” workshop series was developed to (1) increase the number of faculty members utilizing games to teach innovation and entrepreneurship concepts and (2) ultimately increase the number of studies completed and published in this field to begin establishing best practices. In this paper, we report on the evolution of the workshop series and provide insights from assessment that has helped the development of emerging best practices in game-based pedagogy.

Ideas at Play 2013

The first “Ideas at Play” workshop was offered as part of the VentureWell (formerly NCIIA) Open conference in March 2013 and was facilitated by Cheryl Bodnar. This workshop was 1.5 hours in length and started with an ice-breaker activity, followed by two large group games. It concluded with a game circuit that had 5 different activities that faculty members could explore and participate in. Each portion of the workshop was followed by a large group debriefing session that allowed faculty to share insights gained from the different game-based activities they participated in, and for the facilitator to help connect these experiences back to characteristics central to an entrepreneurial mindset. Literature supports the important role of post-processing in translating the experience of a game into learning (Nicholson, 2012). Although no formal assessment was performed, informal feedback was positive.

Ideas at Play 2014

Based upon the successful first offering, an “Ideas at Play” workshop was offered as a pre-conference workshop for VentureWell’s 2014 Open conference at Citrix to 40 paying participants. This workshop was facilitated by two faculty members, Cheryl Bodnar and Leticia Britos Cavagnaro, and two game design personnel with interest in engaging more faculty in game-based pedagogical practices. The move to a full day was aimed at providing faculty more time to develop an appreciation for the different ways games can augment the learning environment. The added time also enabled participants to experiment with creating their own games. Furthermore, the facilitators developed a simple framework for the workshop: Play, Discuss, Learn, Create and Practice.

The “play” phase of the workshop provided faculty with the experience of participating in games in a way that would mirror their students’ experience. Games varied from large group games, games that allowed individuals to select between serving as a participant or an observer, to game-based circuits where faculty could freely play games that most interested them. The goal of this variation was to emphasize that faculty facilitation of games can range from significant to very hands-off. Rewards were used to encourage faculty participation and demonstrate how the right rewards might increase student engagement. For example, during the circuit, magnets could be collected as reward either for mastery of one type of game (different colored magnets representing degree of difficulty) or by collecting many magnets at the introductory level. Individuals could, therefore choose to collect all the difficulty magnets for a particular game or a single level for each game in the circuit.

The “discuss” phase of the workshop focused on how to debrief game-based activities in the context of the classroom. It was explained that the discuss phase is based upon the cycle of learning proposed by David Kolb (1984). In Kolb’s learning cycle it is reflection that translates an experience into an abstract concept. In our context, a game serves as an experience, and it must be followed up with a discussion to connect the concepts illustrated within the game to the content that is being covered as part of class.

The “learn” phase was an opportunity for faculty to dive more deeply into the literature on games as effective pedagogical tools. Studies documenting the implementation of games were offered as resources to explore after the workshop.

The “create” and “practice” phases went hand in hand with one another. The first of these sections focused on how games can be modified to meet desired learning outcomes, and how brand new games may be developed based on particular learning outcomes. After brief instruction, attendees

broke into groups focused on learning outcomes of interest to them; each group worked on building its own game. Upon completion of this activity, participants shared their games with other groups and had the opportunity to gain real time feedback on elements of the game that worked and those that needed improvement.

Ideas at Play 2015

The most recent offering of Ideas at Play--also a full day pre-conference workshop in conjunction with the 2015 VentureWell Open conference-- had 45 paid participants attend. This workshop was facilitated by three faculty members, Cheryl Bodnar, Leticia Britos Cavagnaro, and Joe Tranquillo, one representative from VentureWell, Victoria Matthew, and two game design personnel. The structure remained similar to the 2014 workshop with two major modifications: (1) inclusion of two tracks of game-based instruction and (2) modifications to the learning and creating portion of the workshop.

The tracks were incorporated to accommodate the needs of faculty with game experience, many of whom had attended previous game workshops, and those faculty who had no previous experience leading games. Although similar types of games were modeled in both of the workshop tracks, the faculty who hadn't employed games before were exposed to a broader range of facilitation techniques to select from to meet their needs. Additionally, in the "create" section of the workshop, faculty with no previous exposure to games were tasked with re-purposing an existing game that they had seen during the workshop. More experienced participants were tasked with creating new games based on what they had seen at the workshop and their previous experiences.

The other modifications to the workshop, specifically within the "learn" and "create" portion, focused on responding to participant feedback from the previous Ideas at Play workshop; participants sought a deeper understanding of the research underpinnings and the connection to learning outcomes, as well as more time to practice and create. This most recent workshop therefore provided better engagement and gamification of the research portion of the workshop, an ongoing connection to learning outcomes in the debriefs, and time for game development and iteration as part of the "create" portion of the workshop.

Workshop Evaluation:

The first implementation of Ideas at Play was a 1.5 hour long conference session, and had no formal assessment. The feedback received was mainly from informal conversations between the facilitator and participants, as well as comments that were passed along informally to VentureWell staff. The positive feedback led to the design and implementation of the full day pre-conference workshop as part of the 2014 VentureWell Open Conference.

The 2014 full day workshop included a formal anonymous survey to allow participants to give candid feedback. Twenty four out of the forty participants in the workshop completed the post-workshop survey. Of those individuals that completed the survey, 79% agreed or strongly agreed that the workshop enabled them to recognize the value that games could serve in engaging students to learn about abstract concepts related to innovation and entrepreneurship. In ranking their level of confidence in facilitating and debriefing games, participants reported overall increases in their comfort level. 37.50% of participants said the workshop met their expectations while 50% stated that it exceeded their expectations. To determine whether VentureWell should continue to offer Ideas at Play in the future, participants were asked if they would recommend the workshop, to which 91.67% responded positively. Participants also offered constructive feedback about different portions of the workshop that was used to improve the offering in 2015.

In the assessment of the 2015 Ideas at Play offering, the survey received a 51% response rate (n=23). Similar to the previous implementation, respondents noted increases in their confidence level and 96% reported that they were either "likely" or "extremely likely" to implement the games and activities that they were exposed to as part of the workshop. 91% of respondents felt that the

workshop met their expectations and 86% of respondents were willing to recommend the workshop to other colleagues.

The facilitators gained additional insights through two forms of qualitative assessment (participant and non-participant observations and a focus group). A focus group, led by an external evaluator, largely corroborated the post-workshop survey data but also revealed some important constructive criticism that did not appear in the survey. For example, although participants felt that the workshop was very applicable to building and executing games, they suggested that more context be included in staging and debriefing games to allow stronger connections to be made between the games and the innovation and entrepreneurship content. In the 2014 and 2015 offerings, participants were challenged to use research literature to inform their game design. Despite revising this aspect of the workshop, based on 2014 prior participant feedback, many participants felt they didn't get the whole picture of how the published literature could help them with their implementations at their institution. The focus group also reiterated a desire to more clearly connect student learning outcomes to specific components of the entrepreneurial mindset. They also wished to have a more clear case laid out to convince other faculty members and administrators of the value of game-based pedagogy. However, it was observed by an external evaluator that despite sessions going beyond the designated time intervals, participants appeared to be actively engaged in the activities that they were undertaking. This was taken as an indication of engagement and enthusiasm about the materials.

Overall, the workshop assessment over these two iterations of the full-day workshop provided great insight into participants' experiences while offering constructive criticism that will help form future iterations of this faculty development platform. Similar to the design of any new product, iteration through customer feedback is essential for creating an offering that provides value to the customer and meets their needs.

Over the past decade, innovation and entrepreneurship have become critical components of engineering curricula around the world. Engineering educators, however, are in need of pedagogical techniques that will strengthen the entrepreneurial mindset and resonate with engineering students. We believe that game-based pedagogy shows great promise in teaching such skills. Workshops like 'Ideas at Play,' that teach the implementation of game-based pedagogies, have been found to foster the adoption of such pedagogies, and may lead to the continued development of games for innovation and entrepreneurship in engineering, and the establishment of best practices in engineering education.

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Appendix:

The Ideas at Play workshop covered a wide range of different game-based exercises that faculty could use to help in their students' entrepreneurial mindset development. For more information on the content covered and to access a downloadable game packet please go to:

<http://epicenter.stanford.edu/resource/innovation-and-entrepreneurship-games>