

Affinity Group 10

Placement of Ethics Within Existing Tools and
Practices

Whether ethical considerations exist alongside other more familiar considerations in engineering education/practice such as cost-benefit analyses, manufacturability, etc.. or are ethics and values foundations with underlie these factors?

How can a variety of tools and approaches such as privacy impact assessments, human rights assessments, security and privacy reviews, in software engineering and technical standard-setting, threat modeling tools, and design patterns inform ethics educational efforts? Can ethical considerations be amplified or revealed in these existing tools to help?

What key factors need to be dealt with to overcome this challenge?

Understanding of ethics as foundational to engineering tools and practices..similar to math in that you need to know the basics of ethics before you apply it in terms of engineering tools and practices.

Philosophy contributes to engineering by helping teach students critical reasoning skills, and engineering can also give back to the field of philosophy

Issues of finding out about tools...what are the assumptions behind these tools?

Engineers need to develop the competency of questioning the parameters they might be given for a design problem, or question if the design problem is necessary at all.

Students need to have practice in using assessment tools, much like riding a bike, often don't come across risk assessment until out of school...give safe space to practice these skills.

Q2 Continued

Need to know the basics of ethics so you can bring it into the process, the process provides the hooks to bring in ethical thinking and reasoning. Need this knowledge to successfully use these process tools.

By applying ethical tools and analysis to this this processes identify values relevant to the system and/or contexts. Those values in turn are identified with particular conceptions, which may be supported by specific properties of a sociotechnical system.

What approaches/strategies have been or might be used?

Engineering decision-making is ethical decisionmaking.

Constructivist-turn, using design approaches to get at underlying values

Analysis, briefings, case studies, modifying structural problems to address ethical issues

Better problem solving, self awareness and moral awareness,

Skills of framing questions, rhetoric and communication skills

Having students look at the social construction of knowledge

Hiring faculty with dual competencies in ethics and other field(s)

Foundational tools in ethics, such as ethical decision-making frameworks, moral theories, professional codes and guidelines...need to work on finding what might suit in a class or a workshop

What are approaches/strategies that individual members of the group hope to implement this semester?

Hiring faculty with expertise in two realms- one of which should be ethics

Foundational tools of ethics,

12 step method for ethical analysis from Rock Institute,
ethics in design problems

analytical tools for democratic deliberation

Critical mass for proficiency - bring up ethics often through stories others, but also allow for students to practice skills.

Assessment, what is working in using these tools?

talking to stakeholders

What are the most promising approaches /strategies and why?

1. Approaching tools with ethics in mind (moral machine example) MIT
2. Recognizing need for effective deliberation and dialogue (Public Conversations Project)
3. Integration of different disciplines, engaging with philosophers, engineers psychologists - cognitive development and this intersects with developing curricula
4. Creativity, developing moral imagination - Rock Ethics Institute calls this moral fitness, need to practice these skills

What are some ways your group/team could collaborate with others in the future to help with this challenge?

Talking with people in the profession - what tools they use? Sharing knowledge among and beyond academe

Developing case studies that can be used in class....what currently used in tend to be relatively narrow, so useful to see how these cases have been used and adapted, sharing of resources

Discussion of the foundational tools of ethics....this could be shared through the NAE/Online Ethics Center website

Talk with philosophers, engineers and psychologists, bring in this expertise, such as how cognitive development intersects with developing curricula

Make sure students are exposed to different views and values/ways of approaching these issues, involving multiple stakeholders and multidisciplinary approaches as a part of using these kinds of tools.

What can the community of attendees do to help with this challenge?

Exchanging information about what different approaches they are using, what worked what did not. Sessions such as the poster session and panel discussions of this conference. Issue of reinventing the wheel, though in some cases this is necessary depending on different institutional contexts we are working in.

Though online collaborative tools such as Design Hub for capstone design courses -may be a way to have a tool like this for ethics?

Can we tap into alumni? Would they be willing to share some of their experiences with classes?

What can the broader engineering community do to help with this challenge?

Engineering companies - what type of ethical competencies are they looking for in prospective employees?

Career centers talking to students about ethics in the job search

Professional societies engaging in these kinds of conversations

Licensure and accreditation being willing to share their deliberations and discussions on ethics topics of this kind.

Order of the Engineer... Role ritual in reaffirming commitment to ethics.