



Online Ethics Center
FOR ENGINEERING AND SCIENCE

Cases

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Description

A discussion around the use of cases in teaching RCR, part of the [Instructor's Guide to Prepare Research Group Leaders as RCR Mentors](#).

Body

NOTES TO THE INSTRUCTOR:

- You should feel free to choose your own case for this section, or choose several, giving each small group a distinct case to discuss. Given the time constraints of both this workshop and most lab meetings, it would be best for the cases to be relatively uncomplicated, though still nuanced.
- While this curriculum provides a basic case analysis scheme, if you use case analyses regularly, you likely know there are several ways of analyzing cases, and many frameworks out there to assist your students, depending on how you use / what you want the students to learn from using the cases. Some of those are included in the resources section of this curriculum; you could provide a couple of different evaluation schemas to determine if one is more appropriate for a particular discipline, or career stage, than another.
- If you're using an agenda which includes an over-lunch discussion of a case, as the agenda in this instructor's manual shows, we used the 15 minute window just before lunch to go over the case studies section of the syllabus, coming back to the question "How might cases be introduced into the research

environment?” in the after-lunch discussion.

- It is important that the larger group discussion about the case(s) not become simply a discussion of the case per se, but that it also include a conversation about how useful this kind of discussion can be with their students. We found that our groups were eager to discuss the elements of the case, but we had to explicitly articulate the usefulness of such case discussions as tools for integrating ethics into their research environments.
 - You might also ask your workshop participants if other kinds of “cases” – those drawn from current events, for instance, or those written as “two minute challenges” [<https://nationalethicscenter.org/resources/146/download/2MC%20methodology>] – might also work in the research environment.
 - One of the evaluators of an earlier version of the curriculum noted that these workshops “could include tips on how to identify and choose in-the-news cases, challenges in discussing them, and bringing closure to such discussions. Of course an in-the-news case discussion would be modeled in the workshop as well. Alternatively, the workshop could promote the idea of providing case study (either created or found) discussion in a context similar to a journal club, or even as an occasional event in existing journal clubs.” This underscores the idea we had when creating this curriculum that all of those venues are considered “the research environment.”
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What are case studies?

Based on real or contrived scenarios, case studies are a tool for discussing scientific integrity. Cases are designed to confront the readers with a specific problem that does not lend itself to easy answers. By providing a focus for discussion, cases help researchers to define or refine their own standards, to appreciate alternative approaches to identifying and resolving ethical problems, and to develop skills for dealing with hard problems on their own.

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 various options for resolution. In addition to the specific questions accompanying some cases, an effective analysis will typically address the

following criteria:

- *Interests*

Who is affected (individuals, institutions, a field, society)? What significant interest(s) (material, financial, ethical, other) do those affected have in the situation? Which interests are in conflict?

- *Principles*

What specific, generalizable, and consistent principles (e.g., to tell the truth, to do no harm) are applicable to this case?

- *Alternate answers*

What other courses of action are open to each of those affected? What is the likely outcome of each course of action? What actions could have been taken to avoid the conflict?

- *Defensible*

Are the final choice and its consequences defensible in public (e.g., reported through the media)?

Is there a right answer?

- *Acceptable Solutions:*

Most problems will have several acceptable solutions or answers, but a single perfect solution often cannot be found. At times, even the best solution will have 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, regulations, or 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.

- *Ethical Decision-making:*

Ethical decision-making is a process rather than an outcome. The clearest instance of a wrong answer is the failure to engage in that process. Not trying to define a consistent and defensible basis for decisions or conduct is unacceptable.

How might cases be introduced into the research environment?

Cases are best seen as an opportunity to foster discussion among several individuals. As such, they might be most appropriate as an exercise to be used in the context of a research group meeting, journal club, or as part of a research lecture series.

Exercise

During the lunch break, workshop participants will be assigned to small groups for the purpose of reviewing a case (scenario) describing a research ethics challenge. Ideally discussion group participants should be from diverse disciplines and people who do not already know one another well. This will increase the chance to better see challenges and find solutions for the case being reviewed. It also hopefully serves to increase personal connections among diverse members of the institution who can turn to one another with future ethics and ethics training questions or challenges.

Case for Discussion

How much is too much?

Qiao Zhi has recently arrived to work as a postdoctoral research in the United States from China. She studied English for many years as part of her schooling in China, but she had little real world experience in conversing and writing English. Qiao Zhi is a very talented scientist in her field and quickly found a position in a research group, largely consisting of other Chinese researchers and with Professor Wang, who was trained in China as well. During her first year of work, Qiao Zhi was extraordinarily lucky to have made an interesting finding and Professor Wang encouraged her to write the work up for publication in the journal Science. Qiao Zhi struggled to write the paper in English, but soon found that with the help of the Internet she could easily find phrases written well in English to express concepts that she wasn't sure of. Professor Wang lightly edited the paper written by Qiao Zhi, they submitted it to

Science, and it was accepted for publication. Six months later, one of Wang's colleagues was looking at the Déjà vu website (<http://dejavu.vbi.vt.edu/dejavu>) and discovered that Qiao Zhi's paper received a very high score for using text duplicated from other papers. Wang took the concern of possible plagiarism to the Research Integrity Officer (RIO) at his institution. The RIO appointed a committee to determine if Qiao Zhi should be found guilty of plagiarism, an example of research misconduct. You are a member of that committee and have been asked to decide whether frequent use of phrases from other papers is plagiarism and if doing so should result in sanctions or penalties.

Recommended timetable:

During lunch:

- Introductions (5 mins):

Introduce yourselves to one another, pick someone to serve as discussion leader (responsible for keeping discussion on track and on time), and someone to keep a written summary of key conclusions. If not all members of the group have already been introduced to the case, the group leader should read the case aloud.

- Case Discussion (20 mins):

Collectively consider the (1) interests of individuals and groups in how this case is handled; (2) ethical principles or values at stake; (3) the alternative answers that might be considered as solutions; and (4) the rationales for selecting a particular choice of action agreeable to all.

- Summary (10 mins):

As a group, figure out how best to articulate your findings of interests and principles that are at stake, the alternative answers to be considered, your recommended answer, and the rationale for choosing that answer.

After lunch

- Presentation (~ variable)

Choose one member of your group to present your analysis, paying attention not just to the case per se, but also how this kind of exercise could be beneficial

for your trainees.

Rights

Use of Materials on the OEC

Resource Type

Instructor Materials

Topics

Case Study Method

Discipline(s)

Research Ethics

Teaching Ethics in STEM