

Using the Case Study Method to Teach and Assess Ethical Reasoning Skills in the Context of Undergraduate Research Activities

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Session Overview

- ▶ Introductions
- ▶ Student Development and Ethical Reasoning
- ▶ Social Consequences: Understanding Ethics in Research
- ▶ Steps for Ethical Decision-making Using a Case Study

- ▶ Paired and Group Activities
 - ▶ Activity 1: Sample Case Studies and Strategies
 - ▶ Activity 2: Interactive tools - movie “The Lab” <http://ori.hhs.gov/thelab>

- ▶ Assessment + Resources + Closing

Case Study

- ▶ The term 'case study' covers a wide range of problems posed for analysis, but most types include several key elements.
- ▶ Most cases are either based on real events, or are a construction of events which could reasonably take place.
- ▶ They tell a story, one involving issues or conflicts which need to be resolved—though most case studies do not have one obvious or clear solution.
- ▶ The information contained in a case study might be complex (including charts, graphs, and relevant historical background materials) or simple—a human story that illustrates a difficult situation requiring a decision (Speaking of Teaching, 1994).



The Time is Right: Student Development and Ethical Reasoning

- ▶ Not simply an effect easily explained by maturation or selection
- ▶ The “College Effect”
- ▶ How do we balance?
Teaching unresolved dilemmas,
Teaching clearly defined rules and expectations

More than a course....

- ▶ Cultivating (1) professionalism combined with (2) self-monitoring
- ▶ Active instruction, active faculty
- ▶ Clearly communicated college priorities



**A simple way to describe ethical behavior is
to focus on protecting the DIGNITY of all
individuals**

What is dignity?

Dignity is our inherent value and worth as human beings; everyone is born with it ...

...we all have a deep, human desire to be treated as something of value.

(Donna Hicks, in Dignity: its essential role in solving conflict)

Overview of Ethical Principles



- Are there universal principles that could help us making ethical decisions that will be acceptable to all?
- How do we make an ethical decision when we are confronted with a scenario for which there is no precedent? Maybe a situation not contemplated in the code of ethics

Human actions involve three components. Different ethical theories focus on one of these three components



Wm. David Solomon: "Ethics: normative ethical Theories" from "The Encyclopedia of Bioethics" (New York, Macmillan Pub. Co., 1995)

Overview Of Various Schools Of Thought Within Ethics

- Social Contract (Hobbes/Rousseau)
 - Utilitarianism (Stuart Mill)
 - Deontology (Kant)
- Virtue Ethics/Divine Command (Aristotle, St. Thomas Aquinas)

Social Contract

The Social Contract was proposed first in the 1600s by Hobbes in England and later sponsored by Rousseau during the French revolution. Basically, this theory proposes that the community should set the rules for social behavior with everyone agreeing to follow those rules.



Kant

Deontology (rules). There are absolute rules of moral behavior. Categorical imperative: "Act only according to the maxim by which you can at the same time will that it should become a universal law."



Utilitarianism

The moral compass should rely on what leads to the benefit of most members in the society.

Person → Action → Outcome



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graph LR; Person --> Action --> Outcome
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Virtue

The school looks at individual values (Aristotle, St. Thomas Aquinas). The moral agent reflects those values that we consider “Virtues” (altruism, valor, compassion, dedication, respect, etc).

Does not question whether lying to achieve a result is OK or not, but whether we should even consider using lies.

Person → Action → Outcome

Six steps in ethical decision making

1. Gather all relevant information
(corollary: disregard irrelevant/misleading information)
2. Determine the precise nature of the ethical problem
3. Decide on the ethical approach that best addresses the problem
4. Decide what to do
5. Act
6. Reflect and evaluate action

Embryonic stem cells/stem cells

- ▶ Fate of unused embryos
- ▶ Curing diabetes and spinal cord injury
- ▶ Can we destroy a life to save another?
- ▶ Is a frozen embryo a person?

1. Gather all relevant information

Totipotent stem cells may be isolated from frozen embryos that are, otherwise, going to be discarded.

(Discard irrelevant issues)



2. Determine the precise nature of the ethical problem

IS this OK to destroy an embryo to cure diseases?

Why? Why not?

3. Decide on the ethical approach that best addresses the problem

Person → Action → Outcome



Destruction
of an embryo



Curing
diseases

Questions

Is the embryo a human being?



YES

The embryo has the **potential** to become a human being and therefore, is a human being
“Sanctity of life”



We cannot destroy a human being to benefit another one

Questions

Is the embryo a human being?



NO

The embryo **is not** a human being unless a) is implanted, and b) reaches the end of pregnancy



We can treat the fertilized egg as any other tissue



So, what do we do?

Case studies

- ▶ Students are presented with real stories and asked to debate on the proper course of action.
- ▶ They need to identify the problem and propose solutions applying ethical reasoning.

Biomedical

RESEARCH WITHOUT PATIENT CONSENT

Can scientists do genetic research on your tissues without your consent? That's the essential question in a lawsuit pending before Judge Janet E. Barton of the Maricopa County Superior Court in Arizona. Members of the Havasupai Tribe allege that researchers from Arizona State University (ASU) and the University of Arizona (U of A) collected 400 blood samples from tribal members for diabetes research, but that those same samples were used for additional unauthorized research on schizophrenia, inbreeding, and population migration. The tribe asserts that research on schizophrenia and inbreeding stigmatizes them and that they would not have authorized any migration research because it conflicts with their religious origin story.



Discussion Questions

1. What would you do if a colleague and friend wants to borrow some samples?
2. How would you explain to your friend why you can't share those samples?
3. What is at stake in this example?
4. Why did the Havasupai object to this request?

April 21, 2010

Havasupai Case Highlights Risks in DNA Research

By AMY HARMON

A settlement between 41 members of the Havasupai Indian tribe and Arizona State University highlights the risk researchers take when they fail to secure what is known as “informed consent,” fully informing research participants how their DNA may be used, legal experts and civil rights advocates said.

“It sows distrust,” said Hank Greely, a law professor and director of the Center for Law and the Biosciences at Stanford University. “And researchers cannot do their research unless people are willing to trust them.”

Citing the Havasupai dispute in recent years, other Indian tribes have refused to participate in genetic research. (Under the settlement, the Havasupai agreed to ask other Arizona tribes to repeal resolutions saying they would not cooperate with researchers at Arizona State University.)

The Havasupai requested \$25,000,000 but a settlement between them and ASU was reached for \$700,000.

Engineering



“Space Shuttle Challenger Disaster”

On January 28, 1986, seven astronauts were killed when the space shuttle they were piloting, the Challenger, exploded just over a minute into flight. The failure of the solid rocket booster O-rings to seat properly allowed hot combustion gases to leak from the side of the booster and burn through the external fuel tank. The failure of the O-ring was attributed to several factors, including faulty design of the solid rocket boosters, insufficient low temperature testing of the O-ring material and the joints that the O-ring sealed, and lack of communication between different levels of NASA management.

Discussion Questions

1. What could NASA management have done differently?
2. What, if anything, could their subordinates have done differently?
3. What should Roger Boisjoly have done differently (if anything)? In answering this question, keep in mind that at his age, the prospect of finding a new job if he was fired was slim. He also had a family to support.
4. What do you (the students) see as your future engineering professional responsibilities in relation to both being loyal to management and protecting the public welfare?

Arts/Music



“Better Playing Through Chemistry”

Ruth Ann McClain, a flutist and music teacher at Rhodes College in Memphis, was one of thousands of musicians who suffered from severe and debilitating stage fright. Her symptoms ranged from sweaty palms and quivering lips to shortness of breath, heart pounding, and an overwhelming sense of panic. In 1995, after years of failed attempts to calm her nerves before a performance, Ms. McClain’s doctor prescribed her propranolol, a beta-blocking drug commonly called Inderal.

Beta-blockers are typically given to patients with cardiac problems such as angina or abnormal heart rhythms. By blocking beta-receptors, these drugs prevent hormones such as adrenaline from activating the nervous system’s fight or flight response. For musicians like Ms. McClain, beta-blockers help lower heart rate and blood pressure, allowing performers to overcome their nerves. Drugs like Inderal have become common in the world of professional musicians. A 1987 survey of members of the 51 largest orchestras in the U.S. found that 27% of musicians used beta-blockers, and psychiatrists estimate that this number is much higher today.

Discussion Questions

In her defense Ms. McClain's states, "If I'm looking out for the welfare of my students, I cannot in good conscience not tell them about beta-blockers."

- ▶ Should she have been fired?
- ▶ Is she right in thinking she has a moral responsibility to tell students about these drugs?

Social Sciences

New York City's African Burial Ground: Science, History, and Race

The United States has a legal framework to protect its archaeological resources, particularly those on public land. Part of this legislation requires that a cultural resources survey be filed before the start of project construction. The General Services Administration (GSA; a part of the federal government) was conducting a project to erect a new office building in downtown New York. The archaeological firm retained for the 290 Broadway cultural resources survey correctly noted that “Negro Burial Ground” appeared on historical maps of the area and probably lay nearby. But, recognizing the longstanding construction history of the location, the cultural resources survey concluded the digging of nineteenth- and twentieth-century basements had probably obliterated any human remains within the historical boundaries of the cemetery.

Those excavations began in September 1991, and right away, human bone was found. Not just a few scattered remains, but dozens, (then hundreds) of intact human burials. In the end, the bones of 427 enslaved Africans, interred by their own community and forgotten for centuries, were discovered beneath a parking lot in downtown New York City.

What is more relevant

- ▶ Land that needs to be developed?
- ▶ Traditions that we do not honor anymore?
- ▶ Intrinsic respect for human remains?
- ▶ Why or why not?

Journalism

In January 2014, John Kelly, a reporter from St. Louis news channel KSDK entered Kirkwood High School and roamed the hallways for a few minutes. He went to the office, asked to speak to someone about school security, and then asked directions to the restroom. When staff noticed he didn't head toward the restroom, the administration put the school in lockdown and called law enforcement. Frantic parents came to the school after receiving text messages from their frightened school children.

Supporters defend the practice of undercover investigation of school security as responsible news reporting on an issue of great concern and significance that has helped to uncover troubling security lapses. Others decry this tactic as unnecessarily terrifying to children, disruptive of the school day, wasteful of law enforcement resources, and an alert to potential criminals that the school's security is vulnerable. Even parents have been divided on their response to undercover journalism in investigating school security. Some welcome the assessment of security measures, while others object to what they see as harmful to children and the educational process.

Peggy Connolly, Ruth Ann Althaus, and Robert Boyd Skipper,

Case from the 2015 Intercollegiate Ethics Bowl National Competition, Santa Clara University, Markkula Center for Applied Ethics

What is more relevant

- ▶ Exposing weaknesses in school security?
- ▶ Is it OK to lie in order to prove a point?
- ▶ Are there alternative ways to obtain the same information?
- ▶ Is there anything that you perceive as morally wrong in Mr. Kelly's approach?



“The Lab”

Video – another resource....

▶ <http://ori.hhs.gov/thelab>



Assessment + Resources + Closing Conversations

- ▶ Prepare: Typically, the product assessed after case study or scenario work is a verbal presentation or a written submission. Decide who will take part in the assessment—the tutor, an industry specialist, a panel, peer groups or students themselves by self-evaluation? Choose whether to give a class or group mark, to assess individual performance or to have the product assessed by peers.
- ▶ With case studies, you may also need to assess a student's demonstration of **deeper understanding and cognitive skills**, such as: identification of a problem

Assess the process of analysis: The resolution of a case is only the last stage of a process. You can observe or evaluate: organization of arguments – the application or steps you have provided.

Use a variety of questions in case analysis

- ▶ analysis / diagnosis (*Why?*)
- ▶ conclusion / recommendation (*What now?*)
- ▶ implementation (*How?*) and
- ▶ application / reflection (*So what? What does it mean to you?*)

Steps to Take

- ▶ Decide the topics, objectives, skills and learning outcomes.
- ▶ When will you provided it?
- ▶ How will they work on it?
- ▶ Consider providing a few questions to guide students.
- ▶ Prepare for unexpected outcomes to emerge.
- ▶ Make sure to provide guidelines and explanations for students.
- ▶ Provide clear grading criteria
- ▶ The way students would present their analysis will shape your assessment.
- ▶ Provide feedback after the activity has been finished.

VALUE Rubric AAC&U Ethical Reasoning

- ▶ Definition: Ethical Reasoning is reasoning about right and wrong human conduct. It requires students to be able to **assess** their own ethical values and the social context of problems, **recognize** ethical issues in a variety of settings, **think** about how different ethical perspectives might be applied to ethical dilemmas, and **consider** the ramifications of alternative actions. Students' ethical self-identity evolves as they practice ethical decision-making skills and learn how to describe and analyze positions on ethical issues.

- ▶ Ethical Self-Awareness
- ▶ Ethical Issue Recognition
- ▶ Understanding Different Ethical Perspectives/Concepts
- ▶ Application of Ethical Perspectives/Concepts
- ▶ Evaluation of Different Ethical Perspectives/Concepts

ETHICAL REASONING VALUE RUBRIC
for more information, please contact value@aacu.org

 Association of American Colleges and Universities

Definition:
Ethical Reasoning is reasoning about right and wrong human conduct. It requires students to be able to assess their own ethical values and the social context of problems, recognize ethical issues in a variety of settings, think about how different ethical perspectives might be applied to ethical dilemmas, and consider the ramifications of alternative actions. Students' ethical self-identity evolves as they practice ethical decision-making skills and learn how to describe and analyze positions on ethical issues.

Evaluators are encouraged to assign a score to any work sample or collection of work that does not meet benchmark (all are) best performance.

	4 <i>Capstone</i>	3 <i>Milestones</i>	2	1 <i>Benchmark</i>
Ethical Self-Awareness	Student discusses in detail/analyzes both core beliefs and the origins of the core beliefs and discussion has greater depth and clarity.	Student discusses in detail/analyzes both core beliefs and the origins of the core beliefs.	Student states both core beliefs and the origins of the core beliefs.	Student states either their core beliefs or articulates the origins of the core beliefs but not both.
Understanding Different Ethical Perspectives/Concepts	Student names the theory or theories, can present the gist of said theory or theories, and accurately explains the details of the theory or theories used.	Student can name the major theory or theories she/he uses, can present the gist of said theory or theories, and attempts to explain the details of the theory or theories used, but has some inaccuracies.	Student can name the major theory she/he uses, and is only able to present the gist of the named theory.	Student only names the major theory she/he uses.
Ethical Issue Recognition	Student can recognize ethical issues when presented in a complex, multi-layered (group) context. ANI can recognize cross-relationships among the issues.	Student can recognize ethical issues when issues are presented in a complex, multi-layered (group) context OR can grasp cross-relationships among the issues.	Student can recognize basic and obvious ethical issues and grasp (incompletely) the complexities or interrelationships among the issues.	Student can recognize basic and obvious ethical issues but fails to grasp complexity or interrelationships.
Application of Ethical Perspectives/Concepts	Student can independently apply ethical perspectives/concepts to an ethical question, accurately, and is able to consider full implications of the application.	Student can independently (to a new example) apply ethical perspectives/concepts to an ethical question, accurately, but does not consider the specific implications of the application.	Student can apply ethical perspectives/concepts to an ethical question, independently (to a new example) and the application is inaccurate.	Student can apply ethical perspectives/concepts to an ethical question with support (using examples, in a class, in a group or a fixed-choice setting) but is unable to apply ethical perspectives/concepts independently (to a new example).
Evaluation of Different Ethical Perspectives/Concepts	Student states a position and can state the objections to, assumptions and implications of, and reasonably defend against the objections to, assumptions and implications of all core ethical perspectives/concepts, and the student's defense is adequate and effective.	Student states a position and can state the objections to, assumptions and implications of, and respond to the objections to, assumptions and implications of, different ethical perspectives/concepts, but the student's response is inadequate.	Student states a position but cannot state the objections to, assumptions and implications of, and respond to the objections to, assumptions and implications of, different ethical perspectives/concepts but does not respond to them (and ultimately objections, assumptions, and implications are unrepresented) by student and do not affect student's position.	Student states a position but cannot state the objections to, assumptions and implications of, the different perspectives/concepts.

Going Beyond the Classroom

- ▶ Students
- ▶ Faculty
- ▶ Departments
- ▶ Your Institution

See: “The Assessment of Undergraduate Research” issue:
http://www.cur.org/assets/1/23/spring_2015_print_full.pdf

Closing Conversation and Resources



In the Packet

Advancing Undergraduate Research at Community Colleges

Judith Marwick
Provost
Willian Rainey Harper College

The national college completion agenda has placed a spotlight on community colleges that they had not previously enjoyed. The United States is developing a greater awareness of the important role that community colleges play in our nation's future. The national

Case Study Sources

A Rush to Judgment? - National Center for Case Study Teaching in Science

Overview | Teaching Notes | Answer Key | Comments/Replies

A Rush to Judgment? A Case of Research Ethics and Design

Co Authors: Sherry Ginn
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Elizabeth J. Meinz
Department of Psychology
Southern Illinois University Edwardsville
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Abstract: This case describes the treatment of research ethics in the way in which...

NATIONAL CENTER FOR CASE STUDY TEACHING IN SCIENCE

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FEATURED CASE

En Garde! Animal Structures and What They Mean

D. Parks Collins, Mitchell Community College

VIEW CASE



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A Rush to Judgment? A Case of Research Ethics and Design

by

Sheryl R. Ginn, Psychology Department, Wingate University, Wingate, NC

Elizabeth J. Meinz, Psychology Department, Southern Illinois University Edwardsville

The Players

Stefanie Perry originally planned to major in English but changed her mind after enrolling in Dr. Lee's Gen Psyc class. She thought Dr. Lee was a wonderful teacher and asked Dr. Lee to serve as her academic adviser. Noting Stefanie's enthusiasm, Dr. Lee asked Stefanie to work in the psych lab this semester. Stefanie knew



► sciencecases.lib.buffalo.edu/

Difficult Choice Scenarios

Researchers working in schools, neighborhoods, and in other community settings are often faced with difficult choices. Here are several examples drawn from published research. Please read the scenario with your partner and respond to the question that follows.

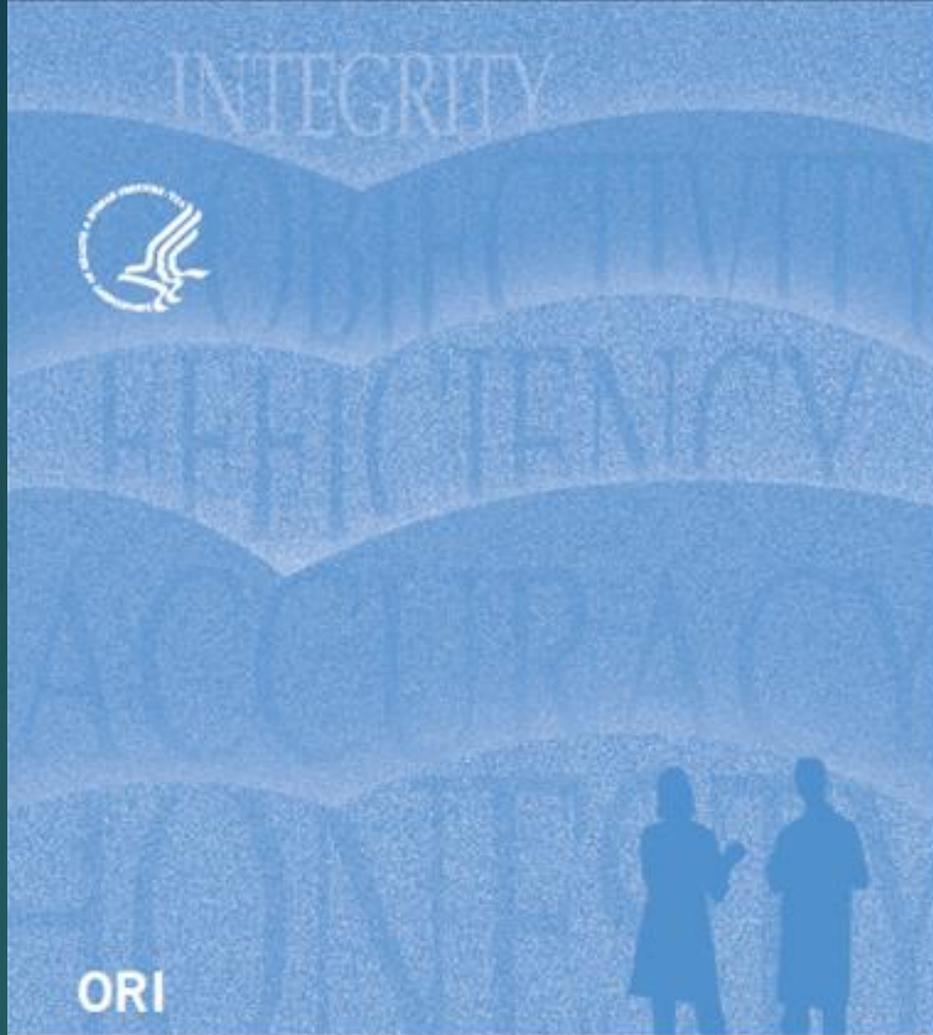
1. You are an observer in a recently desegregated school. You have been observing student patterns of play in their classrooms. Several of the students come from Trackton, others from Roadville. You notice again and again that students from Trackton get in trouble with the teacher for misusing the kitchen play set. The girls keep bringing water and juice to use in the kitchen role-play, when the rule is "no food or drink allowed in the play area." You see that the kids from Roadville are more comfortable with imaginary play. You also see the teacher scolding the girls from Trackton, telling them to be more like the girls from Roadville. From your experience observing in community homes, you know that the kids from Trackton often play using real items, such as flour, and water, etc. Gradually, the girls from Trackton stop playing with the girls from Roadville, and they stop using the kitchen play area. As a researcher do you say anything to the teacher or to anyone else about your observations? Whether you do or don't, what are the implications of your decision?

Heath, S. B. (1994.) *Ways with words: Language, life, and work in communities and classrooms*. New York, NY: Cambridge University Press.



Characteristics of Excellence in Undergraduate Research (COEUR)

www.cur.org/assets/1/23/COEUR_final.pdf



ORI

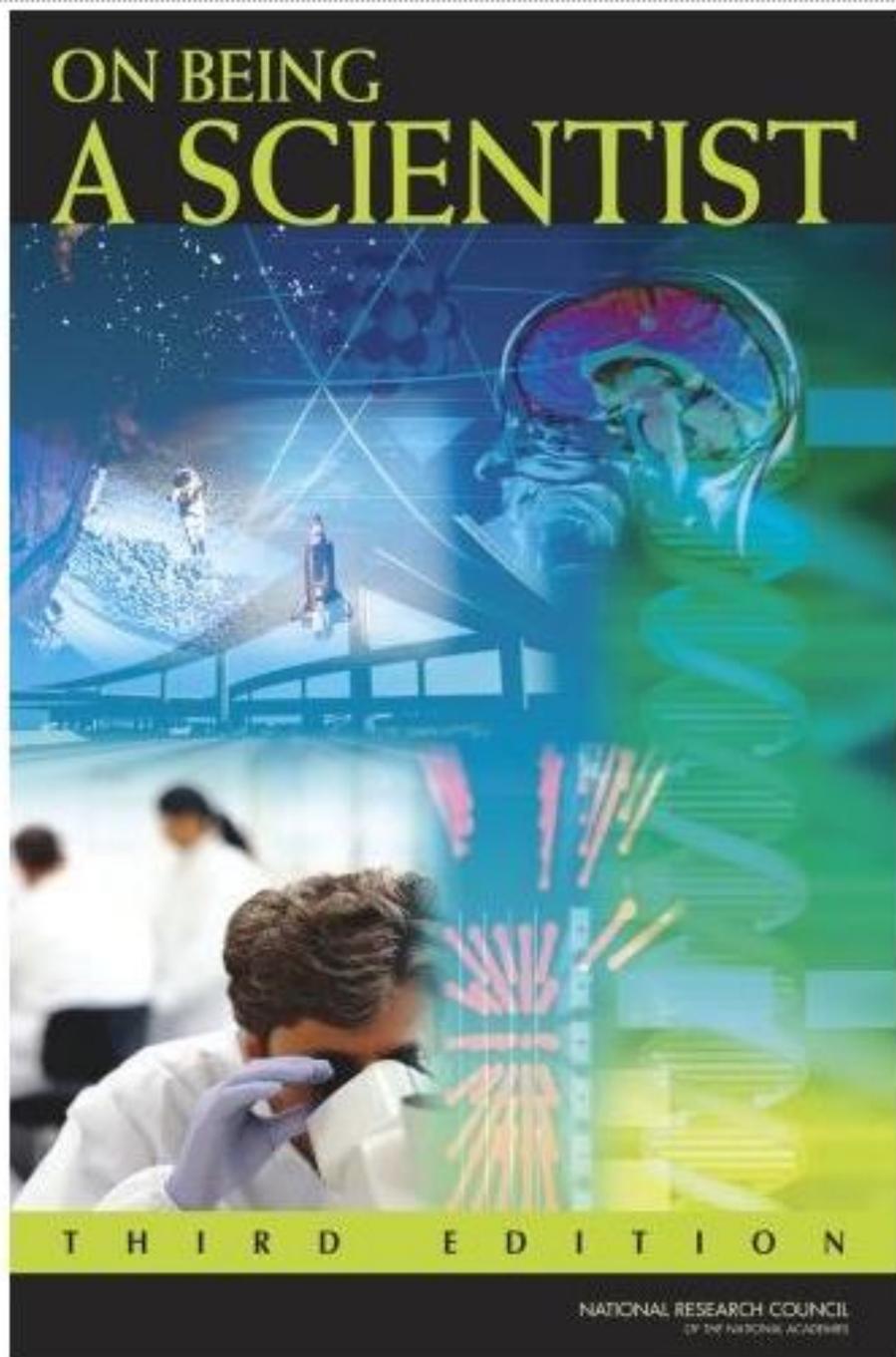
Introduction to the Responsible Conduct of Research

Nicholas H. Steneck
illustrations by David Zinn

The book may be downloaded as PDF for free on line or purchased and distributed to students

<http://ori.hhs.gov/documents/rcrintro.pdf>



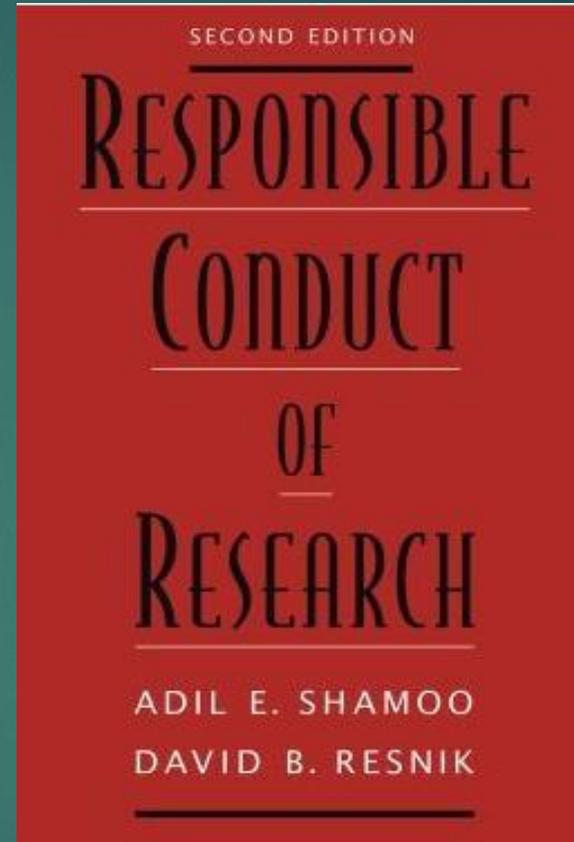
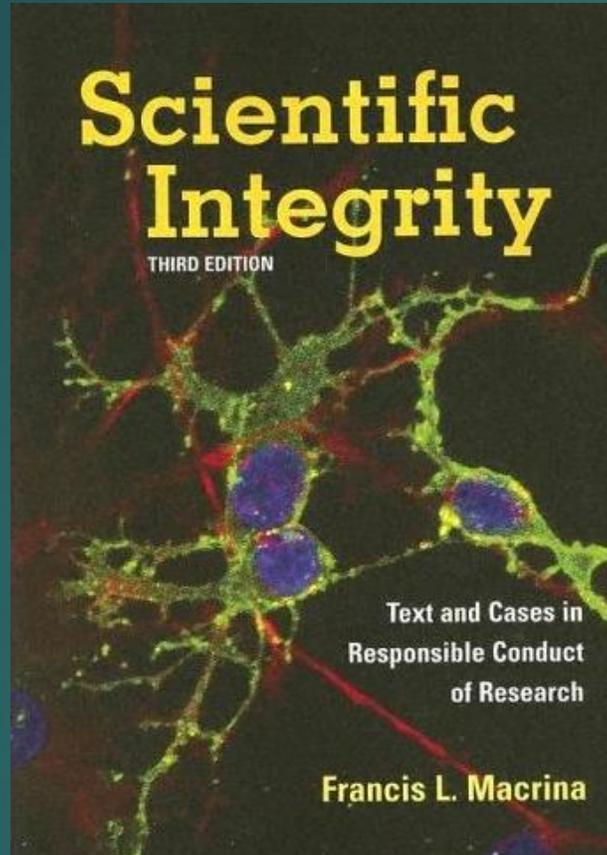


The book may be downloaded as PDF for free on line or purchased and distributed to students

<http://www.nap.edu>



Other sources



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Ethics Unwrapped is a series of free ethics teaching videos from The University of Texas Austin.

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Ethics Awareness Week

Lecture videos from the Ethics Awareness Week.

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Ethicana

Ethicana is an Anti-Corruption Education and Training Global ACET Project

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Publications

CORE Issues in Professional and Research Ethics

A peer-reviewed article series

Ethics in the News

Famous HeLa cells get genetic closeup, and new data sharing rules - Science Insider

August 8, 2013 - Five months after it was hastily removed from the

Upcoming Events

APPE 2014 Annual Meeting Call for Papers

February 27 - March 2, 2014



Poynter Center

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Resources for Teaching Research Ethics

Suggestions for additions and corrections are welcome. Please send them to the [TRE project director](#).

See also the [Resource](#) section of the web site.

On this page:

[TRE Workshop Resources](#) | [Case Studies](#) | [Federal Policies and Other Documents](#) | [Syllabi](#) | [Websites](#) | [Other Resources](#)

TRE Workshop Resources

- [A short list of useful resources for teaching research ethics](#)
- Essays by the TRE project director, presented annually at the workshop:
 - [Using Short Writing Assignments in Teaching Research Ethics](#)
 - [Using Small Group Assignments in Teaching Research Ethics](#)
 - [Using Case Studies in Teaching Research Ethics](#)

Websites

- ▶ <http://grants.nih.gov/training/responsibleconduct.htm>
- ▶ Ethics CORE: www.nationalethicscenter.org
- ▶ Online Ethics Center for engineering and research:
www.onlineethics.org
- ▶ Resources for Research Ethics Education:
research-ethics.net/
- ▶ ORI resources:
<http://ori.hhs.gov/general-resources-0>

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