Research Practices: Success as an Undergraduate Researcher

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Role playing as a learning tool..

We need 15 volunteers to act out different situations that could arise in your research environment this summer.

10 minutes to work out your scene (see handouts)

Up to five minutes to act out each situation...

Then a few minutes to comment on each and talk about best practices.
1. Absent Advisor

**Situation:**
The student has planned to meet his/her mentor, and finds out that she is unavailable...
1. Absent Advisor

Dealing with it:
- Stay positive
- Don’t blame
- Look for help with others in the lab
- Focus your energy on the most important things

Preventing the situation from being a problem:
- Share your summer schedule with your mentor
- Find out about your mentor’s schedule
- Contact numbers
  - Is it OK to call his/her cell phone?
  - Who should you talk to when your mentor is out of the office?
- Set up back up plans
- Remind yourself via smart phone, personal calendar, etc.
Looking for Help

- Talk to the staff/colleagues at the work place
- Talk to your peers (other students)
- Be enthusiastic about what you are working on
- Discuss options with your fellow undergrads
- Scan available resources (journals, books, search engine)
- Redirect
  - do something else for a while
Networking

Be ready for the “elevator” 2 min talk
Talk to people about your project
Ask what they are working on and visit their lab/office.
Go and socialize
Get their contact information and follow up
Volunteer to present your work in group meetings
Be aware that anybody around you could provide support for your career path (might be the one hiring next time)
Attend technical/scientific talks whenever possible this summer
2. Getting what you need from your busy mentor

**Situation:**
The student is facing a challenging question and needs some help/support from their very busy mentor...
2. Busy Mentor

Schedule and confirm an appointment (on google calendar)
Be polite, and ask if you should come back another time when the mentor is more available
Once a week, send a spontaneous report with
- Main questions you will look into
- Main results
- Plan for the next week
- Shorter than 10 lines, yet very informational
Be ready with a concise answer to “what do you want to talk about?”
Situation:

- Student has poster presentation in two weeks. The abstract is due on Friday and it’s Monday.
- Mentor is surprised even though they got an email from the coordinator at beginning of summer.
3. Presentation Preparation

Applies to abstracts/posters and presentations

How to set the stage for a successful experience:
Reconfirm your internship schedule and make a timeline with your mentor early on (google calendar)
Bring up your presentation in discussions
Send friendly email reminders about your deadlines to keep them up to date
Establish early who can approve presentation (advisor only? Supervisor?)
Even some very busy mentors will want to be involved in public communication
Talk to others in lab about how to best interact with the PI
4. Mentor talks over the student’s head

Situation:
The mentor tries to explain a subject that is quite technical. But the student does not understand...
4. Over the student’s head

Ask leading questions
Write down the parts you don’t understand to look up later
Acknowledge that you don’t understand
Help your mentor to explain better
- Ask for a sketch
- Ask for a [better] analogy
- Ask for an explanation at the elementary level
- Ask for a reference, work on the book and come back later to the mentor
Find out if there anyone is anybody else that explain it, in case you have any more questions later (diplomatic way of finding somebody else to explain it)
How are you doing?

-self evaluation-

What’s the big picture, the main goals, etc

Lab book
- Log day/day – your work at a glance!
- include explanations / schematics

Dialog with yourself
Plan your work, share your questions, review you results with colleagues.
Revise your work plans with peers and mentor
Explain your work to your peers
Report again / review content with colleagues
Share your excitement!
Things to discuss with your mentor: Early

Early:
Their/your schedule for summer
If they are gone, who makes decisions about your project?
   Should you contact them?
Let them know your interests
Who can help you? Who knows about your project area?
What level of input do they want/can they give on your presentation and/or abstract?
Is there anything you can be doing if there is down time?
Things to discuss with your mentor

Later:
Tell them about your education/career interests and get their opinion
(schools, pathways to get there, this field vs. that field)
Where do people go for work or more education after leaving their lab?
What is the best way to stay in contact with advisor/group?
What are the most important meetings/conferences in this field?
Have they learned enough about you to right a letter of reference?