



Online Ethics Center  
FOR ENGINEERING AND SCIENCE

# Discussion Tools: Case Studies

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## Description

Instructional tools that promote active, participatory learning are widely recognized as the most effective way to engage trainees, convey knowledge, develop skills, and change attitudes.

## Body

Introduction

[What is Research Ethics](#)

[Why Teach Research Ethics](#)

[Evaluation](#)

Topics

[Overview](#)

[Animal Subjects](#)

**Authorship**

**Biosecurity**

**Collaboration**

**Conflicts of Interest**

**Data Management**

**Human Subjects**

**Mentoring**

**Peer Review**

**Publication**

**Research Misconduct**

**Social Responsibility**

**Stem Cell Research**

**Whistleblowing**

**Educational Settings**

Descriptions of [educational settings](#), including in the classroom, and in research contexts.

**Discussion Tools**

**Case Studies**

**Debates**

**Literature**

**Textbooks**

**Videos**

## Other Discussion Tools

### About the RCREC

Information about the [history and authors](#) of the Resources for Research Ethics Collection

## **Case Studies**

Case studies are a tool for discussing scientific integrity. Although one of the most frequently used tools for encouraging discussion, cases are only one of many possible tools. Many of the principles discussed below for discussing case studies can be generalized to other approaches to encouraging discussion about research ethics.

Cases are designed to confront readers with specific real-life problems that do not lend themselves to easy answers. Case discussion demands critical and analytical skills and, when implemented in small groups, also fosters collaboration (Pimple, 2002). By providing a focus for discussion, cases help trainees to define or refine their own standards, to appreciate alternative approaches to identifying and resolving ethical problems, and to develop skills for analyzing and dealing with hard problems on their own. The effective use of case studies is comprised of many factors, including:

- appropriate selection of case(s) (topic, relevance, length, complexity)
- method of case presentation (verbal, printed, before or during discussion)
- format for case discussion (Email or Internet-based, small group, large group)
- leadership of case discussion (choice of discussion leader, roles and responsibilities for discussion leader)
- outcomes for case discussion (answers to specific questions, answers to general questions, written or verbal summaries)

It should be noted that **ethical decision-making** is a process rather than a specific correct answer. In this sense, unethical behavior is defined by a failure to engage in the process of ethical decision-making. It is always unacceptable to have made no reasonable attempt to define a consistent and defensible basis for conduct.

## **Leading Case Discussions**

For the sake of time and clarity of purpose, it is essential that one individual have responsibility for leading the group discussion. As a minimum, this responsibility should include:

- Reading the case aloud.
- Defining, and re-defining as needed, the questions to be answered.
- Encouraging discussion that is "on topic".
- Discouraging discussion that is "off topic".
- Keeping the pace of discussion appropriate to the time available.
- Eliciting contributions from all members of the discussion group.
- Summarizing both majority and minority opinions at the end of the discussion.

## **How should cases be analyzed?**

Many of the skills necessary to analyze case studies can become tools for responding to real world problems. Cases, like the real world, contain uncertainties and ambiguities. Readers are encouraged to identify key issues, make assumptions as needed, and articulate options for resolution. In addition to the specific questions accompanying each case, readers might consider the following questions:

1. Who are the affected parties (individuals, institutions, a field, society) in this situation?
2. What interest(s) (material, financial, ethical, other) does each party have in the situation? Which interests are in conflict?
3. Were the actions taken by each of the affected parties acceptable (ethical, legal, moral, or common sense)? If not, are there circumstances under which those actions would have been acceptable? Who should impose what sanction(s)?
4. What other courses of action are open to each of the affected parties? What is the likely outcome of each course of action?
5. For each party involved, what course of action would you take, and why?
6. What actions could have been taken to avoid the conflict?

If consensus is not possible, then written or oral summaries should reflect majority and minority opinions.

## Is there a right answer?

### ACCEPTABLE SOLUTIONS:

Most problems will have several acceptable solutions or answers, but it will not always be the case that a perfect solution can be found. At times, even the best solution will still have some unsatisfactory consequences.

### UNACCEPTABLE SOLUTIONS:

While more than one acceptable solution may be possible, not all solutions are acceptable. For example, obvious violations of specific rules and regulations or of generally accepted standards of conduct would typically be unacceptable. However, it is also plausible that blind adherence to accepted rules or standards would sometimes be an unacceptable course of action.

## Resources

- Bebeau MJ with Pimple KD, Muskavitch KMT, Borden SL, Smith DH (1995): [Moral Reasoning in Scientific Research: Cases for Teaching and Assessment](#). Indiana University.
- Elliott D, Stern JE (1997): *Research Ethics - A Reader*. University Press of New England, Hanover, NH.
- [OEC Resources: Cases](#)
- Ellison, Karin and Karin Wellner. (2013) [Research, Ethics, and Society Cases: Discussion Guide](#), Online Ethics Center.
- [The Case Method](#), Center for Innovation in Teaching & Learning, University of Illinois at Urbana-Champaign
- Herreid CF: National Center for Case Study Teaching in Science, State University of New York at Buffalo.

This comprehensive site offers methodology, a case study collection, case study teachers, workshops, and links to additional resources.

<https://web.archive.org/web/20071006070923/http://ublib.buffalo.edu/libraries/projects/>

- Korenman SG, Shipp AC (1994): *Teaching the Responsible Conduct of Research through a Case Study Approach: A Handbook for Instructors*. Association of American Medical Colleges, Washington, DC.
- Macrina FL (2005): *Scientific Integrity: An Introductory Text with Cases*. 3rd edition, American Society for Microbiology Press, Washington, DC.

- National Academy of Sciences (2009): [On Being a Scientist: Responsible Conduct in Research](#). 3rd Edition. Publication from the Committee on Science, Engineering, and Public Policy, National Academy of Sciences, National Academy of Engineering, and Institute of Medicine. National Academy Press, Washington DC.
- Penslar RL, ed. (1995): *Research Ethics: Cases and Materials*. Indiana University Press, Bloomington, IN.
- Pimple, KD (2002): [Using Case Studies in Teaching Research Ethics](#)
- Pimple KD (2002): [Using Small Group Assignments in Teaching Research Ethics](#)
- Schrag B, ed. (1996-2007): [Graduate Research Ethics: Cases and Commentaries](#), Volumes 1-7, Association for Practical and Professional Ethics, Bloomington, Indiana.

## Notes

The Resources for Research Ethics Education site was originally developed and maintained by Dr. Michael Kalichman, Director of the Research Ethics Program at the University of California San Diego. The site was transferred to the Online Ethics Center in 2021 with the permission of the author.

## Contributor(s)

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## Resource Type

Instructor Materials

## Parent Collection

Resources for Research Ethics Education

## Topics

Teaching Ethics

Case Study Method

## **Discipline(s)**

Research Ethics

Teaching Ethics in STEM