

Use of Case Studies in Training Students and Practitioners in Responsible Research Practice

2nd World Conference on Research Integrity

Bruce H J McKellar
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22 July 2010

Introduction

Target audiences

Structure

Some case studies used

Conflict of Interest

Falsification

Just about everything

Lessons Learned

Outline

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I have used case studies to educate

- ▶ My peers in the School of Physics, University of Melbourne
- ▶ Graduate Students in Physics at the University of Melbourne
- ▶ Mid career staff in the Australian Defence Science and Technology Organisation, including
 - ▶ Scientists
 - ▶ Engineers
 - ▶ Administrative staff

about ethics and research integrity.

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- ▶ Motivate by giving examples of unethical research practice
- ▶ Explain the different approaches to ethics
- ▶ Emphasise that even when ethical behaviour is prescribed, for example in a code of conduct, you do need to reach a personal position
- ▶ Move to case studies, discussed by small groups
 - ▶ One (or more) to each group
 - ▶ For each case the group reports their discussion, in a short presentation. For each case there is a similar window of opportunity for others to provide NEW insights.
 - ▶ At the conclusion there is an opportunity for me to summarise and draw out some concluding points.

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from American Physical Society case studies:

<http://www.aps.org/programs/education/ethics/interest/confidentiality2.cfm>

- ▶ A student finishes a Ph.D. working on a problem that has aspects that are directly patentable and solve a major problem in the disk drive industry. He or she arrives at the new job with a major disk drive manufacturer, and discovers that the work done as a student, which is in the patent process will solve the problem at his new company. If he reveals what he knows to his new employer he will be an immediate hero, but will compromise the patent process at his original institution. His actions could have important financial implications for the original institution, and perhaps for the student.
- ▶ What should the student do?

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- ▶ You are a PhD supervisor who gets a letter from a colleague, who pointed out that the theoretical curve in a paper published by you and the student was different to his own calculations, but it was in good agreement with the experimental data. The student now has a junior faculty position at another institution.
- ▶ What do you do?

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You are the President of a University. A researcher in your University is accused of

- ▶ Fabricating data
- ▶ Using a grant to support research unrelated to the grant proposal
- ▶ Publishing a paper drafted by a student as his alone
- ▶ Adding his wife, who was not involved in the research, to the list of authors on one of the papers to enhance her prospects of getting a grant
- ▶ Sacking a post doc who complained about the above

What do you do?

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- ▶ Is the use of case studies effective?
 - ▶ In terms of changing attitudes, I don't know, because I haven't done a longitudinal study. I didn't even survey the class on this.
 - ▶ It does make the students think about
 - ▶ What their personal ethical attitude is.
 - ▶ How they may react in particular situations

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- ▶ I found it important to discuss the philosophical basis of ethics and challenge students to articulate their personal ethical position and how they get to it

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