Fostering Student Identities as Sustainability Changemakers: Entrepreneurial Mindsets and Tools for Change

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Workshop: Fostering Student Identities as Sustainability Changemakers: Entrepreneurial Mindsets and Tools for Change

This workshop introduces participants to tools used in Products & Markets (P&M), a required entrepreneurship class for first-year students at Olin College of Engineering. The course, which has run for 10 years, introduces students to an entrepreneurial mindset. We have recently oriented the class around the United Nations Sustainable Development Goals, in order to foster the creation among our students of Identities as "Sustainability Changemakers. Olin's Strategic Plan (2022-2027) orients the college around sustainability. The implementation framework (referred to as the "college as a living lab" for "human and planetary health") is an initiative that connects the college's curriculum, operations, and community to create innovative education and research models that create engaging learning experiences while addressing real-world sustainability challenges. This workshop aims to guide participants through student experiences that support the transformation of identities of students and faculty alike as we grapple with the role of engineers in shaping a more sustainable society.

The delivery of the workshop is divided into three parts: Ideation, Experimentation, and Reflection.

In the first part (30 minutes), we conduct an ideation activity in which participants generate ideas on sticky notes (one idea per note). We invite participants to respond to the following prompts: Create a "bug" list (things that bother you). What are roses (positives or opportunities) and thorns (annoyances, areas for improvement) related to a particular topic (e.g., your kitchen, traveling to this event, your office, teaching a first-year course)? What are you curious/passionate about? Participants ideate individually for several minutes, share in pairs or small groups, then select one idea to explore further as a group. Participants are asked to develop a value proposition for this idea using a fill-in-the-blank "ad-lib" value proposition template (see the Strategyzer tools https://www.strategyzer.com/library), then share it with a larger group.

In the second part (45 minutes), we put participants through a full test/learn cycle in order to explore the assumptions embedded in their value proposition. Participants write Test Cards that outline an experiment that they will run to test a hypothesis about their customers or about product/market fit. They create a low-fidelity representation of their product and engage with "customers" to conduct their test. After engaging potential customers, participants fill out a Learning Card that indicates whether the evidence they collected supports their hypothesis. Finally, they update their value proposition to reflect their learning.

In the third part (15 minutes), we focus on how the course tools can be applied to one's own professional development. Participants complete an ad-lib template that is similar to the value proposition ad-lib they created for their product. This Personal Value Proposition encourages participants to think about how they could apply the tools to explore an area of potential personal learning, growth, exploration, or discovery.

The goals of the workshop are:

- To share tools from P&M that we have found useful in a variety of settings.
- To give participants practice using these tools, so they can use them on their own and share them with colleagues and students.
- To convince participants that these tools are broadly applicable to projects aimed at purposeful, value-seeking change — including student-centered learning experiences, institutional innovation efforts, and faculty professional development.
- To show participants the value of introducing a sustainability focus to early entrepreneurship experiences for students.

After attending the workshop, participants should be able to:

- Run (with modifications, if desired) a value proposition ideation activity with students or colleagues.
- Execute (or have students/colleagues execute) a test/learn cycle involving a customer development interaction with a prototype.
- Reflect critically on the utility of these tools across multiple contexts, their relationship to other tools participants might already use, and the impact of layering into this work a focus on sustainability.