Purpose

Review principles of moral reasoning and discuss one or more case studies

On the goal of ethics education

“To educate students to cope with ethical problems, the first task of the teacher is to make students aware of ethical problems and help them learn to recognize them. A second task is to help students understand that their projects affect people for good or ill, and that, as ‘moral agents’ they need to understand and anticipate these effects. A third task is to help students see that, as moral agents, they are responsible for helping to develop solutions to the ethical problems they encounter.”

American Society for Engineering Education, ASEE Statement on Engineering Ethics Education
Moral Agent

Wikipedia
“A moral agent is a being who is capable of acting with reference to right and wrong”

Onlineethics.org
“one faced with a moral situation”

Caroline Whitbeck
“Agents, unlike critical spectators, have to look into their situation and figure out how to respond in a way that satisfies as many potentially competing constraints as possible, as well as being clear about the criteria for ethical evaluation”

http://en.wikipedia.org/wiki/Moral_agency
http://www.onlineethics.org/Education/instructguides/18934/indback.aspx

Moral Reasoning

Martin and Schinzinger identify five aspects of Moral Reasoning:

1. Moral clarity
   • Honesty
   • Responsibility to employer
   • Responsibility to public
2. Conceptual clarity: Be clear about key concepts
   • What aspects of public safety are relevant?
   • What does being a faithful agent mean in context?
   • Do long or short term goals conflict?

Moral Reasoning

3. Informed about the facts
   • Have you looked for independent sources?
   • Certainty and uncertainty of the “facts”
   • What facts do others judge to be relevant?
     (Avoid silo mentality)

4. Informed about the options
   • “black/white” or “better/worse”
   • Creativity in developing new options
   • Are external rules relevant or appropriate?

Mike W. Martin and Roland Schinzinger, 2010,
Introduction to Engineering Ethics, 2nd ed.,
McGraw-Hill, Boston, MA, pp. 30-33

Moral Reasoning

5. Use good reasoning
   • Weigh all reasons and facts – don’t be selective
   • Integrate all information in a morally reasonable
     manner
   • Is a satisfactory solution possible when an optimal
     solution is not possible?
   • Perhaps only a “least worse” option is feasible.

Mike W. Martin and Roland Schinzinger, 2010,
Introduction to Engineering Ethics, 2nd ed.,
McGraw-Hill, Boston, MA, pp. 30-33

Design as moral decision-making
Design and Moral Decision-making

Design involves uncertainties
- Information may be incomplete
- Data may not be precisely known

Design is dynamic
- Process is iterative
- New information emerges
- Constraints may change


Design and Moral Decision-making

Designs admit multiple solutions
- More than one way to meet requirements

Multiple moral factors will apply
- Proposed solutions will have better/worse implications

Some solutions are clearly unacceptable
- Examples: Solutions that violate laws, or create hazard, or are significantly inferior to existing


Ethical Decision Making

The Markkula Center for Applied Ethics describes a Framework from Ethical Decision Making

1. Recognize that there is an ethical issue
2. Get the facts
3. Evaluate the alternatives
4. Make a decision and test it
5. Act and reflect on the outcome

This is a complement to the moral reasoning scheme of Martin and Shinzinger

Ethical Decisions may involve Right/Wrong or Better/Worse

Right/Wrong: Issues involve stark choices
- Obeying the law
- Heeding design standards, especially when safety is an issue
- Offering and accepting bribes
- Speaking truthfully
- Maintaining confidentiality

Better/Worse choices are less clear
- Sometimes framed as Least worse or Least bad
- Need a way of comparing or weighing options
- Principles of moral reasoning are helpful

What standards apply? How do we apply a moral standard?

Frameworks ethical standards
- Utilitarian approach
- Rights approach
- Fairness or Justice approach
- Common good approach
- Virtue approach

The Utilitarian Approach

The ethical decision (choice) is the one that does the most good or the least harm

- Who benefits or who is harmed?
- Do good outcomes offset the harms?
- Focus is on the consequences of action

See, A Framework for Thinking Ethically, Santa Clara University,
http://www.scu.edu/ethics/practicing/decision/framework.html

The Rights Approach

The ethical decision (choice) is the one that protects and respects moral rights

- Right to choose freely
- Right to be told the truth
- Right to a degree of privacy

See, A Framework for Thinking Ethically, Santa Clara University,
http://www.scu.edu/ethics/practicing/decision/framework.html

The Fairness or Justice Approach

Treat everyone equally: apply the same standard to everyone.

- What are common standards for treatment?
- Public and personal standards may be different (as is true in most moral and ethical issues)
- Example: Is pay in proportion to contribution?

See, A Framework for Thinking Ethically, Santa Clara University,
http://www.scu.edu/ethics/practicing/decision/framework.html
The Common Good Approach

Consider the needs, rights, benefits and costs to the community (as opposed to the individual).

- Interdependence is a basis for ethical reasoning
- Compassion for the vulnerable
- Leads to systems of laws, public services (fire, policy, emergency rooms)
- Extends to public recreation areas


The Virtue Approach

Virtues are dispositions and habits that allow us to achieve our highest potential.

- Implies a balance:
  Complete transparency ↔ Truth ↔ Deception
  Foolishness ↔ Courage ↔ Cowardice
- Will my choice help me be a better person?
- Is this action the best I can do in this situation?


Case Studies

- Summer forklifter
- USAWAY

http://ethics.tamu.edu/NSFReport.aspx