

---

# Design Thinking, Ethnography, and the Red Team Approach to Involving Undergraduate Students in Research

Kyle Ryan, Julia Zurek, Kelsi Leininger, Kaitlyn McNeil & Olivia Welch

*Peru State College*

---

**Abstract:** *This paper explores the revision of an existing Honors Program (HP) that includes the possible creation of a first-year, second semester course. Inherent in this course is the premise of Design Thinking (DT) that provided the students the opportunity to not only design the course, but to also implement Design Thinking in order to create an initiative that would leave a lasting impact on the campus or surrounding community. Inherent to this initiative is the use of Red Teaming (RT) that allows students the opportunity to employ both ethnographic and critical thinking skills.*

**Key Words:** honors program, Design Thinking, Red Teaming

The current study began with a committee of faculty, staff, and students being formed to critically examine a standing Honors Program (HP). Integral to this, an independent study course was created that would task undergraduate Honors students in a Living Learning Community (LLC) with the creation of a first year, second semester, Honors course. Utilizing Design Thinking (DT), ethnographic methodology, and Red Teaming (RT), students engaged in a semester-long applied research project that resulted in the proposal of not only a standing course (HP 102-Design Thinking in the Honors Program) but also a student-run coffee shop that was subsequently presented to College administration as well as community leaders.

## LITERATURE REVIEW

DT, common in business management and product design, has recently been incorporated into higher education. Sam Seidel, Director of K12 Strategy and Research at Stanford's d.school, states that DT, "...represents a way of applying creativity to complex challenges: Students learn to empathize with the people they are trying to help, to design solutions, to test and refine, and to embrace failure as a learning opportunity" (Spegman, 2018). Many institutions of higher education are also emphasizing High-Impact Practices (HIP) that include first-year experiences, student research, collaborative assignments, and LLC's (Kuh, 2008). RT, a means to employ critical

thinking to examine institutional failure, states that "...people and organizations court failure in predictable ways, that they do so by degrees, almost imperceptibly, and that they do so according to their mindsets, biases, and experience..." (University of Foreign Military and Cultural Studies, 2018, pg. 2). RT, a means to overcome groupthink and complacency, has had a long and successful history in both military planning and military intelligence (Hoffman, B.G., 2017). It has also been an integral component of assessing computer network security (Applebaum, A., Miller, D., Strom, B., Korban, C., & Wolf, R., 2016). At its simplest, and as defined in military terms, Red Teams are composed of trained and educated experts that provide reviews and explore plans based on an adversarial point of view (Zenko, M., 2015). All of these factors were considered during the planning stages and implementation of this study.

## METHODS

DT employs an ability to combine empathy, creativity and rationality to analyze and fit solutions to particular contexts (Dunne & Martin, 2006) and the researchers involved in this study initially followed the Stanford Design Thinking approach of "Empathize, Define, Ideate, Prototype, Test" (d.school bootcamp bootleg, 2019). The Applied Critical Thinking Handbook (formerly RT Handbook) devotes a chapter to fostering cultural empathy, while Geertz (1973) states that the ideal manner of examining culture is less experimental science in search of law but rather interpretive in search of meaning. Ethnography has been defined as study of people in naturally occurring fields by methods capturing social meanings and activities (Brewer, 2000). Over the course of the semester HP students received brief, yet intensive, training over DT, RT, and ethnography in order to create a standing HP course as well as ideate a proposed coffee shop.

## RESULTS

The use of DT, RT, and ethnography, resulted in a HIP to create both a course and a proposal of a student-run coffee shop at a small, rural State college. Techniques of HIP involved community-based learning, service learning, and learning communities. The key points from these practices include integrating the traditional form of learning with asking the "big questions" involved in starting a business from scratch, all while gaining experience from knowledgeable community members (Kuh, 2008). We recognized this as a HIP because the students involved in this project put it upon themselves to set the goal of starting a coffee shop, and additionally spent quality time with the local business owners to learn the ways of entrepreneuring in the small southeastern community. To begin, students set about conducting an ethnography of Honors Students participating in the Honors LLC and conducting an ethnography (effectively putting themselves in the shoes of their peers) in an effort to answer the guiding question of, "...what would you like to design that would leave a lasting impact on both the campus and community?" Once the students had arrived at the idea of 'Peru Brew', RT was implemented with the guiding question of, "...if this were to fail within five years, what will people say was the reason why?" The design of the course was further integrated into the overarching framework of a proposed revision to an existing Honors Program and the proposed coffee shop has been received favorably by potential community partners.

## DISCUSSION

Student involvement in higher education has been identified as a HIP that potentially leads to, among other things, student retention. What has not been researched in depth is the utilization of DT as a means to not only involve students in research, but also in course and curriculum design. Since the group of students involved was constrained to only HP students, the study is limited in its findings due to not having a diverse demographic. As a result, recommendations for future research include broadening the scope of those surveyed in order to achieve greater accuracy. Currently HP students are engaged in designed a survey involving ethnographic methodology and DT in an effort to determine what students outside of the HP desire with regards to campus community and academic success. It is hoped that by recognizing the student as consumer and conducting a DT approach to enrollment management that this input might result in increased retention and the further integration of High Impact Practices.

### REFERENCES

- Applebaum, A., Miller, D., Strom, B., Korban, C., & Wolf, R. (2016). Proceedings from ACSAC '16: *The 32<sup>nd</sup> Annual Conference on Computer Security Application*. New York: Association for Computing Machinery.
- Brewer, J. D. (2000). *Ethnography*. Philadelphia, PA: Open University Press. d.school bootcamp bootleg. (n.d). Retrieved from <https://static1.squarespace.com/static/57c6b79629687fde090a0fdd/t/58890239db29d6cc6c3338f7/1485374014340/METHODCARDS-v3-slim.pdf>
- Dunne, D., & Martin, R. (2006). Design thinking and how it will change management education: An interview and discussion. *Academy of Management Learning & Education*, (5)4, 512-523.
- Geertz, C. (1973) *The Interpretation of Cultures*, New York: Basic Books.
- Hoffman, B. G. (2017). *Red Teaming: How Your Business Can Conquer the Competition by Challenging Everything*. New York: Crown Publishing
- Kuh, G. D. (2008). High-Impact Educational Practices: What they are, who has access to them, and why they matter [PDF file]. Retrieved from [https://www.aacu.org/sites/default/files/files/LEAP/HIP\\_tables.pdf](https://www.aacu.org/sites/default/files/files/LEAP/HIP_tables.pdf)
- Spegman, A. (July 24, 2018). Design thinking in education. *District Administration*. Retrieved from <https://districtadministration.com/design-thinking-in-education/>
- University of Foreign Military and Cultural Studies (2015). The applied critical thinking handbook [PDF file]. Retrieved from [https://usacac.army.mil/sites/default/files/documents/ufmcs/The\\_Red\\_Team\\_Handbook.pdf](https://usacac.army.mil/sites/default/files/documents/ufmcs/The_Red_Team_Handbook.pdf)
- Zenko, M. (2016). *Red Team: How to Succeed By Thinking Like the Enemy*. Philadelphia, PA: Perseus Books Group.