Research methods for public policy and management: In-class exercises and other forms of active learning

Dahlia Remler

Public policy and public management circles are filled with calls for data and evidence today. Yet many masters' students in these fields find their research and analysis courses irrelevant, as well as difficult. Over twelve years of teaching research methods, I have several core principles and practices that have made the subject compelling and useful to students.

These are the main principles and practices:

- Students should write and speak in words
  - Interpreting results of studies
  - Designing their own (small scale) studies
- Whenever possible, let students pick the application of their assignment
  - For example, a logic model or survey could be on a topic of their choosing
  - This is particularly valuable for students who are currently working
- Always use specific applications—and make them rich ones
- Use active learning

To use these principles, my course makes use of several methods:

(1) For each topic that takes time to master, I give students in-class exercises that involve active learning to be done in small groups (3-4 students). Some concepts, such as multiple causal explanations for a correlation and non-response bias in a survey take significant time to master. Examples included:

- Exercise to help students learn about the idea of multiple explanations of a correlation
- Excerpts from a proposed randomized experiment and accompanying questions to focus on generalizability and causal evidence issues.

(2) Students read, in advance of class, both published research studies and media discussions of published research and informal analysis. Students receive, accompanying the reading, questions to think about. In class, we discuss the reading and questions. Students require a great deal of practice to read and understand research, and even more practice to assess methods and conclusions critically. With all quantitative papers, students practice interpreting particular numbers in table entries in words. Examples included:

- Natural experiment study (Cattaneo *et al*) and accompanying questions
- Multiple, short related media stories to explore coverage bias and non-response bias in survey of physicians about health care reform

(3) Students do out-of-class assignments which require substantial writing and are based on real applications. Whenever possible, students should be given the opportunity to pick their own applications, for two reasons. First, students find the content easiest to master with applications that are familiar. Second, they are motivated to learn the methods by seeing their relevance. Examples included:

- Logic model/mechanism assignment
- Survey design assignment

(4) Students do shorter practice problems that allow mastery of concepts and that can also be used for exams. While these are not as long as the out-of-class assignments, they are still constructed response and based on applications. In contrast to the longer assignments which help students see the relevance of the material, the shorter practice problems provide the multiple opportunities and multiple contexts students need to master key concepts. Included:
- Sample shorter practice problems

Course content: My research methods course is designed to follow and build upon a prior statistics course, although a good share of the content is not quantitative. The structure of the course is divided into description and causal estimation, emphasizing the distinction between descriptive and causal research. However, the principles demonstrated in the materials could be used for a wide variety of research and analysis courses, not just ones structures as my own is. The specific topics covered include: theory and models; qualitative research; measurement; sampling; secondary data; primary data collection; review and application of statistics; multiple regression; causation; observational studies with control variables; randomized experiments; natural and quasi experiments.