

# **DAY ONE EXERCISE: ENGAGING IN CREATIVITY, INNOVATION AND ENTREPRENEURSHIP THROUGH SOLVING WICKED PROBLEMS**

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## **ABSTRACT**

*In this first day of class exercise, students are introduced to the concepts of creativity, innovation and entrepreneurship by developing a solution to a wicked problem. Wicked problems are generally large, complex social problems that are surrounded by limited, confusing, and oftentimes contradictory information (i.e. homelessness, ocean pollution, etc.). This fast-paced, engaging activity is designed to set the tone for an active-learning, introductory course to entrepreneurship and innovation. Following a brief overview of the similarities and distinctions between the concepts of creativity, innovation and entrepreneurship, students are then presented with a wicked problem. Using this problem, they will brainstorm a creative solution, innovate by sketching a prototype, and engage in entrepreneurial thinking by developing a basic business model. But there is a twist! Students must create the solution using three words they brainstormed about the wicked problem, demonstrating how creativity, innovation and entrepreneurship can still thrive under conditions of constraint. After teams share their ideas, the exercise ends with a debriefing session to reiterate a) how entrepreneurial thinking can activate creativity and innovations for a customer segment, and b) that entrepreneurship and innovation can stem from a problem-based lens to solve big societal problems. The activity and debriefing session are intended to set the stage for an active-learning course.*

## **INTRODUCTION**

The first day of class often focuses on introductions, icebreakers, and syllabus reviews – activities that, while necessary, can feel repetitive for students attending multiple courses. In the spirit of experiential learning often interwoven into entrepreneurship education, this exercise provides an opportunity to engage students in active learning on day one. In this fast-paced, fun and memorable activity, students are introduced to the topics of entrepreneurship, innovation and creativity; what they are, that they are not mutually exclusive, and how they can be applied in practice. This activity is designed from a problem-based lens using the “wicked problems” framework to actively engage students in the use of entrepreneurship to advance progress on societal problems. Neck, Neck, and Murray (2025) relate that wicked problems are “large, complex social problems for which there is no clear or obvious solutions; where there is limited, confusing, or contradictory information available; and where a whole range of people with conflicting interests engage in debate or solution generation” (p. 76). Some examples of wicked problems are food waste, ocean pollution, foster care systems, and urban homelessness.

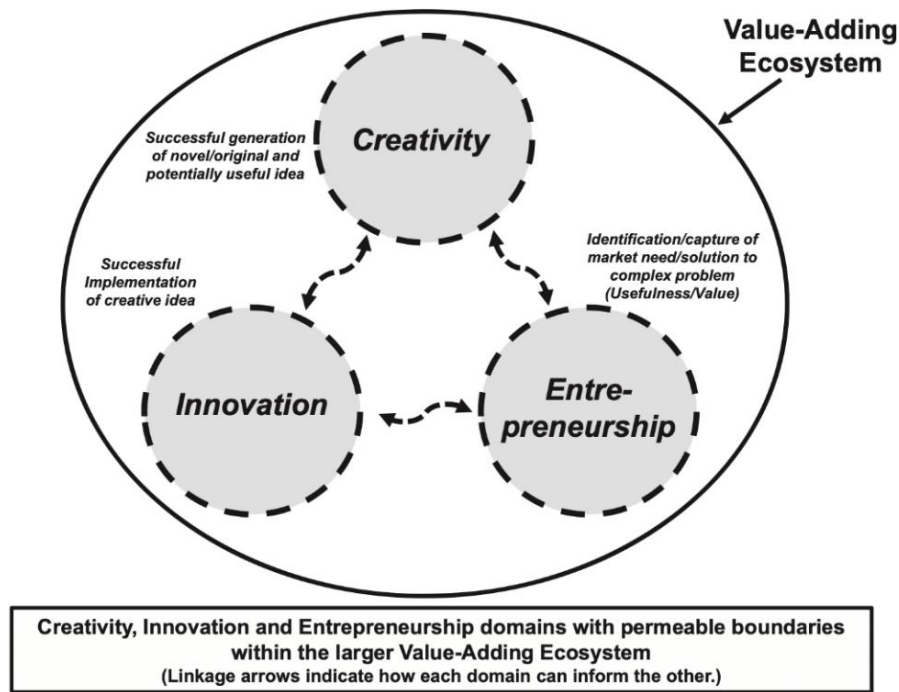
After participating in the exercise, students should be able to:

1. Define and differentiate the concepts of creativity, innovation and entrepreneurship,
2. Recognize how constraints may influence the problem-solving process,
3. Create an innovative solution to a wicked problem using entrepreneurial thinking.

This activity can be completed in approximately 1-hour and is best utilized in an introductory course to entrepreneurship and/or innovation. Although it can be incorporated at any time, we have found this activity to be useful on the very first day of class to achieve three goals: (a) to set the tone for the course as one that is experiential and active in nature, (b) introduce meaningful content (constraints) on the very first day of class, and (c) to clearly define and differentiate the concepts of creativity, innovation, and entrepreneurship in an engaging way.

Using the framework by Dino (2015), (see Figure 1), students first gain a high-level overview of the definition and distinction between the concepts of creativity, innovation, and entrepreneurship. After a brief discussion of these concepts, students then engage in a group activity to create, innovate and build a basic business model that solves a problem in an environment of constraints. This activity is structured around creating a solution to a “wicked problem” (Lönngren & Van Poeck, 2021), which is a problem-based approach that allows students to work with a meaningful societal issue. After revealing the “wicked problem” to the students, they brainstorm associative words, create a solution to the problem, generate a sketch of a possible prototype, and determine who might buy the solution and why. Teams have limited time to complete each part of the activity, allowing them to create, innovate, and think entrepreneurially within constraints (time and topic). The activity can set the stage for future conversations about the theory of effectuation (Sarasvathy, 2001), opportunity identification and exploitation (Shane, 2003), and social entrepreneurship (Corner & Ho, 2010). At the end of the activity, students celebrate their ability to create, innovate, and think entrepreneurially on the very first day of class.

**Figure 1**  
*Creativity, Innovation and Entrepreneurship Domain Framework (Dino, 2015)*



### IMPLEMENTING THE EXERCISE

**Table 1**  
*Overview of Learning Exercise Estimated Time and Alignment to Learning Objectives*

Topic	Estimated Time	Learning Objectives
Introducing Creativity, Innovation and Entrepreneurship	5-10 min.	1
Creativity: Ideate within Constraints	15-20 min.	2,3
Innovation: Construct a Prototype	10-15 min.	1,2,3
Entrepreneurship:	10-15 min.	1,3
Activity Debrief	10-15 min.	1,2,3
Total	50 – 75 min.	

#### Step 1 - Introducing Creativity, Innovation, and Entrepreneurship

First, introduce the students to the topics of creativity, innovation, and entrepreneurship in a mini lecture. It can be helpful to engage the class in a discussion of their pre-conceived definitions of creativity, innovation, and entrepreneurship. Ask the class to offer their own descriptions of these topics as a starting point for expanding the definitions.

Next, inform the students they will be placed into groups and have the opportunity to create, innovate, and build a startup by the end of the class. Divide the classroom into groups of 2-4 students and hand out post-it notes or notecards (4-5 per student).

## **Step 2 - Creativity: Ideate within Constraints**

Now, tell the class they are in charge of solving a “wicked problem.” Briefly describe wicked problems and that entrepreneurship and innovation can be used to solve big problems in society. Remind students that while entrepreneurship is often thought of as starting a new business, entrepreneurs are ultimately solving problems for a customer segment.

Next, the students will engage in brainstorming and creative thinking surrounding the wicked problem. Tell them you will introduce a wicked problem, and they will have 3 minutes to write down the first words that come to mind related to this problem. They should write a total of 4-5 cards and each card should have only 1-2 words. For this exercise, we use the wicked problem of wasted food, but one can pick from a multitude of possible problems. Alternative wicked problems may include:

- ocean pollution
- access to quality healthcare
- freshwater depletion
- urban homelessness

After 3 minutes, students should place their cards in a pile within their group. One member should shuffle the cards and pull out 3 at random and flip them up for all to see. Now, inform the students they have 5 minutes to brainstorm a solution to the wicked problem, but they have to incorporate the words on all 3 notecards in a meaningful way. Remind them that they are engaging in creativity, which is often done in an environment of constraints. Encourage them to think about solutions that are not just product based, but technology, service, or even process based. One group member should document the group’s solution.

After 5 minutes ask each group to share their solution. Groups should first read aloud their random words and then describe and discuss their solution.

## **Step 3 - Innovation: Constructing a Prototype**

Next, inform the students that they will now innovate, which, for this activity, is represented by constructing a prototype around their idea. When possible, have the students build a physical prototype utilizing a creativity cart or cabinet that includes common maker materials (such as molding clay, string, straws, tape, glue, building blocks, etc.). Alternatively, this activity can also be done in a makerspace or similar lab. When creating a physical prototype, it is helpful to require solutions be product-based, or something that can be physically represented. If the student’s solutions are service based, they can create a prototype to represent how the service solves the problem.

If one does not have access to maker materials, have the students express their ideas by drawing on paper or whiteboards in the room. Encourage students to be creative about visually representing their solutions. Provide 5 minutes for the group to complete this activity, then have each team briefly share their prototype with the class.

### Step 4 - Entrepreneurship: Build a Basic Business Model

Lastly, teams will engage in applying their creative thinking and innovations in the business setting. Using representation (see Figure 2) of a basic business model, students should identify their solution, who might buy that solution (customer segment), describe why those customers might purchase it (value proposition), and how they will get the solution to the customer (channel). Provide 10 minutes for this activity and have each group present their business model.

**Figure 2**  
*Basic Business Model*



### TEACHING NOTES

#### Debrief Script

Congratulations! You have now engaged in creation, innovation and entrepreneurship all within the space of one class. This exercise introduced you to the concepts of creativity, innovation, and entrepreneurship. While these topics are obviously more complex in the marketplace, this simple exercise demonstrates that you can all be creative, innovative, and entrepreneurial while solving problems that are critical to our society. In addition, these activities do not typically take place in an environment of unlimited resources. We face constant constraints when we try to innovate and establish new businesses – access to money, people, and supplies, are never limitless. The nature of entrepreneurship is to identify opportunities, then use creativity and ingenuity to craft a solution with the resources available to us. Let's discuss this activity.

1. How would you now describe the differences and similarities between creativity, innovation, and entrepreneurship? (LO1)

You may refer back to the Dino (2015) framework that shows the differences between creativity, innovation, and entrepreneurship while reflecting on their interrelatedness. As a follow up discussion item, you may pose the question of whether students believe any can exist independently? Here you may cite examples of major innovations that sat on the shelf for many years (see Bahcall, 2019), or the entrepreneur who struggled to start their business because it wasn't particularly innovative.

2. How did the imposed constraints influence your solution and business model? (LO2)

Using the students' comments about their own constraints, try to connect similar real-world constraints in the marketplace with companies and products to which they are familiar. You can also use this time to emphasize the importance and value of constraints in the entrepreneurial process.

3. When constructing your business model, which part of the model was the most difficult to develop an answer to? (LO3)

Many students will easily identify a potential customer but will struggle to describe why they might purchase it. A brief discussion about value proposition and how startups often fail because they have an innovative solution, but it doesn't provide enough value for customer to part with their money can be valuable here, time permitting.

### **Courses Appropriate for this Exercise**

The authors have used this activity during the first class of various entrepreneurship and innovation courses and bootcamps for multiple years, leading to the refined version presented here. This exercise is a stimulating class introduction, setting the stage for an active and engaged course. Many students have reported this activity to be fun, memorable, and meaningful in terms of entrepreneurship concepts. Throughout the course, referring back to this activity reinforces concepts, linking them to this experience. In order to assess the students learning, the authors have completed a second round of this same activity, using a different wicked problem toward the end of the semester to gauge the growth of the students and allow them to apply the concepts in a more sophisticated fashion.

One of the authors has introduced this activity into an Introduction to Business course that most underclassmen take who have expressed interest in a business major or formally chosen a business major. The enrollment of the course is often around one hundred students each semester and introduces the students to the study of business and is taught by professors from each discipline in the college of business. During the week that the entrepreneurship degree is discussed the professor spends one 50-minute class session dedicated to running the activity and another to hosting a brief pitch competition and covering more information about the entrepreneurship degree. This activity has been highlighted and received college level awards voted on by the students for being the most engaging week of learning for the Introduction to

Business course. By using this activity in introduction courses these students learn about the degree, learn about practical entrepreneurial concepts, and get to practice entrepreneurial thinking as well.

Since business pitching is an activity that some entrepreneurs will face, a pitch assessment can be introduced into this exercise. An outside judge may be invited to listen to the pitches, select a winner, and provide feedback based on the clarity of the teams' answers to the four basic business model areas.

## CONCLUSION

In higher education, making the most of each student interaction is essential. The first day of class should immediately engage students in active entrepreneurship and innovation. Using the wicked problems framework allows students to tackle big societal challenges, building confidence in their ability to generate impactful solutions. This learning exercise sets the stage and expectations for entrepreneurship coursework, capturing students' attention and leveraging the excitement of the first days of class. Beginning the year with action-based content at the heart of the entrepreneurial process immediately connects students to each other through creative group work. While this activity is often used on the first day, it can be adapted for various situations. The wicked problems activity continues to distinguish classes and programs through experiential learning from day one.

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