

DESIGNING IMPACTFUL LEARNING FOR COMPLEX SUBJECTS: SPEEDING UP THE DESIGN PROCESS

Authors

Ms. Maria Leonard UTRGV

Dr. Linda Matthews UTRGV

Abstract

This interactive exercise will introduce a process to facilitate learning of multifaceted subjects such as sustainability. The presenters will offer participants a template for developing a set of activities to accelerate this progression. Using the triple bottom line construct, the facilitators will guide the audience through a series of brainstorming and decision making activities to help ensure that this teaching approach will promote adult learning as well as capture the totality of the complex subject matter.

Three Keywords

- **Sustainability**
- **Iterative process**
- **Hidden bias**

Like many instructors, the coauthors of this submission spend countless hours attempting to develop teaching material that will bring to life constructs for our students. It is of no surprise that as constructs increase in complexity this is harder and harder to do and often requires multiple semesters of teaching the same material to get close to creating a learning environment that really captures the essence of what we wish students to take away. The objective of this session is to leave the participants with a method to speed up the process of designing impactful learning methods for complex subject matter. We will utilize a variety of short exercises to unfold this process, integrating discussion and summation throughout. We will anchor with the example of teaching the concept of the triple bottom line with the goal of creating a teaching method that will result in the acquisition of both declarative and procedural knowledge regarding the subject. What follows here is some background from one of the authors of this piece:

As a businesswoman and before I entered the world of academia, I was vaguely aware of the notion of sustainability and the triple bottom line. In fact, I am sure that even if I had a conceptual understanding of their meaning, I certainly did not reflect on their significance or implications for my work as I strived to run a profitable and enduring business. As an educator, I can now appreciate the irony of this statement. When I became a lecturer over six years ago, the first class I taught was a business sustainability course, which I am still teaching to this day. As I look back to the first semesters, I realize that my goal was solely to ensure that my students could articulate the concepts (declarative knowledge) without really grasping the depth of the subject matter. Furthermore, teaching at a business school further impedes the educator's ability to truly comprehend all dimensions of this term. Business professors, not surprisingly, tend to focus on one facet of the equation: Economic growth. It is important to note that most individuals, depending on their interests, beliefs, and biases, will be predisposed to view and grapple with sustainability as if it was a one-dimensional issue and will have difficulty opening their eyes to its true complexity. The same can be said for educators that are keenly interested in the social corporate responsibility aspects of sustainability or those that place emphasis on the environmental aspects of sustainability. The point we are trying to make is that attempting to promote learning a complex construct such as the triple bottom line aspects of sustainability is that, as educators, we may have hidden bias in our design of the learning materials.

The activity that we are about to describe is one that the authors have gone through when attempting to teach such a complex subject. Through the years, we have come to the realization that given the intricacy of this topic, and other complex topics, it is necessary to integrate a variety of experiential-based approaches and methods to help students fully comprehend the true meaning of this multifaceted subject. It is not enough for the student to have declarative knowledge. We must facilitate a process that allows the student to look deeper and create procedural knowledge regarding this matter. Many of us do this successfully over time, perfecting our teaching methods for complex subject matter after years of iteration. Upon reflection, the authors recognize that it is possible to accelerate the process of creating curriculum that truly meets the desired objective in the specific context of a complex subject with is often hindered by hidden biases.

This activity is actually for instructors to use to develop suitable materials for undergraduate and graduate level coursework, and can be conducted in a traditional classroom setting

For example, and as will be used in this activity, if the goal is to teach students to conceptualize all dimensions of sustainability, we must take students through a process that allows them to act and reflect on sustainability's true meaning and wide-ranging implications, as well as their own biases when dealing with this subject matter. The objective is that through this iterative process, students will be exposed to their implicit biases and will be able to minimize them as they become explicit.

The authors warn that this process is not perfect, as new approaches will always be needed to maintain awareness.

Through this exercise, participants will be asked to work in groups as the facilitators provide different activities designed to help the students achieve certain milestones through action, group discussion, and reflection. Those activities may include a group exercise to simulate and reflect on the Tragedy of the Commons, and why this phenomenon is common if, as Ostrom demonstrated, it can be avoided, if certain conditions are present (Fennell, L.A., 2011. Ostrom's Law: Property rights in the commons. *International Journal of the Commons*, 5(1), pp.9–27.

DOI: <http://doi.org/10.18352/ijc.252>). Students may also be asked to participate in an exercise designed to uncover hidden biases and reflect on the interconnectedness of various elements.

The objective behind these various exercises is to allow the student to explore sustainability's dimensions and the student's own predispositions. Ultimately, the authors will facilitate the participants' progression through this process. First of all, we seek to define the construct and foster full understanding of all facets of this subject. Working in groups, participants will be encouraged to brainstorm activities that reveal all dimensions as well as the hidden barriers that prevented the participant from being able to see them. As they move through the process, participants will begin to gain insight on the interconnectedness of all sustainability's facets. When posed with a company's case study, they should be able to analyze the conditions presented, recognize the triple bottom line elements, reflect on the connections, and present recommendations for better performance. We expect this exercise to be highly engaging as participation from all members of the audience will be required to provide input and insight.

The same concept of an iterative process designed to provide deep understanding and impactful learning can be used to teach other complex issues. The benefit of this approach is that it combines experiential activities, engagement, and reflection in order to achieve its objectives. It is up to the instructor to discern what activities need to be incorporated or deleted from the process, specifically as students achieve a higher level of understanding.