The Innovative Instructor

Center for Educational Resources

Pedagogy Forum

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Embedding Research into the Curriculum

Dr. Stephen Plank, Sociology

What this is

The Innovative Instructor is a forum that publishes articles related to teaching excellence at Johns Hopkins

About the CER

The Center for Educational Resources partners with faculty and graduate students to extend instructional impact by connecting innovative teaching strategies and instructional technologies

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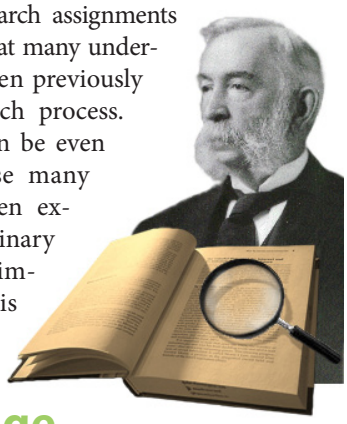
The Issue

The complementary relationship between teaching and research was integral to President Gilman's vision in establishing Johns Hopkins. Great researchers bring new ideas and practices into the classroom for the benefit of students, who can in turn contribute to new discoveries by engaging in the research process. The issue is how faculty implement Gilman's vision in today's university environment. The difficulty of incorporating true research assignments into the classroom is that many undergraduates have not been previously exposed to the research process. Engaging freshmen can be even more difficult because many of them have not been exposed to basic disciplinary knowledge which is important for hypothesis formulation.



The Challenge

Students learn how to research by doing research. This means that faculty must teach not only the material that the course covers, including basic knowledge needed to formulate hypotheses, but also the methodology of research. We have to teach students both what they are looking for and how to look for it. At the same time, faculty must also strike a balance between providing guidance and allowing students to make discoveries to preserve a sense of excitement in searching for something unknown.

Faculty Solution

Courses that require beginning students to perform research must be designed to include components of teaching the basic skills and processes of research. I designed Education in the Media, a freshman-level seminar, as a semester-long research project. While I was constructing the course, I tried to incorporate aspects of research methodology from the very beginning, rather than assigning a research paper that would be due near the end of the semester. This made for a more labor-intensive class, but I had a better sense of how the group was progressing. Since performing research was required from the start, if students had trouble understanding the process, I learned about it immediately.

Since the topic was education and its portrayal in the media, our source of data came from newspapers. Before diving into the data, we first performed background research. I guided the students more closely in this phase, as we read about the current state of media and print journalism, theories about education reform, and the history of education in the U.S. After this initial phase, the students used the LexisNexis database to identify and collect articles on education from 15 different newspapers for a specific three-week time period. The goal of the course was for them to take more initiative in this part of the process. Then we studied that coverage together, empirically.

It has been interesting for me to reflect on how the first and second years of the course progressed. The first year I taught the course, the exact plan for designing the students' projects and analyzing the data unfolded in real time; I helped formulate hypotheses and draw conclusions from the data alongside the students.

During the second implementation, I struggled with how much I should steer the class toward an exploration of certain questions and hypotheses that had been especially fruitful in the previous year's class versus how much should to leave the exploration in their hands. I wavered between presenting a route with fewer dead-ends or permitting a journey of student-led discovery.

Faculty Solution (cont.)

I was able to accelerate the development process of this course when I received a Technology Fellowship grant from the CER. An engineering undergraduate and I developed an interactive, web-based database that helped students create their own dataset from the newspapers they sampled for articles. I could then create a larger dataset of articles nested in newspapers that the students could use for their hypothesis testing and inductive data mining. The technology helped all of us to focus on the substance and excitement of empirical research without spending a semester wrestling with the logistics of how to create and access a dataset.

Results

I've mentioned that I felt a pedagogical tension between a route including fewer dead ends and a more genuine journey of student-led discovery. Success of the course in its second year depended on my eventually realizing the new class should create the research agenda. It was difficult to mute my excitement or biases about certain topics that might influence the class's decisions, but I found that they learned far more by making their own spontaneous mistakes, or discoveries, with as little interference as possible from me. I had to remember that the course was designed to teach research methods as well as sociology; even mistakes or dead ends became opportunities for instruction.

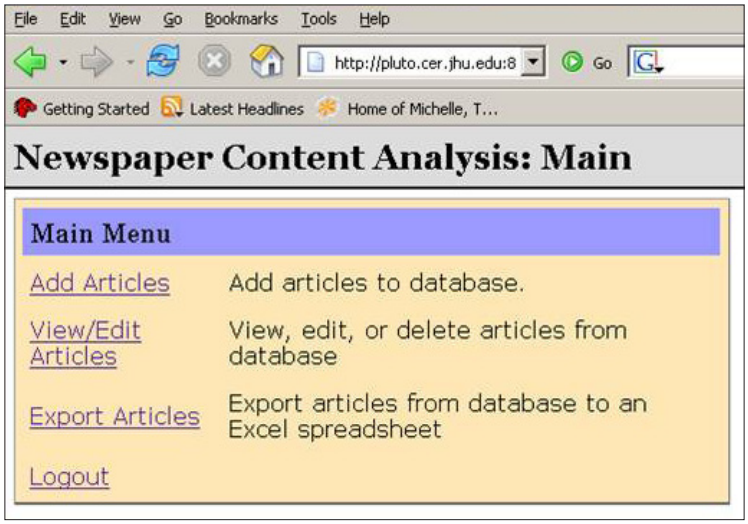
As I think about this freshman seminar I've now taught three times, I'm left with the thought that a course provides a basic framework, like a recipe. You can make the meal over and over again, but to keep things exciting, it's important to add new ingredients to the stew. The course investigated how print newspapers cover education, but it could be revised to explore equally well how new media -blogs, online journals- cover contemporary medical and health issues. I can reuse the basic approach for guiding freshmen to embark on an empirical exercise, but I can also change the topic and form of media they study. Finally, with the web-based database we created, other instructors could also present datasets to undergraduates with fewer logistical troubles.

Other Thoughts

Former students offered these comments on Prof. Plank's approach to embedding research experiences into his undergraduate teaching.

"I took the class my first semester of college and it was the reason I became a sociology major. Education in the Media allowed me to have a greater understanding of the qualitative research process. As a freshman in college I didn't think I would have the opportunity to do my own research, but Education in the Media provided that opportunity. It was extremely interesting to follow a newspaper from another part of the country for 3 weeks, it was also interesting to discuss with other students the issues and topics that were relevant to their newspapers as compared to mine."
-Kaitlin Flynn

"Professor Plank's *Freshman Seminar: Education in the Media* was both an enjoyable and a formative experience. During class sessions, Professor Plank encouraged exchanges that enabled us to formulate our own research agenda and a specific research hypothesis step by step. He guided us as we developed our research methodology, but allowed us plenty of room to find the right questions to ask. Professor Plank's instruction proved to be extremely helpful in my later years at Hopkins as I took higher level classes and had to carry out research projects on my own."
-Joseph Ho



Screenshot of the Database of Articles

Author's Background

Stephen Plank, Department of Sociology

I am an associate professor in sociology. In addition to Education in the Media, I also teach Regression Analysis and Social Organization and Social Control in Schools. I'm also co-director of the Baltimore Education Research Consortium - a partnership of the Baltimore City Public Schools, Johns Hopkins University, Morgan State University, and other civic and community partners.