



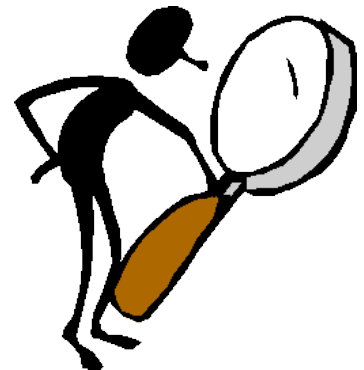
Bringing Research Into the Classroom

Student-Run Research Studies

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Agenda

- Research on Classroom Research
- Goals of Course-Based a Research Design
- Example: Learning & Memory Research Intensive
 - Direct/Indirect Benefits
 - Practical/Academic Challenges
- Potential (feasible) Versions

Council for Undergraduate Research



An inquiry or investigation conducted by an undergraduate student that makes an original intellectual or creative contribution to the discipline

<http://www.cur.org/>

Research in the Classroom

- Numerous Benefits of Research Internships/Research Experiences for Undergraduates
 - [Kremer and Bringle, 1990](#); [Kardash, 2000](#); [Rauckhorst et al., 2001](#); [Hathaway et al., 2002](#); [Bauer and Bennett, 2003](#); [Lopatto, 2004, 2007](#); [Lopatto and Tobias, 2010](#); [Seymour et al., 2004](#); [Hunter et al., 2007](#); [Russell et al., 2007](#); [Laursen et al., 2010](#); [Thiry and Laursen, 2011](#); [Kardash, 2000](#); [Laursen et al., 2010](#); [Lopatto and Tobias, 2010](#); [Gregerman et al., 1998](#); [Barlow and Villarejo, 2004](#); [Eagan et al., 2011](#)
- Course-Based Research Experience
 - Students Benefit Differently ([Thiry et al., 2012](#)).
 - Some students feel more capable, others struggle with inability to find “right” answer (Alkather & Dolan, 2014)

Research in the Classroom

- Are our programs reaching/helping students?
(Linn et al., 2015)
 - Programs select already interested students
 - Mentoring is essential



Class Project vs. Research



- Research practica (usually in the form of course-related research projects and/or directed studies) **are designed to provide students an opportunity to practice various research methods such as interview**, observation and survey techniques, measurement of behavior (e.g., reaction time, speech, problem solving) as well as data analysis. Typically such projects are quite limited in scope, do not lead to generalizable knowledge and are not undertaken with that goal in mind. For example, a student may interview a peer when the interview does not involve any sensitive, personal information.
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- Such projects should not put the subjects at more than minimal risk, and the data must be recorded anonymously by the students (i.e., with no names, social security numbers, or any other codes that can be linked to a list of names). **These projects are considered "classroom exercises" and are not subject to review by the IRB. They do not require review unless the student researcher or faculty advisor anticipates publishing the results or presenting at a professional meeting."**

Research-Intensive Course

- Context: Large Section Learning & Memory
- Research Scaffolded throughout semester
- Collaboration with East Side Community School



Assignments

- Human Subjects Training
- Scientific Paper Review
- Draft of Hypothesis
- Draft of Methodology & Analysis Plan
- Study Proposal Due
- Consent/Assent Forms Due
- Data Collection (Undergraduate)
- Research Presentations
- Extra Credit: Data Collection (6th Graders)

- Game Show

Please rate how funny the video was:

1

100

Please rate how hysterical the video was:

1

100

Sample Study

- Effect of Wording on Recall

- Loftus & Palmer (1974)

- cars smashed/bumped

- L&M Spring 2015 Class

- Clip of Jim Carrey movie
 - Funny versus Hilarious



- Impact of Anxiety on Testing
- Auditory versus Visual Learning
- Impact of Distraction
- Studying versus Writing



Direct/Indirect Benefits

- Class Undergraduate Research Experience
 - Applied content, Increased Interest, Ownership
 - “new perspective of research” “gained insight”
- Beholden to multiple audiences
 - Motivated to do well for the children
- Potential for Future Projects
 - Volunteer in research lab; volunteered at high school

Areas for Improvement

- Course Context
 - Research Methods vs. Course Content
- Logistical Issues
 - Research versus Class Project; Travel to Site, Availability, Money (photocopies & supplies)
- Group Learning
 - Clear Protocol for Group Problems Required

Finding Collaborators

- Twitter
 - #edumatch #educolor #sschat #formativechat #2pencilchat #games4ed
- Voxer
 - Elementary Tech Teacher Group
- Personal Connections
 - LinkedIn

Alternate Versions

- Research Track Options / Alternative to Paper
- Extra Credit
 - Act as mentors for 11th graders who are created research projects
 - Create presentations based on research methods
 - Utilize learning techniques to create ‘Study Help’ presentations for 6th graders before their exams

Thank You!

