Battling ‘Senior-itis’: Challenging Students with Ideation through Implementation
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ABSTRACT
This paper describes our use of a pedagogical approach based on IDEO’s Human-Centered Design (HCD) framework in senior business classes at a small Midwestern university. The results of its implementation among students and for the client organizations are presented.

Introduction
As educators, we hope to not only pass on a body of knowledge to our students, but we also hope to prepare them for life and careers after college. Research has shown that employers are increasingly on the lookout for college graduates with experience and the ability to innovate, but most college students receive little or no skills or experience in innovation or the chance to apply their knowledge before graduation. A team from Peter D. Hart Research Associates interviewed 305 employers and 510 recent graduates of a four-year college, and conducted three focus groups among business executives. They found that the majority of employers think that colleges and universities should place more emphasis on applied and integrative learning. Specifically, 73% of the employers wanted college graduates to have the ability to apply knowledge and skills to real-world settings through internships or other hands-on experiences, and 70% wanted graduates to have the ability to be innovative and think creatively. Examples of the employer focus group comments follow:

“Disconnected…I’ve seen kids come out of school, and my perception is, you know, they’re able to read The Economist or they’re able to…program or build something in a lab, but it doesn’t really have an application to the real world.”
– Fairfax Business Executive

“I think, you know, they don’t come out with a lot of common sense or what you would need them to do to be productive in your business.”
– Milwaukee Business Executive

1. A key area of concern for both employers and recent college graduates is the degree to which college students are given the opportunity to put learning outcomes into practice. Both groups believe that higher education should give students more experience with real-world applications of their knowledge and skills through hands-on learning (Peter Hart Research Associates 2006).

2. The 2010 National Survey of Student Engagement (NSSE) surveyed 362,000 students at 564 US baccalaureate-granting colleges and universities about their experience in college. On a scale where 1=never, 2=sometimes, 3=often, and 4=very often, graduating seniors reported a score of 1.74 when asked if they had engaged in a community-based project during their four years of college. Fifty percent of graduating seniors reported that they had completed any kind of practicum, internship, field experience, co-op experience, or clinical assignment. Thirty-three percent of seniors reported that they had completed a culminating senior experience (capstone course, senior project or thesis, comprehensive exam, etc.).

3. At our university, informal feedback from our senior business majors revealed that they felt prepared for their careers in terms of knowledge content, but wanted the chance to experience real-world application of their knowledge before graduation. While internships often fill this void for students, not all of them are able to take advantage of internships and some are certainly more enriching than others. We conducted a test of a new pedagogical approach in which we gave students training in innovation and creative problem-solving tools. In addition, we developed a new learning facility and led the students through several applied, real-world projects with area businesses and non-profit organizations using the tools they learned.
The Human-Centered Design Approach

Universities are increasingly being asked to better connect with and assist their immediate surrounding communities while sustaining their educational mission for students. A great many human and societal needs exist across the globe, but for many universities there are a multitude of needs that also exist right across the street. Professors often employ applied projects to help needy organizations, but also to help students of all majors to learn, foster, and access their innovative abilities. Research has shown that students learn better when a variety of teaching approaches are used, and in our experience nearly all seniors prefer courses that have more experiential elements.

We looked to both academia and industry for effective models of innovation. Research in educational psychology supports our three-phased approach to learning and discovery. John Dewey’s early model of education included 3 principles: experience, inquiry, and reflection (Giles and Eyler 1994; John Dewey’s model. How We Think (1933) and Experience and Education (1938)). Reading literacy has three subscales: access and retrieve, integrate and interpret, and reflect and evaluate. Kolb’s (1984) experiential learning model represents a cycle or spiral, where the learner moves through a process of experiencing, reflecting, thinking, and acting. The first and last phase of the cycle are the same, because the process is iterative in nature. Problem-based approaches challenge students to apply their knowledge, skills, and capabilities to effectively solve problems (Engel 1997). The concept of collective creativity taps into group dynamics (Lewin 1948) in that individuals are able to build off of thoughts of others in the group, resulting in a more complete solution. To state it more specifically, “collective creativity has occurred when social interactions between individuals trigger new interpretations and new discoveries of distant analogies that the individuals involved, thinking alone, could not have generated” (Hargadon and Bechky 2006, 489).

A successful industry model for innovation that is grounded in the above theoretical principles was adopted. The three-phase innovation approach is used by IDEO, an award-winning global design firm that helps organizations in the public and private sectors to innovate and grow. Human-Centered Design (HCD) uses both qualitative and quantitative tools to thoroughly examine the problem and the experiences of the people involved. They describe their process as a system of three overlapping spaces: inspiration, ideation, and implementation. Inspiration is the problem or opportunity that motivates the search for solutions. Ideation is the process of generating, developing, and testing ideas. Implementation as the path that leads from the project stage into people’s lives (IDEO website). IDEO emphasizes the importance of an interdisciplinary approach to problems. The company’s 550+ employees reflect a variety of disciplines, including anthropology, communication, engineering, healthcare, marketing, psychology, and industrial design.

At the University of Tulsa (TU), we created a basic physical space and coupled it with a challenging, experiential approach that took students from problem identification to ideation and finally to implementation. We taught the HCD approach to the students and used it in class projects and in an extracurricular student agency.

Outcomes for Area Clients

- For-profit companies: Market research, new product ideation and prototyping, logo development, focus groups, campus promotional events.
- Non-profit organizations: Promotional campaigns, logo development, fundraising assistance, video production of public service announcements.
- Campus: University-wide events teaching entrepreneurship basics, hosting campus and regional innovation challenges, video production, fundraising for community outreach projects.

Outcomes for Students

Students in an undergraduate project-based course on innovation were given a three-stage assignment: as a class, identify a wide array of needs in the local community, among consumers, and on their campus; develop a set of 6-8 feasible solutions to each problem; and implement the best ideas—one per student. The students learned a number of ideation techniques, led brainstorming sessions, sifted out the best ideas from a set of possibilities, and learned how to plan and implement an actual project on their own. Following are quotes from students regarding the course:

The class taught me that you have to work at being creative and innovative.

This class was refreshing because it took the creativity that I was used to and extended to the business realm. In my mind I had always separated the two…. I never really thought about a business team having to sit around and brainstorm innovative ideas before this class. Also, I got a chance to experience group brainstorming and creativity in a sometimes problematic setting. Not everyone was always on the same page and not everyone was open to every idea. This posed a challenge because we had to overcome the obstacles of negativity.

The course introduced me to something that I had not experienced before since probably elemen-
tary school. Throughout my education, especially recently, I have felt that I have to do everything in a certain process that is very traditional and not creative at all. Any ideas that I had would always be shut down to where I did not want to speak anymore. I felt like the more creative I was the more wrong I was. However, this course has made me realize that I still have my creative thinking process, it was just stored away. The course introduced me to thinking techniques and designs that I actually have already used outside the class.

One of the best classes I have taken; completely different from anything I've ever seen in a classroom before and a total breath of fresh air. This class imitated the real work environment more than any lecture style course.

Traditionally when I found a problem in society I would just complain about it. Now, however I take these problems as a challenge to find a better way to accomplish my goals…. By learning how to better identify not only problems, but creative solutions is one of the lessons that I am personally most proud to have been able to take away from this class.

I now look at every problem that I face as an opportunity for innovation. I used to abhor hearing people complain, but now it's one of my favorite pastimes because I learned in this class that wherever there is a complaint there is an opportunity for innovation.

The most valuable lesson I learned was that true innovation requires taking risk and action… rather than safely talking about “what would be innovative.”

The HCD process was taught and used in an MBA class for use in its project for a local non-profit. The students conducted qualitative research in order to discover the needs of the target (area companies and hiring supervisors), brainstormed as a group to develop the most effective promotional ideas for a marketing campaign, and then implemented their ideas by creating an actual direct mail campaign that was printed and mailed to about 200 area businesses. The result was twice as many businesses interested in hiring the graduates of the non-profit’s job training program. When the course was over, students were asked to identify any changes in their learning over the entire course. The most distinct improvements that students identified in their learning were: “how to understand customers and gain insights into their needs,” and “designing solutions that are practical.”

Conclusion
The US is facing an innovation crisis. Building our nation’s innovative skill level and capacity has been called for by US Presidents past and present, business leaders, economists, and by other experts in various media. Our universities need fresh approaches to teaching the innovative process to all majors, so that they can help our nation compete more effectively in the global marketplace.

References


