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Work in Progress

AEE North Midwest Section Conference
October 15-16, 2020

PRESENTER
Rachel Shannon

BACKGROUND
Engineering has always been human-centered through the technologies we provide to enrich and make our lives more convenient. The engineering code of ethics uphold that engineers should put “the safety, health, and welfare of the public” first. However, we argue that the code of ethics is not enough, and that we need to reinforce human-centered design in engineering education through designerly ways of thinking, reflective practices, and being more student-centered.

LITERATURE REVIEW

“While communities have benefited greatly from engineering, in some cases they may increase the gap between social classes and damage the world’s environmental health. As these trends amplify in a capitalist society, we argue that it is compelling to contemplate a new approach to engineering education—both in curriculum and pedagogy.”

Wendy Cumming-Potvin
John Correa

“...over the course of their engineering education, students’ beliefs in the importance of professional and ethical responsibilities, understanding the consequences of technology, understanding how people use machines, and social consciousness of others.”

Erin A. Cech

“Have we not yet developed a definition of social justice in the engineering context, recognizing that the types of critiques leveled in engineering will no doubt shape the definition. It is nonetheless important, when working in a specific context, to be clear about what one means by social justice. To do so can mean exploring new ways to apply the code of ethics to the meaning of social justice into something less than what is desired by its advocates.”

Donna Riley

REFERENCES


METHODOLOGY

Phase 1: Explore
- Surveys
- Interviews

Phase 2: Activate
- Workshops
- Seminars

Phase 3: Implement
- Experimental courses
- New courses

Mixed Methods Participatory - Social Justice Design

Social Justice + Engineering = Wicked Problem!