

2016 Earth Educator's Rendezvous  
Afternoon Mini Workshop  
Making Undergraduate Research a Key Part of Your Class or Curriculum  
Friday, July 22, 2016

**An initial conversation to frame the workshop:**

1. Why incorporate research into your courses?
  - Relationships and context
    - Helps students take ownership/develop a relationship with class
    - Connects to science more directly
    - Personal connection, personal context, "what does this course mean to me?"
    - Building community
    - Relevance, builds context of course material
  - Student development
    - Develop critical thinking skills
    - Gain self-confidence - ability to overcome obstacles
    - Career training, also beyond sciences
  - Awareness and appreciation
    - Appreciating science/process
    - Understanding the limitations of science, data interpretation and support
    - Learning that failure is okay
  - Pedagogy
    - Can help frame the course
    - Another way of learning – more tactile
  - Recruitment, retention, transfer, diversity – engaging
  - Faculty benefits – keeps faculty connected to field
2. What are the greatest obstacles/challenges?
  - Constraints
    - Overwhelming – too many students, data, too little time (short time frame)
    - Fitting it into a course – how to blend content with research
    - Financial obstacles, resource obstacles
    - Fitting it into class time constraints
    - Limited equipment/access/space/time
    - How to make it part of the class and not just extra work
  - Perceptions
    - Too much work for students, feels like too much of a challenge for students who are already leading busy lives
    - Perception by faculty that there isn't enough time in terms of content
    - Hope that it helps with tenure but unsure about value
  - What is the quality of course-based research?
    - Varying abilities of students
    - Student research may not be research quality – more like high-level inquiry

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- Assessment (?!?!)
- Motivation and comfort
  - Some faculty don't want to do research
  - Depends on faculty expertise – is research discipline related to course content?
  - How to manage group projects – group dynamics

**A final reflection on the workshop:**

1. What are the take-home points from today's workshop?
  - Validity/benefits of using undergraduate research as pedagogy
    - Undergraduate research is a vehicle for collaborating with many disciplines and leveraging relationships
    - Using undergraduate research as a way of increasing science literacy, especially for non-majors
  - Strategies for success
    - Show students how to do something then ask to apply it to their research
    - Focus on the most important things and determine what can be eliminated
    - Importance of integration – undergraduate research is not an add on; it's part of the class
  - Suggestion of community-based research – engaging with community = engaging with class
  - Showing different avenues of research – multiple entries into research; flexible definition of research
2. What did you gain by participating in this workshop?
  - **Solid start on fall teaching plans!!!** And follow-up on action plan
  - Resources – people, SERC sites
  - Lots of organizations to join - CUR, NAGT