

Integration of Client Projects and Human-Centered Design for Learner-Centered Teaching
(LCT) in an Undergraduate Program Development Course

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Introduction

To assist in developing a professional and diverse agricultural workforce for the 21st century, professors from the University of Missouri and University of Illinois are utilizing a unique approach to teaching an agricultural education and program development undergraduate course. After ensuring that students have foundational knowledge and access to resources in program development, professors from two midwestern universities bring together their students for applied learning through real-world projects. Students work in cross-university groups to understand the clients and their target audiences, and then design programs to meet the needs.

Connection to Literature

Integrating real-world experiences into the classroom has shown to be impactful. Students who apply theories and concepts to practical problems are more likely to feel academically motivated (Trolan & Jach, 2020). Engaging with course concepts leads to greater mastery of the material (Maskiwicz et al., 2012) and higher-order thinking skills (Jensen & Lawson, 2011). Meaningful learning occurs when students move from rote memorization of material into interpreting, analyzing, and evaluating content (Edgar, 2012; Schunk, 2004).

Human-centered design (HCD), or design thinking, is a term for innovating or designing with the end user in mind (Boller & Fletcher, 2019). HCD is an active learning approach that involves working with target audiences to understand their needs/experiences, synthesizing this information, ideating potential solutions, prototyping, and implementing. When used as a tool in education, it allows students to engage with the audiences that are impacted by the course concepts they are learning, allowing the features of the audience to become more salient and allowing the students to develop more creative resolutions to the audience's problems (Matthews and Wrigley, 2017). To create an environment where students interpret and analyze content in relation to target audiences, teacher roles must shift from being the *spokesperson* of knowledge to being the *architect* of learning (Doyle, 2011).

How it Works

Before the courses begin each school year, the professors identify clients interested in providing a need or project and working alongside undergraduate students. Clients must be passionate about collaborating with undergraduates and be willing to prioritize and support student learning experiences. Throughout the first six weeks of the course, students learn about and apply program development skills by individually designing their own mini-programs. The topic of the mini-program is the choice of each student. This project aims to help prepare students to take on the client project later in the semester. Examples of some of this year's mini-programs include a livestock judging clinic, a floral design workshop, and a plant identification walk.

Once students have successfully completed their mini-programs, they are ready for Client-Student Program Launch Weekend in St. Louis, Missouri. To kick off the weekend, clients make presentations describing their industry/organization and project need. Students select the project team that best aligns with their interests and career goals. Throughout the weekend, professors facilitate activities that help clients and students develop program goals, understand the target audience, and build delivery methods and deliverables.

When students return to their home universities at the end of the weekend, they continue to meet virtually in their project teams to develop the deliverables they and their clients agreed upon. Students complete reflections at various times during the weekend and throughout the final weeks of the semester. As the end of the semester nears, students present their client programs to their classmates for feedback. As the semester concludes, teams virtually deliver their program package to the client for input and then modify as needed.

Results to Date

In 2022, this course produced nine training projects/programs designed in collaboration with seven unique stakeholders from four different Midwest states. A total of 45 students from both universities were divided into project teams of 3-4 members—each project team except for one included a student from both midwestern universities. Stakeholders included Illinois Agriculture in the Classroom, Drury Inn at The Arch, the Danforth Foundation, Council for Agricultural Science and Technology (CAST), Illinois 4-H, Missouri Agriculture Education on the Move, and Chick-fil-A-Hutchison, Kansas. Feedback from stakeholders at the end of the course indicated that components of all programs/projects will be piloted or implemented by stakeholders.

From a post-course survey, 85% of student survey respondents (n=34) reported they are likely to use human centered design in other aspects of their lives. In addition, 88% reported they are likely to use human centered design in their future careers. Retrospective pre-post test questions revealed that by the end of the course participants were statistically more likely to be comfortable with the unknown (t=3.72); think critically about different problems and solutions (t=4.09); be comfortable dealing with problems for which they cannot successfully predict a solution (t=5.83); and feel comfortable collaborating with people from different backgrounds (t=2.98).

Qualitative data shared in reflective journals indicated that students valued the opportunity to work alongside stakeholders in real-life projects. One Senior student explained, *“This has been an invaluable experience – from learning more about my stakeholder organization to getting hands-on experience in program development to receiving constructive feedback from an experienced professional. This has been a nonstop learning experience that helped me grow as both a student and professional.”*

Another Senior wrote, *“The hands-on portion of the class has been exceedingly important as it has allowed me to apply what I have learned in the classroom to see what works and what I need to improve upon. I believe that having a hands-on experience like this class has provided is a great way to prepare students for a professional environment.”*

Future Plans

Professors continually strive to expand the diverse group of clients involved in this course to meet the needs of individual students. This year we were able to add stakeholders from the restaurant and hotel industries, which met a need for Hospitality Management students who are required to take the course at one of the universities. We aim to expand further into the agricultural communications realm in the upcoming year. We also continue to research how students perceive using human-centered design impacts their current and future collaboration and communication skills.

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