

Educating Morally Sensitive and Self-Reflective Engineers: Ethics Autobiography as a Tool for Moral Pedagogy and Assessment

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Why ethics autobiography?

Introduction

- Moral sensitivity and “self-knowledge” are significantly lacking in actual engineering ethics teaching (Mitcham 2014; Walling 2015).
- Ethics autobiography as a tool for moral pedagogy has been practiced in health and psychological science programs (Avic, 2017; Bashe et al. 2007; Hardwig 1997; Rodríguez et al. 2014).
- We have incorporated the ethics autobiography pedagogy in two of our ethics courses at Mines: HASS 320 Ethics (since 2007) and HNRS 430 Science, Technology & Confucian Ethics (since 2018).

Ethics Autobiography: Some Strengths

- Micro ethics: improve self-reflection and moral sensitivity to the ethical significance of professional practice.
- Value sensitivity: make students aware of their own values, assumptions, or even biases and how these values, assumptions, and biases affect their decision-making in everyday life and/or professional practice.
- Emotional engagement: make ethics relevant and “personalized” to students.
- Writing intensive; meet a lot of ABET engineering accreditation student learning outcomes (e.g., ethics, communication, contextual and critical thinking).

How to use ethics autobiography?

Types of Ethics Autobiography

- Frequency or “dose”: one-time assignment; pre- and post-reflection essays; regular reflection essays (once every week or month).
- Context or the “object of reflection”: personal life; formal learning (e.g., classes); professional training (e.g., field sessions, labs, internships, jobs); the interface of multiple contexts.
- Goals: improve self-reflection; moral sensitivity to the values in decision-making; develop moral empathy; be familiar with professional cultures...

Ethics Autobiography for Training Clinical Psychologists (Bashe, Anderson, Handelsman & Klevansky, 2007)

- Reflective writing assignment (assigned early in the semester): students were asked to respond in writing to some self-reflective guiding questions (questions can be tailed and made more specific depending on the nature of the training; [examples](#)).
- During the semester, students wrote reflective papers that reacted to the readings or class discussions. The last paper was a “revision” of their ethics autobiography.
- “Strengths and Weaknesses” exercise: Students were asked to write down, with a sentence or two of explanation, the three characteristics, values, motivations, principles, behaviors, or skills that they believe will be their greatest assets as an ethical psychologist. How, or under what circumstances, might these attributes become your greatest *weaknesses*?

- Discussion exercises: Discussion questions that highlight ethical acculturation can be used throughout a semester or workshop (e.g., “warming-up” for reflections in the ethics autobiography assignment; questions such as how do you know the thing you choose to do is the good thing to do?).
- Ethics rounds: students were asked to discuss ethical dilemmas and situations they have already experienced prior to taking the ethics course, and to address how they resolved them with little or no formal knowledge of professional ethics.

- What is your idea of right and wrong personal behavior, and where does this conception come from?
- What did you learn from your family of origin about right and wrong?
- What do you recall were the messages about ethic or cultural groups different from yourself, and how they see right and wrong?
- What is your idea of right and wrong professional behavior, and where does this conception come from?
- What formative experiences account for how you live your life?
- What experiences have you had in the field, and what ethical dilemmas have you already encountered?
- What professional ethics in the field are most compatible with your own personal values, and which professional ethics are least compatible?

- What aspects of this profession strike you as being “not intuitive”?
- What are your top three values, and where do they come from?
- What are three personal needs that you think match well with the profession?
- What are three personal needs that you think might conflict with the profession?
- What morals are most important to you, and where do they come from? How do these align with or conflict with the ethics code and professional standards?
- How might the alignment or conflict influence your work with clients or students?

Ethics Autobiography in HASS 320

- First paper—*very* early in semester and a Final Paper—due at the end of the semester
- The First Paper = three tasks
 - Diary of a day
 - Evaluate each entry for ethical implications
 - Section that discusses their most fundamental ethical principles, a ranking of those principles, and the source/s of those principles
 - *we tell them we will NOT “tattle” on them, except in cases where they are a danger to themselves or others.*

Ethics Autobiography in HASS 320

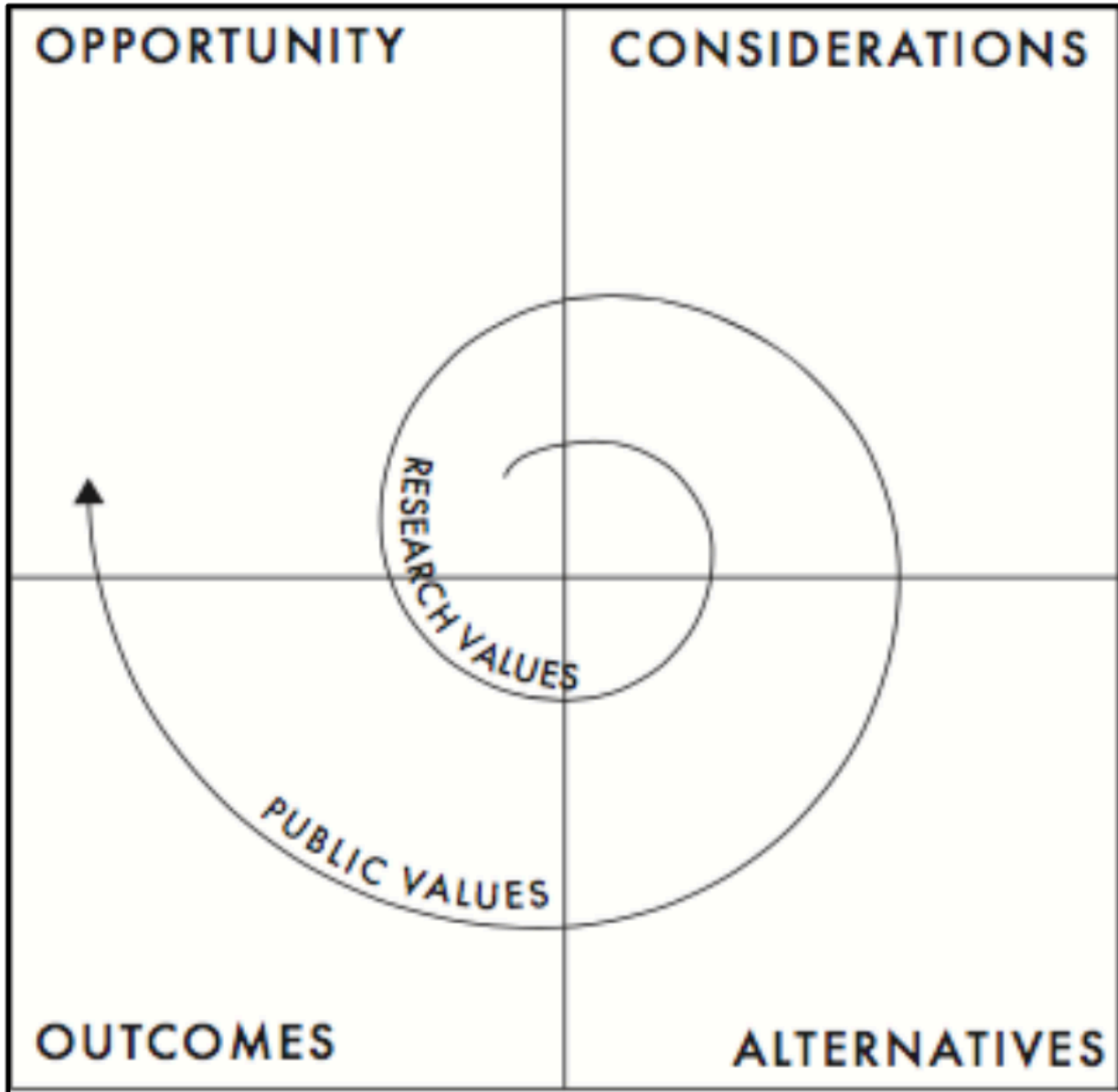
- The Final has three sections:
 - Revisit the first paper, evaluating the diary and the ethics entailed in some of the entries.
 - Revisit the first paper, re-evaluating the principles and connecting to theories studied in the course.
 - Choose the best theory, argue for it and defend against at least one objection.

Ethics Autobiography in HNRS 430

The concept of self-cultivation is crucial for Confucian ethics. In contrast to the Western ethics, Confucian ethics places more emphasis on the idea of becoming a good person than the knowledge of what is good and bad. For this research paper, you are expected to write an ethics autobiography (8~9 page, references excluded) that is inspired by Confucian ethics. In particular, I expect you to mainly address the following issues:

- Reflect on your experience on a "normal" day (any day literally) and choose THREE decisions you made or incidents you were involved in;
- Carefully examine the THREE decisions or incidents from the Confucian ethical perspective by incorporating theoretical frameworks, quotes, and learning experiences you acquired from previous classes;
- Discuss how such examination may potentially help you grow as a person;
- Cite relevant sources from this class and/or other peer-reviewed journals and books;
- Try to be as creative and engaged as possible;
- Need to use meaningful (and creative) titles and subtitles for each section.

Decision
protocol in
sociotechnical
integration
research
(Fisher, 2015)



Values in science and engineering (Whitbeck, 2011)

- In deciding to enter engineering (science), what value judgment did you make (or others, such as parents and guidance counselors, make for you)? Have those values changed as you have learned more about engineering (science)?
- What makes a good engineer (scientist) and good engineering (science)?
- What reasons can you give to support your value judgements about engineers (scientists) and engineering (science)?

How to assess ethics autobiography?

Level 1	Level 2	Level 3
<p>No explicit ethical sensitivity/reasoning</p> <p>Escaping from being punished or getting caught</p> <p>Rationalizing (e.g., moral neutralization) and excuses (I had to cheat because the assignment wasn't fair)</p> <p>Saw no moral significance – description of routine life</p>	<p>feeling “uneasy,” “uncomfortable,” or “(morally) wrong” but no or only limited well-established explanation or reasoning</p> <p>Learned from experience (but not deep reflection): I now do not drink because I drank earlier and I did not feel good.</p> <p>Inaccurate interpretation of ethical resources/theories</p>	<p>Ability to clearly problematize morality</p> <p>Ethical theories applied</p> <p>Clear, logical ethical reasoning</p> <p>Broader connections (e.g., contextualization, sympathy, empathy)</p> <p>In-depth moral thinking</p> <p>More “nuanced” moral reasoning and judgment</p>

Now, how to integrate ethics
autobiography in your own
class...



Thank you!

If you have any further questions, please feel free to let us know.

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égalité

Ethical Governance and Learning in
Technology and Engineering