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# Back to Basics: Team Building Exercises to Promote Community and Compassion on Design Teams

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# Why?

## What Problem are you solving?

- Students in sophomore design classes can easily go an entire semester working as a team and knowing very little about individuals with whom they work. *What is the effect of social interactions on students' performance on design teams and interpersonal connections with teammates?*
- Students do not always fully understand the context of the end-user whom they are designing for, neither do they always have access to their end-users. *What tools can be provided to help engineering design students think about the dignity, empowerment, and anxieties of their end-users evoked during product interactions?*

## What are your educational objectives?

- Foster community building and interpersonal connections through intentional social interactions promoted in the class
- Develop a framework to help foster compassionate design thinking in students, especially when it comes to end-users whose needs are relatively more sensitive than the norm. Consider dignity, empowerment, and reduced fears in end-users.

# When?

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## What is the developmental history of your innovation?

- During Spring 2014, the first team building exercises were created and implemented in a sophomore design course: ME 263 – Introduction to Mechanical Design, Engineering and Entrepreneurship. Was successful, and continued Fall 2014, Spring 2015, and Spring 2016 – the semesters where Dr. Tahira Reid was course supervisor. The course enrolls approximately 350 students in the Spring semester and 150 in the Fall. Thus far, more than 1,000 students have been impacted.
- Compassionate design began Fall 2010 as a postdoc, then graduate student began work on it in Spring 2013. By Spring 2014, the first iteration of a framework was presented at the ASEE Conference in Indianapolis, IN. Summer 2015, additional work presented at the ICED in Italy. The work has continued to evolve and is now a topic of a recently funded NSF PFE-RIEF grant in collaboration with Dr. Morgan Hynes, in the School of Engineering Education at Purdue University.

# Where?

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## **Have you tried this in other institutions?**

- No, this has not been tried at other institutions; only Purdue University

## **Is this developed for a single class, a full course, or a curriculum?**

- Team-building exercise developed as a set of assignments within a course; Compassionate design is still under development and can be integrated into the curriculum at various stages.

# What?

## What learning activities and materials have you developed?

- Two team building exercises involving social activities
- In the process of developing a set of probes to help students in compassionate design thinking.

## What is your theory of change?

- If student teams take time to get to know each other better, it will promote a better work ethic, team dynamics, and interpersonal skills
- If students understand the end-users for whom they are designing, they can provide products that meet their needs.

## What has worked really well?

- Assigning course credit for the team building activities
- Getting feedback from first-year, sophomore, and senior design students on the framework

# Prognosis?

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## **How are you documenting impact?**

- Written assignment - teams are asked to answer four questions at the conclusion of each activity in essay format.
- Verbal feedback from students during pilot studies

## **What advice would you like from others at FOEE?**

- Discuss ways to expand this work to maximize impact, link it to theoretical constructs, and disseminate the findings
- Feedback on the work being done in general; additional ideas for expansion