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# Responsible Conduct of Research Role-Plays: Mentoring

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# Responsible Conduct of Research

## Role-Plays

## Mentoring



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### **Using Role-Plays in Ethics Education**

Role-playing can be a powerful learning experience and stimulate lively discussion and debate. However this active learning technique, which most people are unfamiliar with, can also make participants feel awkward and uncomfortable at first. The key to its use is to introduce and frame the technique to any group before starting.

#### **Note to Moderator:**

**After the workshop participants should receive as a handout the section labeled “Resources.” That section also includes a summary of the role-play.**

#### **Introduction (2-3 minutes)**

We generally start a session by talking about the technique and why we use it. We often label it as “experiential” or “active” learning as we talk about it. This introduction can be done relatively quickly and will improve the participation and comfort level of the group.

Points we make include:

- Role-playing is a type of active learning technique. As such, it promotes deep learning, long-term retention and can be very memorable and powerful
- Participants might feel awkward at first, but they are encouraged to participate as fully as possible. The more authentically they engage in their role the more they will learn
- There are no “right” answers in role-plays
- Participants are not being graded
- The purpose of the exercise is to provide an active learning experience in a safe setting where ethical issues can be explored without being about a real problem
- Because role-plays (or simulations) are participatory, educators believe that the information learned will be retained longer and will be more easily accessible in the future if it is needed
- This training will help participants be prepared to recognize and address ethical problems. By grappling with the sorts of ethical problems that arise regularly in professional life in this safe, non-threatening role-play setting, participants can think through the problem and gain some skills and tools to use should they ever encounter such a problem. We think of this as an “inoculation model.” By practicing these conversations you become “vaccinated” and thus better able to resist confusion and anxiety when questions of ethical research arise
- These scenarios are based on real situations that real people encountered (You cannot make this material up)
- After the role-play we will discuss the experience. We also will discuss the outcome of the real-life situation upon which the role-play is based, where possible
- For anyone who is truly too uncomfortable to try it out, we have an observer role. The observers are expected to take notes as they watch others do the role-play and then to provide comments back to the other participants in their group at the end of the process.

### **Instructions (3-5 minutes)**

After introducing the technique, we give the group instructions and an overview of the procedures.

- 1) Materials should have been copied in advance on different color paper, so the roles are easy to distinguish. For example, the professor role might be on blue paper, the student on yellow paper, and the observer role on green paper. **Participants know only what is in their own roles, and have no information on what is in the other roles; that comes out as the session proceeds. Decide in advance whether you will be distributing the discussion starters with the roles. If you are, the discussion starters for each role (and only that role) should be on the same color paper as the role.**
- 2) Ask participants to divide into groups of two (professor/administrator and student) or three (professor, student, and observer). Each group must have one each of the two main roles (professor/administrator and student).
- 3) Announce that everyone will start together and end together. (This keeps the noise level down while directions are being given.)
- 4) When partners have been selected, hand out the roles and discussion starters. Participants are not obligated to use the discussion starters, but it does make the exercise less daunting for many.
- 5) Verify that every group has two or three people and that each one has a different color paper.
- 6) Ask participants to leaf through their materials: each should have role information and a role-play starter. Using the role-play starters is optional, not required. They are provided to help those who need a little guidance to ease into the role-play.
- 7) Announce the amount of time available. 10-15 minutes is plenty of time for these short scenarios.
- 8) Provide a bit of time for individual preparation. Suggest that participants make notes of what you want to find out, and what your first sentence will be.

#### ***Optional step:***

If time and space permit, it can help focus the role-plays and make sure all aspects of the scenario are covered if you verbally review the key points of the scenario and the participants' role. To do this, take one group — all of whom are playing the same role — out into the hallway and keep the other together in the classroom. If there is only one discussion leader, appoint one member of one of the groups to read the role information aloud to the group while the discussion leader works with the first group. When the leader finishes briefing the first group, leave that group to discuss the role among themselves and go brief the second group and answer any questions they might have.

- 9) Start the role-play. Walk around the room, listening to various groups to get a sense of topics discussed and how the activity is proceeding. Stop the process after it appears that most have exposed the main dilemma and have spent a little time talking about how to approach it.

10) Make sure at the end of the session that participants receive the “Resources” sheets as a take-away handout.

**Discussion (30-45 minutes)**

After the role-play the moderator should lead a discussion. Follow the discussion guidelines provided following the role-play. It’s also useful to plan for a few concluding remarks at the close of the session to consolidate the discussion.

**Tips for Leading Discussions**

Opening questions and guidelines for leading a discussion are provided below.

- After the role-play, discussion usually takes off on its own in light of the experience. However, if no one speaks right away, don’t worry.
- After you ask the opening question, let at least 10 seconds go by to give people a little time to volunteer. When you are at the front of the class 10 seconds feels like eternity, but that amount of time allows participants to begin to gather their thoughts and work up the nerve to respond.
- If the discussion is really lagging at any point, a useful technique can be to ask participants to discuss whatever the proposition is with their neighbors. This “buzz groups” approach can build up enough confidence that people will start talking.



## Role-Play Discussion Guidelines: Moderator

### General questions to ask:

After the role-play is over and the groups come back together, ask the participants what was going on in this interaction.

Work to elicit the whole story, by alternately asking those who played each role what their concerns were:

- For those playing the student, what were their concerns and how they understood the situation?
- Ask those playing the faculty member, what were their concerns and how did they understand the situation?

Then summarize for the group the essential facts of the two main roles. It can be helpful to make a two-part list on an overhead or chalkboard while you are eliciting information, noting the concerns of the faculty member and the concerns of the student.

If there were recurring themes in the groups you picked up while the role-play was under way, work those into your discussion. Ask the group how closely the two versions that emerged in discussions match. If they do align, what was the most helpful in eliciting information and establishing trust, leading to a useful and constructive discussion? If they do not match (you may have some groups in each category), what kept the two versions from aligning? Was information missing? What kept it from coming out?

### Other general questions to ask:

- What were the most helpful things that were said?
- What do people on each side wish the person on the other side had asked or said?
- Who should take the next step here? Why?
- Is there a good outcome to this situation?
- What elements might make it more or less likely to come out well?
- What could the student or the adviser have done earlier to change or prevent the current outcome?

If you had any observers, ask them what they saw going on; see if anyone picked up signals the participants missed. What were they? What difference might it have made if the missed signal had been caught? Ask the group to identify the issues that are presented in this role-play.

### Specific questions to ask:

- What role do mismatched expectations play in what was taking place?
- What would be the most productive way for the student to communicate the bad news?

- How could the mentor communicate his expectations in a way that the student would be most likely to hear them?
- What should the adviser do next; what are the adviser's responsibilities, if any?
- What's likely to happen if the adviser takes those steps?

### **Principles that apply to mentoring:**

#### *Obligations of a mentor:*

- Establish expectations of student from beginning, including how often to meet, what should be discussed, and how much responsibility they expect the student to take.
- Recognize that some students need more or different kinds of guidance at different stages of study.
- Teach student the norms of the discipline, including how colleagues interact, standards of research practice (such as how to manage research data)
- Advocate for the student by recommending them for awards or fellowships, introducing them to others in the field.

#### *Obligations of a student:*

- Help establish expectations from beginning, including how often to meet, what should be discussed, and what expectations the mentor has.
- Find multiple senior mentors in order to benefit from a variety of perspectives and experiences.

### **Alternative Formats:**

A: After the discussion, ask for two volunteers, and do the role-play again, in a "fishbowl" format where the audience observes one pair proceed through the scenario that the group just discussed. Stop the action every now and then and ask for suggestions from the audience on what might be done differently to improve the outcome. Ask the role-players to back up a bit in the interaction and try to incorporate that advice as they move forward again. See if there are differences in how the interaction goes. What lessons can be learned?

B: Before the discussion, pass out the roles and have each person prepare individually. Ask for two volunteers to come forward to do the role-play in a "fishbowl" format, and then follow with the discussion portion.

## RESOURCES

### Role-Play Summary

This scenario highlights the mismatch of expectations that can arise in a mentoring relationship between a graduate student and a research adviser. The adviser wants a solely professional relationship, but the student seeks a more personal relationship. Their inconsistent desires lead to inconsistent expectations about how long they should meet and what they should discuss, and subsequently to misunderstandings about the preliminary results.

Some of the problems in this scenario could have been avoided had the adviser and student negotiated mutual expectations and responsibilities when they first began working together. In general, a professor and student should agree on expectations, such as how frequently they would meet, and how quickly the professor would review the student's draft manuscripts. They should update these expectations periodically. As the student matures from apprentice to colleague, the student should take increasing responsibility for the direction of the research, and the professor should shift from providing technical advice to guiding the student in professional networking and in career preparation. A professor should recognize that different students need different amounts and kinds of guidance at different years of their studies.

The ideal mentoring relationship is both personal and professional: a mentor is more than an adviser but less than a friend. Besides providing technical and professional advice, a mentor should instruct the student in the norms in the discipline, such as how colleagues should interact with each other, and in the standards of research practice, such as how research data should be managed. A mentor should advocate for the student by recommending the student for fellowships and awards, by introducing the student to researchers at other institutions, and by helping the student find professional employment, including postdoctoral and faculty positions.

As in any close interpersonal relationship, conflicts in the mentoring relationship are inevitable. A professor and student may disagree over the inclusion of co-authors on a paper, or over the interpretation of experimental results. Students can feel inhibited from honestly expressing serious disagreements because professors hold great power over their advancement.

Rarely can a single professor provide all of the advice that a graduate student needs to develop professionally. The student should therefore find multiple senior mentors. In addition, the student can benefit from the diversity of perspectives of multiple mentors.

This role-play scenario illustrates a common situation in which each person starts with only partial information: the professor does not know that the preliminary results were actually only anticipated results, and the student does not know that the professor is annoyed by the student's lack of focus on technical work. To ensure that each person receives complete information, the professor and student must communicate openly: the student should convey the bad news about the results clearly, and the professor should criticize the student's behavior constructively. But the situation is risky because each person will be disappointed by the other's information.

To communicate in a risky situation (Patterson et al., 2002), each person should first state the facts and his or her own interpretation of the facts, then invite the other's interpretation. Each person should use tentative language. Each should listen carefully to the other, asking questions for clarification. The professor might say, "I notice that you are spending a lot of time organizing social events. (*States facts.*) I am concerned that you do not





seem committed to the research project and developing independence. (*Shares personal tentative interpretation.*) How do you see the situation? (*Invites interpretation with a question.*)”

## **Resources on Mentoring**

Committee on Science, Engineering, and Public Policy, *Adviser, Teacher, Role Model, Friend: On Being a Mentor to Students in Science and Engineering*, National Academy Press, Washington, D.C., 1997. Online at <http://www.nap.edu/html/mentor/>

University of Michigan, *How to Get the Mentoring You Want*, Online at <http://www.rackham.umich.edu/downloads/publications/mentoring.pdf>

University of Washington, *How to Obtain the Mentoring You Need*, Online at <http://www.grad.washington.edu/mentoring/GradStudentMentor.pdf>

## **Resource on Interpersonal Communication**

Patterson, K., Grenny, J., McMillan, R., & Switzler, A. (2002). *Crucial Conversations: Tools for Talking When Stakes are High*. New York: McGraw-Hill.

## **Responsible Conduct of Research Resources**

Columbia University (includes a section on mentoring), <http://cnmtl.columbia.edu/projects/rcr/>

Committee on Science, Engineering, and Public Policy, National Academy of Sciences, National Academy of Engineering, and Institute of Medicine, *On Being a Scientist: Responsible Conduct in Research*, National Academy Press, Washington, D.C., 2nd ed., 1995.  
<http://www.nap.edu/readingroom/books/obas/>

ORI Introduction to the Responsible Conduct of Research, [http://ori.dhhs.gov/publications/ori\\_intro\\_text.shtml](http://ori.dhhs.gov/publications/ori_intro_text.shtml)

Online Ethics Center, National Academy of Engineering  
<http://onlineethics.org>

Research Ethics Modules, North Carolina State University (includes a module on mentoring), <http://www.fis.ncsu.edu/Grad/ethics/modules/index.htm>

Macrina, F. L. (2005). *Scientific Integrity: An Introductory Text with Cases* (3rd ed.). Washington, D.C.: American Society for Microbiology Press.

Shamoo, A. E., & Resnik, D. B. (2003). *Responsible Conduct of Research*. New York: Oxford University Press.



## Faculty 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 newly tenured associate professor. You are stressed out, sleep-deprived, and over-committed. You do not have much time or patience. You have been at your current university for only a year and are still learning to fit into the environment. You and your spouse have just had your first child; the baby has really bad colic and screams constantly. That, and the strain of setting up a lab while sleep-deprived, has been trying. You know it's only a phase, but it is still very hard to live with. You have a lot on your mind and you are very busy.

Today, you have an appointment with your problem graduate student. You want to keep this appointment short and focused: you just need the data the student has discussed with you. Since this student joined your group the relationship has not gone smoothly. When you were a grad student and as a post-doc, independence was prized. You prefer to ask questions to let students figure things out rather than to give specific directions. This student, in contrast, seems to want your approval for every single step and wants to be personal friends. You see this as solely a professional relationship.

The student has confided in you about personal problems with a roommate that you are really not comfortable hearing about. This student has not yet made a single deadline and seems to have an excuse for everything. Nothing is ever done quite as you ask, and this student is always roping in the other students and a post-doc to complete projects. On top of everything else, this student has become the self-appointed hospitality committee and is always spending time trying to organize parties, outings, and other events. You wish the student would put that much energy into working!

This student is working on a project that has unexpectedly become much more important to your lab. You have already incorporated the preliminary results into a manuscript that you plan to submit to a very prestigious journal. You are very excited about this work. It builds on your previous work and is a large advance. You think it will give you and your group some visibility in your field. At this meeting today, you expect to hear about the student's most recent results so you can write the next draft of the manuscript. You plan to circulate this draft to your closest colleagues for comments.

The student asked for a half-hour meeting, but you really don't like meeting with the student that much and you have so much to do the idea of a half hour seems excessive. You plan to keep the meeting focused and short. You just need those results.

**Faculty Role-Playing Notes:**

- ✓ You expect to get the actual data for the paper you have drafted
- ✓ You expect a quick, professional meeting
- ✓ Your style is to ask questions, and not overly direct students
- ✓ You are in a hurry

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

## **Starting the Role-Play**

**Grad Student:** *It sure is a beautiful day outside. How is your day going?*

**Professor:** *Fine ... Do you have the experimental results with you?*

**Grad Student:** *How is your baby doing? ... Has she started to smile and make facial expressions yet? ... My little brother started to smile at about this age, so I figured that you might be experiencing that too.*

**Professor:** *The baby cries a lot ... but that is not really relevant to what we are doing here.*

**Grad Student:** *Crying? ... Is everything okay with the baby?*

**Professor:** *Yes ... it's just colic ...*

**Grad Student:** *That's a relief ... Oh yeah ... I also wanted to let you know that talking to you about my roommate problem really helped ... We are doing much better now ...*

**Professor:** *Good ... How did the experiments turn out? ... Were they consistent with the earlier findings?*

**Grad Student:** *Well, about that ... I was hoping that we could discuss this at some length ...*

**Professor:** *This doesn't sound promising ... You know that these results are really important for us, right?*

**Grad Student:** *I know, it's just that we ran into some issues while running the study ...*



## 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 have an appointment with your research adviser in just a few minutes. You purposefully waited longer for this meeting than you would have liked so you could have a long meeting. Because your meetings keep getting cut short, you feel that there have been some miscommunication problems and you want to avoid that this time.

Your adviser intimidates you a little bit, but you have been working really hard to overcome that. Everyone says your adviser is a rising star, and you hope to maintain this relationship for a long time, so you've put a lot of energy into building personal rapport. You talk to your adviser often to keep the relationship growing. You also work at being a positive asset beyond just doing the work. You have done things to help bring people together in the lab: people are really happy about the Monday afternoon cookie event and the beginning-of-the-year lake outing was a huge success. Your adviser hasn't complimented you directly for this, but the other people in the group keep talking about what a difference it makes to socialize as well as work together.

Still, you're pretty nervous about this meeting, so you have carefully outlined what you want to talk before you reach the really important matters:

1. Ask how the new baby is doing.
2. Report how things worked out with your roommate and how much it helped to talk that big problem through with your adviser.
3. Introduce the unanticipated difficulties you've been having with your experiment.
4. Propose that you and the senior post-doc start the whole experiment from scratch to rule out contamination or equipment problems; with two of you working, you can really document everything perfectly and it shouldn't take more than an extra six weeks, which seems worthwhile, given the importance of the work.
5. Make it clear that, with your summer fellowship, you don't need any additional support from the adviser for the time this will take, so it won't cost your adviser anything at all, and you'll really get great confirmation by adopting this plan.

You know that your adviser is focused on the results, and you have seen that a manuscript is in preparation. This is part of the problem. Because your last meeting was so rushed, you think there has been a serious miscommunication ... the draft manuscript talks about the results you said you were *hoping* to get (and planning to present at a lab meeting next month), but you haven't produced these results yet. You have been working really hard, but you think this news may be disappointing to your adviser. You want to ease into it. However, because you're confident that the study will work out, you really want the conversation to have a positive spin.

**Student Role-Playing Notes:**

- ✓ You plan to work up to the issues with the study results
- ✓ Your goal is building and maintaining the relationship
- ✓ The adviser may believe you have results you don't have yet
- ✓ You want to propose starting the project over

Plan for your meeting:

- ✓ Write questions that you will ask your adviser
- ✓ Follow-up questions that you might ask
- ✓ Questions that your adviser might ask you, and your answers

## **Starting the Role-Play**

**Grad Student:** *It sure is a beautiful day outside. How is your day going?*

**Professor:** *Fine ... Do you have the experimental results with you?*

**Grad Student:** *How is your baby doing? ... Has she started to smile and make facial expressions yet? ... My little brother started to smile at about this age, so I figured that you might be experiencing that too.*

**Professor:** *The baby cries a lot ... but that is not really relevant to what we are doing here.*

**Grad Student:** *Crying? ... Is everything okay with the baby?*

**Professor:** *Yes ... it's just colic ...*

**Grad Student:** *That's a relief ... Oh yeah ... I also wanted to let you know that talking to you about my roommate problem really helped ... We are doing much better now ...*

**Professor:** *Good ... How did the experiments turn out? ... Were they consistent with the earlier findings?*

**Grad Student:** *Well, about that ... I was hoping that we could discuss this at some length ...*

**Professor:** *This doesn't sound promising ... You know that these results are really important for us, right?*

**Grad Student:** *I know, it's just that we ran into some issues while running the study ...*



## Observer Role

- *Read both roles on the following pages.*
- *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?

