Online Ethics Center
FOR ENGINEERING AND SCIENCE

Whistleblowing - Data Management (RCR Role Plays)

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Description

One of nine role play scenarios developed by Michael Loui and C. K. Gunsalus. This page, on suspected data mismanagement in a research lab, includes the summary, whistleblowing resources, and handouts to be given to various participants.
The full role play instructions with discussion guidelines are included in pdf format.

Body

Role-Play Summary

This role-play involves data mismanagement in a research lab. The graduate student suspects that the post-doc fabricated experimental results, which is a form of research misconduct. The realization or suspicion that someone has engaged in research misconduct is one of the most difficult situations researchers face. However, someone who has witnessed misconduct has an obligation to act and report this behavior. Reporting the misconduct, which also known as whistle-blowing, should be done in a cautious and responsible way. Ideally, whistle-blowers should never be afraid to come forward with questions of misconduct, as they should be supported by their institutions and fellow researchers. However, there are many reasons why someone would want to avoid bringing forward an allegation of misconduct. Whistle-blowers risk their future careers, reputations, and often experience psychological distress, among other possible negative consequences. Even the term whistle-blower has negative connotations.

If you ever suspect research misconduct, you have an obligation to report it. However, you should make sure that you handle the situation in the best possible manner for the sake of your career and the other people involved. If handled correctly, it is possible to report research misconduct and still have a successful career afterwards (Gunsalus, 1998). Also, any paper discovered to have incorrect information should be retracted and errata should be issued for the benefit of other researchers.

Real Story

After the professor finally understood what the student was saying and overcame the idea the student was lazy or stubborn, the professor verified the student’s reports about the supplies and malfunctioning equipment. Then the professor consulted with the appropriate authorities on campus. A research integrity inquiry and then an investigation followed. Although a suspicious fire in the lab destroyed the post-doc’s original notebooks, the investigation concluded that the post-doc had fabricated the results. The human dynamics of this situation were very awkward: the faculty member was embarrassed and felt he had lost face; and the student had conflicting emotions. The head of the department was extremely helpful in working with each to help them realize they were on the same side, and each had been the

victim of the post-doc—in short, that they were in it together.

The finding was reported to the federal funding authorities, who also imposed a sanction on the post-doc. The original paper was retracted, and the professor was counseled to supervise his lab more closely. Although it took some effort, the relationship between the professor and former student (now a professor) was repaired, and they are still professionally close today. There was a difficult period for everyone, however. The other students in the lab were also upset and unsettled: the department asked an emeritus professor to spend some time being available as a sounding board for the students.

Although the incident was embarrassing and painful for many people, the lab members all survived the incident and went on to productive careers in science. The post-doc dropped out of grad school but later went to medical school.

Whistle-blowing Resources

Gunsalus, C. K. (1998). How to blow the whistle and still have a career afterwards. *Science and Engineering Ethics*, 4, 51-64.

University of Illinois Office of the Vice Chancellor for Research

Office of Research Integrity

Professor Role

What follows is an outline of your role. You will need to improvise to some extent – be creative but try to stay within the bounds of what seems realistic.

You are a professor who just received tenure: you have conducted successful research projects, written influential papers and received awards for your work. When you started, your research group was very small, and it has grown rapidly since then. Now that you lead a large group with ten graduate students and two post-docs, you do not have the time to check everyone’s work on every project. You have good students who are well trained and conscientious.

You are about to meet with a student in whom you are very disappointed. You asked the student to reproduce some preliminary results produced by your star post-doc that your lab has already published. Reproducing results is important because it confirms previous work. This helps students improve their lab skills, even

if these students are unlikely to be named as authors on this series of papers. Until recently, you had a good opinion of this student's skills and work ethic.

This student seems unwilling to put in the time and effort to complete the task promptly. You assume that the unwillingness to work hard is because the student thinks the task you have assigned is boring and unnecessary. It may even stem from jealousy or from a fundamental misunderstanding of how research is conducted. Students earn the right to have others help them in the future by doing non-glamorous supporting work for you and the post-doc now. Because this student has been so lazy and slow, you had to assign a second student to work on this routine confirmation. So far, neither student has finished the task. You are frustrated and impatient.

You don't want to be too hard on the student, but the student must start working harder immediately. In your meeting, you need to balance several goals: advancing the student's education; ending an unproductive attitude; and motivating the student to complete the task soon and well.

Prepare for your meeting with your student.

Professor Role-Play Notes:

- You believe the student is not trying hard enough to replicate the post-doc's results
- You want to make it clear you are disappointed
- You want to set clear expectations: the student must contribute to the work of the lab
- You have not had time to check everyone's work on every project

Plan for your meeting:

- Write questions that you will ask the student
- Follow-up questions that you might ask
- Questions that the student might ask you, and your answers

Student Role

What follows is an outline of your role. You will need to improvise to some extent – be creative but try to stay within the bounds of what seems realistic.

You are a second-year graduate student in a large research group. You like and respect your adviser and have been very happy in this group. Your research adviser just received tenure last year. Your adviser published an early paper in a major scientific journal and then received an award from an important federal agency. The group has grown rapidly with your adviser's success.

For months you have been trying to reproduce experimental results obtained by a post-doc in your group. Your lab has already published the post-doc's results as preliminary findings in a journal article that is getting a lot of attention. You have worked very hard to replicate the work: you have run the experiments many times, and you have watched the post-doc to see his techniques. You are sure you are doing the work correctly and still you are getting nowhere. Your adviser keeps asking you to finish and seems angry about the amount of time you are taking. You have never had anyone angry with you like this before. Your adviser recently assigned another student in the group to do the same work, and that student is also mad at you for diverting her work.

You are now sure that it is not possible to obtain the results reported by the post-doc. You do not feel comfortable confronting the post-doc yourself. The stress is keeping you from sleeping. You have an appointment with your adviser to discuss this mess. You have reviewed your notebooks to make sure that it is in good order and that you have properly documented everything you have done. You are sure you haven't missed anything.

Additionally, you don't think it would ever have been possible to do the work in your lab: your lab never had enough of the materials to complete the work that was reported in the journal article. You even checked with the department's business manager, and according to the university's electronic purchasing records, no one either inside or outside your group has ordered these materials in a few years—except for you when you started this project. Furthermore, you have found out that the equipment necessary for at least one part of the experiment was not working in the month when the post-doc said he did the work.

You don't know what to do. You do not want to believe the post-doc made up the

results but you don’t know what else to think. That would be horrible for your adviser and your lab. Your adviser is not very strict in reviewing notebooks and supervising the lab, so you hope that there is some mistake that will explain the inconsistencies.

Prepare for your meeting with your adviser.

Student Role-Play Notes:

- Your professor and this lab have an excellent reputation
- You are sure you ran the experiments correctly
- You documented everything you did while running the experiments
- You’re confused about the lack of research materials and broken equipment and afraid to confront the post-doc

Plan for your meeting:

- Write questions that you will ask the professor
- Follow-up questions that you might ask
- Questions that the professor might ask you, and your answers

Role-Play Starter

Professor: Hello … Please come in …

Grad Student: Thanks … You wanted to talk about the experiments that I have been running …

Professor: Yes … I’m curious as to why it is taking so long to reproduce the results that our post-doc has found … All you have to do is repeat the same procedures …

Grad Student: I don’t really understand why they aren’t working either … I documented everything I did in my notebook, and I know I didn’t miss anything …

Professor: I’ll look at your notebook after our meeting … but have you considered the time and effort that is required of graduate students working for a large research lab? … It involves doing a lot of work that may seem unimportant to you now, but it will benefit you in your future …

Grad Student: I really do understand … I’ve been trying very hard to reproduce

the results, and I do not understand what's wrong … so I have investigated a number of reasons as to why the experiments have not been working …

Professor: Have you fixed the problem yet?

Grad Student: I don't think the lab had enough materials to run the original experiments …

Professor: What? That's very strange … Have you talked to the post-doc about this?

Observer Role

- Read both roles.
- Watch the interview and take notes.
- If the conversation appears to be stopping early, encourage discussion on topics that still haven't been addressed.

What is the student trying to convey?

What is the professor trying to achieve in this meeting?

Did the student "read" the signals from the adviser well? What cues did you see?

Did the professor "hear" the student well? What signals of this were there?

What questions do you think could/should have been asked that were not? What do you think could have been said that was not?

Contributor(s)

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Rights

Use of Materials on the OEC

Resource Type

Case Study / Scenario

Parent Collection

Role-Play Scenarios for Teaching Responsible Conduct of Research

Topics

Data Management
Research and Practice
Whistleblowing

Discipline(s)

Computer, Math, and Physical Sciences
Engineering
Life and Environmental Sciences
Research Ethics
Social and Behavioral Sciences

Publisher

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