



Online Ethics Center
FOR ENGINEERING AND SCIENCE

Mentoring (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 mentoring, includes the summary, resources on mentoring and interpersonal communication, and handouts to be given to various participants. *The full role play instructions with discussion guidelines are included in pdf format.*

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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 <https://grad.washington.edu/for-students-and-post-docs/core-programs/mentoring/mentoring-guides-for-students/>

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.

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

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 about 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.
- 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

Publisher

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