

Pedagogical Materials & Methods: class room experience versus one time workshop

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Colleagues and Trainees have different issues

- | | |
|--------------------------------------|--------------------|
| ✓ Trainees | ✓ Colleagues |
| ✓ Captive audience | ✓ No requirement |
| ✓ Multiple sources
of information | ✓ Ingrained habits |
| | ✓ Priorities |

Different formats are more suited
to each group

Teaching Best Practices

- As “for-credit” coursework for graduate students
 - BIOCH/GEN 805 Issues in Research
 - Required of all incoming graduate students
 - Covers numerous topics under the rubric of “professional development”

Course objectives:

- To introduce you to skills outside “book learning” that will help you survive graduate school. Science is more than just research-it’s reading, writing, speaking, critiquing and professionalism. Although you may have been exposed to some of these topics before, this course is designed to focus on skills specific to graduate students in the molecular sciences. Through lectures, reading and practice, you will hone each of these skills and gain resources to help you throughout your graduate experience.

Class topics

Time Management/ Personal Responsibility
Lab Rotations & Mentor Issues
You and the Literature
Lab notebooks & Graphical presentation of data
Posters
Oral presentations
Writing grants/obtaining funding
Writing a research article
Peer review/ Creativity, problem selection and problem solving
Attending Scientific meetings
Legal Issues in research & misconduct
Research Ethics
Job Skills & Life After Grad School
Your Thesis & Progress to the Degree

Integrating the PIs

- Cannot dictate things like lab notebook style (except in my own lab)
 - Most academics tailor notebooks to research
 - Bioinformatics students have very different notebooks than cell biologists
- Use this as a teaching tool
 - Bringing in examples from the PI of the moment
 - Opens up the discussion

Why colleagues are hardest

- Need
 - If my system works, why change?
- Know
 - I've only been "taught" one way
- Rules
 - Desire for best practice conflicting with limited time, resources and regulatory proliferation

Strengths of classroom approach

Tailored to the audience/institution/program
Can see variety of practice
On campus resource
For credit means assignments-integration of material

Weakness of classroom approach

Resources (in our case, two trained faculty)

this could be a strength

Varies from year to year

Rest of program faculty rarely involved

Limit to class size

and works best when all same program

One time workshop

- Sat AM all day workshop
- Food & certificate
- Faculty & students

Strengths of workshop approach

- Can see variety of practice
- On campus resource
- Certificate of completion can mean something
- Less of a commitment

Weakness of workshop approach

- Limited topics
- Special nature makes ethics seem “special”
- Can't require
- Limit to size means multiple offerings

Judging their merits Classroom

Administration:

Meet NSF and other training grant guidelines

Faculty:

Reduced “incidents”-we have not seen this yet

Students:

Claim it helps-though what it helps with varies by student

Judging their merits Workshop

Administration:

Can meet NSF and other training grant guidelines

Faculty:

Reduced “incidents”-we have not seen this yet
Some faculty “surprised” by topics

Students:

Appreciate faculty interaction
tends to select for those who need it least