Publish with your Parish:
Four Effective Approaches to Doing Publishable Research with Undergraduate Students

- Poster Session at American Economic Association meetings, January 2009
- A version of the full paper is forthcoming in Journal of Economic Education, 2009.
- Meanwhile, a preliminary working paper version is available online at http://www.coloradocollege.edu/dept/EC/papers.asp as paper 2008-03.

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Abstract
Creating new knowledge or publishable research is not the standard that most institutions set for their undergraduate students. We have found approaches that allow us to meet this standard, approaches which we refer to as the ***Yogi Berra*** Approach, the ***E Unum Pluribus*** Approach, the ***River Runs Through It*** Approach, and the ***Bentham*** Approach. Each works for different faculty-student collaborations. We list some challenges of conducting research with undergraduates, and offer some solutions.

The *Yogi Berra* Approach: One Question – Different Datasets
Competitive Balance in Sports
The goal of this approach is have students work on projects that are "the same, only different". Students analyze different sports, each adding a nuance from their own knowledge of the activity, but using common definitions and questions to begin analysis.

***E Unum Pluribus* Approach: One Dataset – Different Questions**
Patents and Innovation
This approach starts with a common base of data and tools, then encourages students to find their own related hypotheses. Students generally analyze the impact of technology on the real economy, or vice versa. The resulting analyses are creatively diverse.

***A River Runs Through It* Approach: One Quantitative Problem – Different Questions**
River-based Recreation
In this approach, students each tackle parts of a larger project. Each performed contingent valuation analysis for a distinct group of stakeholders in a community centering on rafting, boating and fishing. The results are valuable both independently and when aggregated.

***Bentham* Approach: One Qualitative Problem – Different Questions**
The Role of Corporate Boards
Students each derive their own questions from a common issue, that of corporate board process. They collaborate on data collection, forming their own surveys and hypotheses. Results are generated by the joint exercise, but as a sum of individual exercises.

PUBLISH WITH YOUR PARISH

FOUR EFFECTIVE APPROACHES TO DOING PUBLISHABLE RESEARCH WITH UNDERGRADUATE STUDENTS

AJU J. FENN, DANIEL K.N. JOHNSON, MARK GRIFFIN SMITH AND J. L. STIMPERT

Abstract

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Introduction

Our experience suggests that if students are properly trained, prepared, and supervised, the student-faculty collaboration can be a memorable and successful experience for all.

This poster outlines 4 approaches to undergraduate research that have resulted in professional conference presentations, peer-reviewed journal articles and other publications.

Student collaborators were evenly split in gender, and were 2/3 Caucasian, 1/3 Asian or Hispanic. All completed intermediate theory courses and some coursework in quantitative methodology, while half had taken advanced courses in the discipline.

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Challenge 1: Finding students with skills

Reflect on your current curriculum's offerings of Research Methods courses to teach literature reviews and hypothesis formation. These are in addition to Econometrics / Mathematical Economics. Find out how students obtain software training in statistical packages if your department does not offer that skill set within required coursework.

Challenge 2: Remuneration for students

Is the 'honor' enough, or do you need an hourly wage, a summer research job, a trip to a conference, a named award? We have found that all options work, but for different types of students.

Challenge 3: Faculty motivation

Recognize the costs of training a student co-author. This activity is not for everyone. Evaluate the economies of scale / scope for a project, keeping in mind the comparative advantage of specializing in techniques versus data manipulation.

Success:

•Requires early recognition of the challenges, and careful education of undergraduates about the process and commitment to see a paper through to acceptance.

•Relies on undergraduates' primary assets of motivation and creativity. Since they are less influenced by the technical or structural constraints of the discipline, they are perhaps more able to pose creative problems or to help devise innovative solutions.

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Benefits for students:

•Develop additional skills, beyond courses
•Synthesize previous coursework, suggest future direction
•Send signal to employers / graduate schools
•Create strong ties as alumni, even as repeat co-authors
•Explore a potential professional direction
•Improve self-confidence and satisfaction

Benefits for faculty / institution:

•Publish
•Receive recognition for undergraduate 'teaching'
•Attract better students
•Create strong ties with talented alumni
•Support professional and graduate school placement
•Enjoy tremendous satisfaction

Selected Examples:

Crabb, J.M., D.K.N. Johnson. 2007. Fueling the Innovative Process: Oil Prices and Induced Innovation in Automotive Energy-Efficient Technology. ***Colorado College Department of Economics and Business Working Paper 2007-04***. Under revision after request by refereed journal.

Fenn, A. J., P. von Allmen, S. Brook, and T. Preissing. 2005. The influence of structural changes and international players on competitive balance in the NHL. ***Atlantic Economic Journal***, 33 (June): 215-224.

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Johnson, D., N. Siripong and A. S. Brown. 2006. The demise of distance? The declining role of physical distance in knowledge transmission. ***Growth and Change*** 37 (March): 19-33.

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Johnson, D. and K. A. Sneed. 2006. Are many heads better than two? Recent changes in international technological collaboration. ***Colorado College Department of Economics and Business Working Paper 2006-01***. Under second-round review by refereed journal.

Larsen, A., A. J. Fenn, and E. Spenner. 2006. Competitive balance in the National Football League: An application of the HHI. ***Journal of Sports Economics*** 7(November): 374-390.

Naeser, R. B. and M. G. Smith. 1995. Playing with borrowed water: Conflicts over instream flows on the upper Arkansas river. ***Natural Resources Journal*** 35(Winter): 93-110.

Sneed, K.A., D.K.N. Johnson. 2009. Selling Ideas: The Determinants of Patent Value in an Auction Environment. Forthcoming ***R&D Management***.

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Conclusions / Lessons:

Do not underestimate the time commitment by faculty.

Be prepared to discuss / coach often and at length.

Identify students with potential and develop them as early as possible.

Encourage students to finish before they graduate.

A strong curriculum and the development of research skills are essential ingredients.

Data collection is inherently tedious, so try to mix it up.

Get institutional support to spread the costs.

Involve multiple undergraduates in your research, either as simultaneous teams or as sequential builders.

Make students full partners in research projects. Ownership is a great incentive program.

Find an approach that works for you.