Center for the Study of Ethics in the Professions

Evaluation of Ethics Teaching


*This paper assesses a novel responsible conduct of research curriculum developed at the University of Oklahoma that focuses on metacognitive reasoning strategies that professionals use when making sense of professional issues that have ethical implications for science. To find out the overall effectiveness of the sensemaking approach, the authors also studied mental models of field experts, faculty, and graduate students who were both trained and untrained in sensemaking. The study found that sensemaking training has the potential to lead in a shift in mental model structure and introduces a new way for research to think about the novel, highly complex, and ambiguous ethical situations that research professionals often face in their daily lives.*


*After discussing some of the goals of medical ethics instruction and some methods of teaching aimed at achieving this specific outcomes, the authors look at ways of improving instruction in the future through the development of clearly defined outcomes and valid assessment methods.*


*This article discusses the assessment of a three-hour “laboratory period,” during which students read and discussed three short cases on engineering ethics. The assessment included focus groups and surveys, and while in focus groups students agreed that this activity enhanced their awareness of ethical issues, the survey results, however, were equivocal.*


This paper details efforts by the Purdue School of Engineering and Technology at Indiana University Purdue University Indianapolis (IUPUI) to create a single instrument for honors science, technology, engineering and mathematics (STEM) students wishing to demonstrate competence in the IUPUI Principles of Undergraduate Learning (PUL’s) and Accreditation Board for Engineering and Technology (ABET) Engineering Accreditation Criterion (EAC) and Technology Accreditation Criterion (TAC) 2, a through k. Honors courses in Human Behavior, Ethical Decision-Making, Applied Leadership, International Issues and Leadership Theories and Processes were created along with a specific menu of activities and an assessment rubric based on PUL’s and ABET criteria to evaluate student performance in the aforementioned courses. Students who complete the series of 18 Honors Credit hours are eligible for an Honors Certificate in Leadership Studies from the Department of Organizational Leadership and Supervision. Finally, an accounting of how various university assessment criteria, in this case the IUPUI Principles of Undergraduate Learning, can be linked to ABET outcomes and prove student competence in both, using the aforementioned courses, menu of items, and assessment rubrics; these will be analyzed and discussed.


This article looks at the results of an assessment project on a course in environmental ethics whose goals were to measure the impact of the course on students, as well as to contribute to a broader goal of developing assessment tools for ethics education.


This study accesses the effectiveness of a newly-developed responsible conduct of research training in enhancing the ethical decision-making of researchers in the physical sciences and engineering, and examines the influence of training and trainee characteristics on ethical decision-making and application of broad metacognitive reasoning strategies.


*Article includes a model of a grading rubric for evaluating students' understanding of ethics case studies.*


**Mentoring**


The authors of this paper reviewed the USPHS misconduct files of the U.S. Office of Research Integrity to discover the role of the mentor in cases of trainee misconduct. The study focused on three specific behaviors the authors believed mentors should perform with their trainee: (1) reviewing source data, (2) teaching specific research standards, and (3) minimizing stressful work situations. The study found that three quarters of mentors in these cases had not reviewed source data and two-thirds had not set standards. The authors end by recommending that mentors and institutions devote more attention to the teaching of mentors about the process of education and their responsibilities in helping to educate upcoming generations of scientists.

Science


This article reports on the findings of a 2002 survey of mid-career U.S. scientists who had received funding from the National Institutes of Health that looked at the relationship between mentoring and responsible conduct of research (RCR) instruction and subsequent engagement in misconduct. The survey found that RCR instruction and mentoring were less reliable inhibitors of misconducts and one would hope. The bulk of this article makes some recommendations on ways to improve RCR instruction, mentoring, and making a shift towards collective openness in the research culture to promote research integrity.


This paper assesses a novel responsible conduct of research curriculum developed at the University of Oklahoma that focuses on metacognitive reasoning strategies that professionals use when making sense of professional issues that have ethical implications for science. To find out the overall effectiveness of the sensemaking approach, the authors also studied mental models of field experts, faculty, and graduate students who were both trained and untrained in sensemaking. The study found that sensemaking training has the potential to lead in a shift in mental model structure and introduces a new way for research to think about the novel, highly complex, and ambiguous ethical situations that research professionals often face in their daily lives.


This article describes the development, implementation, and assessment of an Ethics in Science program as a component of a summer undergraduate research experience.


Teaching Ethics: Methods


Davis, Michael, "Ethics Across the Curriculum: Teaching Professional Responsibility in Technical Courses." *Teaching Philosophy*, 16:3, September 1993

*Davis, Michael. "Five Kinds of Ethics Across the Curriculum: An Introduction to Four Experiments with One Kind." Teaching Ethics* (Spring 2004) 1-14


This article describes the development of a responsible conduct of research training program based on a sensemaking model, which is based on the assumption that professional integrity is shaped by the decisions people make when they are faced with complex and ambiguous ethical situations. The study focused on metacognitive reasoning strategy frameworks that can be used by researchers to address ethical issues that arise in their day-to-day work. The authors describe the tested training program, and discuss the implications for responsible conduct of research in the sciences.


