WORKSHOP ON OVERCOMING CHALLENGES TO INFUSING ETHICS INTO THE DEVELOPMENT OF ENGINEERS
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NATIONAL ACADEMY OF SCIENCES
Affinity Group 8
Assessment of Engineering Ethics Education
OUR AFFINITY GROUP

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1. What key factors need to be dealt with to change this challenge?

- Align “better” – more legibly- professional/disciplinary expectations and societal/industry expectations.
- Challenge the “hard” vs. “soft” skills distinction.
- Align “better” – more legibly- quantitative vs. qualitative measurements.
- Develop overall better tools for assessing delivery and acquisition of ethics reasoning – be sensitive to disciplinary contexts.
Be clearer about what it is that we aim to assess. Is it: **concepts** (categorical imperative, utilitarian calculus, etc), **skills** (reasoning, multi-perspective analysis, modeling), **values** (beneficence, non-malfeasance, public good, social justice, sustainability, inclusiveness), **virtues** (consideration, responsibility, honesty, integrity, etc)?

Recognize that there are “power” issues involved when someone appears/is ethical: gender, race, ethnicity. “Ethical Subjects” are vulnerable.
CONTINUING 1-STILL

- Recognize that there is (or there seems to be) a gap between what can be called “ethical fitness” and social behavior.
- Recognize that better laws are not the solution to inculcating better ethical thinking and behavior from engineers.
- What is the linkage/line between professional ethics and individual ethics? This needs to be understood better.
2. **What are the three most promising approaches/strategies and why?**

- Infused assessment throughout, and consistently, span of education and professional life – more benchmarks, more data.

- Longitudinal assessment once student is in the field: surveys with industry of how students are doing. Both collective and individual.

- Adopt tools from “big data” and “social media” analytics, while recognizing their limits.
Assess overall “climate” of discipline/department.

Capitalize on the fact that we have entered an age of “big data,” i.e.: we now have one to two decades of data from colleges and universities of courses, successes, failures, about program outcomes.

If it can be assessed it is not simply “subjective,” which does not mean that it is “objective.”
3. **What can the community of attendees do to develop with this challenge?**

- Help NAE and CEES identify successful, though not widely known, tools for assessing ethics learning.
- Ask moral and social psychologists what are the best assessment tools for overall ethics learning analysis.
- Educate discipline and professional associations that assessment is key to our aim of educating ethical engineers.
4. What can the broader engineering community do to help with this challenge?

- Industry can signal back to professionals that so-called “soft” skills are important; example: we have a representative here from Lockheed Martin: Lauren C. Schultz, Ethics Analyst.
- Encourage industry to give presentation on their “ethics culture/goals” when recruiting, and “lecturing/presenting” their products, encourage them to include “ethics assessment”
- Establish relations with industry ethics initiatives and key personnel and embed this back into college/university advisory board.
- Leverage industry strategies for ethics assessment (i.e. were we looking in the wrong place?).