The Research Critique Approach to Educating Sociology Students

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In recent years, instructors of methods courses have made a repeated plea in pedagogical journals for teaching students research techniques through “doing” or simulating a real project (Ballard 1987; Cutler 1987; Irish 1987; Ransford and Butler 1982; Stoddart 1987; Takata and Letting 1987; Weiss 1987). Approaches are varied; they include individual, group, or class research projects that generate data for class-specific projects, collect data for external consumption, or use existing data. It is argued that the disembodied knowledge of scientific inquiry presented in the classroom must be supplemented concurrently by an exposure to the actual process of research. Only by making decisions regarding methodology, feasibility, and ethics, as required at various junctures during the research project, can a student appreciate the “art,” as distinguished from the abstract science, of research.

At Rhode Island College, the importance of a research project as a culminating experience has been recognized. As a result, such a project has been incorporated into a capstone course for the undergraduate sociology major—the senior seminar. In that course, students develop an original research project which demonstrates their mastery of classical and contemporary theory, research design, and data analysis—that is, the content of the four core courses preceding the seminar in the curriculum.

Before embarking on full-fledged projects in the senior seminar, however, our students in the preceding methodology courses develop their skills through critiquing research articles and writing research proposals. In this way, they are made aware of the entire range of research strategies; such a goal of breadth would be compromised by focusing initially on a single research question (Lee 1987). Therefore, before gaining practical proficiency in conducting original research, our students acquire the distinctive skills of critical assessment of the existing research.

This paper outlines our method for teaching about research, which is meant to complement students’ subsequent involvement in the research itself. We propose that an understanding of the variety of research methods, of their respective logical and theoretical links, and of the many conditions of feasibility (from financial to ethical) must precede actual field experience (including computer wizardry). Our approach, one can argue, transcends pure classroom exposition of the issues but does not collapse into simple practicum. Below we first describe the “research critique” approach used in our research methods courses. Next we discuss other components of the course in which this approach is used; then we examine briefly the connection of this course with other parts of our curriculum that focus on research. Finally we present some empirical evidence of its validity.

**APPROACH**

Research methods and data analysis courses typically are treated as if they are entirely different elements in the curriculum from courses on theory or on substantive areas such as the family, crime and criminal justice, or aging. Not only is the anxiety level in the latter likely to be less for both faculty and students, but also, the degree of integration with other material in the major and with the organizing principles of instruction is likely to be greater. Courses on theoretical or substantive issues convey the corpus of knowledge of the discipline with major concepts illustrated through classical works or through application of a sociological perspective to students’ everyday lives. The concept of a norm, for instance, may be explained with reference to the work of Sumner (1906) and/or by asking students to identify the norms governing a party they have attended. In contrast, courses in research methods (and data analysis) are more akin to mathematics courses; they concentrate on transmitting skills rather than conveying knowledge. Virtually no current readers for students are available, so students have little opportunity to consider how sociologists have used these skills in their research or to relate the skills to...
knowledge acquired in other courses. Conducting a research project to apply skills is not parallel to interpreting the commonplace through a sociologist's eyes because research itself is an unfamiliar activity for most students, remote from their ordinary world.

Therefore the challenges in research design courses are to forge the link between the skills developed in those courses and the knowledge acquired from the rest of the curriculum and to allow students to apply their skills in a way that is not being distractingly artificial. To accomplish these goals, weekly analyses of sociological research articles and a final project consisting of a research proposal have proved effective. In reading articles that report results of original research, students focus on the mechanisms of transition from hypothesis through data to knowledge acceptable in the scientific community. The critical part of this enterprise is to divert attention from principal findings to the process by which they were derived. In the second stage, the research proposal requires students to assemble all the separate pieces in pursuing a research interest of their own.

ANALYSES OF RESEARCH ARTICLES

Lazarsfeld and his colleagues began a tradition of illustrating methodology through reference to actual research (Lazarsfeld, Pasanella, and Rosenberg 1972; Lazarsfeld and Rosenberg 1955), which subsequently fell into disuse. Apart from these seminal works, which focus mainly on operationalization, the philosophy of the social sciences, and data analysis, it would seem that the idea of a reader in research methods has not dovetailed with the current how-to orientation to teaching methodology. As a result, the instructor essentially must assemble his or her own reader before each semester. The advantages of this situation are first, that the articles can be replaced easily as new research reports are being published, and, secondly that the substantive fields from which the articles are selected can be tailored to the major interests of the students in the class. It is nearly impossible to find articles that would match perfectly the textbook models of a research design. Babbie (1989, p.54), for instance, cites a content analysis of publications in the American Sociological Review which found that only 24.5 percent of the articles involved the testing of theoretically derived hypotheses. Even so, the discrepancies between the actual procedures and the ideal model of research sensitize students to the fact that methodology is basically about the logic of scientific research, not merely a cookbook of handy formulas for solving problems.

Finally we choose articles so that each one exemplifies a different aspect of the research process—for example, operationalization, sampling, or type of research design. A set of questions that accompanies the article directs students' attention to the primary learning objective of that particular exercise.

One could ask why the students themselves should not be directed to find an article of interest and dissect it in search of relevant illustration. Beside certain practical difficulties (for instance, our library does not allow journals to be taken out), the main problem appears to be the lack of discernment in an audience which is, by definition, new to the field of research. The danger is not so much that a student will pick a dud which managed to slip through the review process as that the novice will choose a work far exceeding the threshold of comprehensibility at the introductory level.

In short, the two criteria for selecting articles are that they emphasize a certain stage of a research procedure and that they not be so esoteric as to be inaccessible to the student. Fulfillment of these conditions will not always allow selection of research pieces renowned for excellence—the "classics" in the field. This is not necessarily a deficiency in the method or even a pedagogical compromise. Exposing students to research diverse in scope and uneven in quality prepares them for the existing variety of approaches and levels of sophistication; even more important, it may help develop their critical abilities because comparisons enhance discernment.

To most students, the illustrative purpose of the assigned article will not be self-evident on first reading. Because the concepts and skills conveyed in the course frequently are entirely new to the student, a set of questions devised by the instructor on a handout are important for guiding the students in their analysis rather than simply asking them to critique a published work. Furthermore because of the unfamiliarity of the subject, it is essential to discuss the exercise before evaluating the writ-
ten segment. Usually four questions are sufficient to generate a discussion lasting 45 minutes to an hour. Most students find that they need to prepare in advance in order to follow class discussion and must participate in discussion so as to be able to complete the written work. The exercises therefore engage the students fully in the class.

The instructor's role in this process often is determined by the way the research is presented in the article. The class discussion consistently reveals the elliptic quality of the reporting of research, a situation which creates confusion in the uninitiated audience. In effect the instructor must fill in the gaps left by the author or authors, skipping over what is considered obvious or elementary, and must provide explanations for the specific and less than obvious terminology. The result is the demystification of research products which often are perceived as the trivial wrapped in the obscure. We have found that in teaching our other courses, apart from research methods, we consequently have become more aware of the jargon that we expect students to digest without having the expertise to make sense of it. (The appendix presents a few examples of articles used in the most recent offering of the research methods course, along with related exercise questions.)

At the midsemester point, we give students an article to critique in which they must analyze all of the elements covered thus far in the semester. The students submit first drafts of the critique; the instructors provide comments; then the students write final versions. This critique is intended to enable students to synthesize the material of the preceding weeks in preparation for the research proposal.

THE RESEARCH PROPOSAL

After the midpoint of the semester, while continuing to submit weekly critiques, students begin to develop a research proposal in which they stipulate a research problem, review three related research articles, formulate a hypothesis, operationalize variables, select a sample, choose an appropriate research design, and consider issues of feasibility and ethical concerns. In this way they combine the skills they have acquired each week by critiquing the research articles. Model proposals of students from previous classes are kept on reserve in the library for guidance.

We encourage students to select a topic of particular interest to themselves. Thus one student focused on gender differences in public rituals, based upon her observations at Dunkin' Donuts. Another investigated the relationship between the quality and scope of nursing home residents' social interaction and their morale, stemming from her experiences while working in an institution. Because the project is a proposal rather than a fully implemented research study, students can be more ambitious and more creative than they might be otherwise. Nevertheless they have an incentive for developing feasible projects because the research proposal can become the basis of the research project carried out in the senior seminar.

Because the course is limited to 25 students, the instructor can assume the role of advisor and tutor through a personal involvement in a project that is much more rewarding than acting as a dispenser of knowledge ex cathedra. Moreover all students are required to submit a first draft of their proposal three-quarters of the way through the semester. The instructor provides considerable feedback on the draft proposal. This two-stage process entails substantial work for the instructor but leads to a final product that is usually a vast improvement over the original.

OVERALL STRUCTURE OF THE COURSE

The introductory research design class is organized so that each week is devoted to a particular aspect of the research process (such as sampling), examined through a textbook chapter on the particular issue, a similarly focused critique of a research article, a brief lecture with numerous illustrations, and research miniprojects carried out in class or for extra credit. In a typical week, the first of the two class periods is spent largely in discussing the research article critique assigned the preceding week; the discussion is led by two students. This is followed by a short exposition of one or two of the pertinent concepts of the week's topic (and is covered in the assigned reading for the week).

During the second class period, lectures are interspersed with in-class group work. To illustrate the elements of a classical experiment, for
instance, we might conduct an experiment involving chocolate chip cookies, in which the experimental group is exposed to a different type of chocolate chip in the posttest. Similar devices are incorporated into each week of the semester to show that even relatively simple projects require precise conceptualization and rigorous execution. Class time is not allotted for students to work on their research proposals, but some classroom projects, such as a library scavenger hunt (when we discuss unobtrusive data collection procedures) are invariably helpful in that regard.

CONNECTION WITH OTHER PARTS OF THE CURRICULUM

Understanding of the research process acquired in the preliminary methods course is reinforced in the data analysis course, the upper-level substantive courses, and the senior seminar course that follows. The research design course is a watershed, weaning students away from textbooks on sociology and introducing them to the original works in the field. Furthermore the research proposal judges them along the path of pursuing their own ideas rather than simply summarizing ideas corroborated empirically by others.

ASSESSMENT OF STUDENT LEARNING OUTCOMES

In addition to students' high evaluations of teaching in the research methods courses and enthusiastic informal responses, other evidence suggests that the content and the sequence of our activities are effective.

First we examined the correlations between points received on weekly critiques of research articles and the two major integrating projects of the course. To reiterate, students are required at midsemester to write a research article critique that centers on the dimensions of the research process covered in the preceding seven weeks. (This critique is not discussed in class before it is submitted.) At the end of the semester, the students prepare a research proposal. Correlation between the total points received on all critiques handed in during the first part of the semester and on the midsemester critique was .66 (P=.000). The correlation between total points received on the critiques and on the research proposal was .40 (p=.052). We believe the correlations would have been higher if we had been able to disaggregate extra-credit points (received for carrying out parts of mini research projects) from the total points awarded for each critique exercise. Students chose to do the extra-credit portion of their assignments if their scores were below average on the critiques; thus the assignment of point totals were leveled somewhat. Interestingly, students' scores on the extra-credit miniprojects were more homogeneous than those on the exercises, perhaps a sign that the latter differentiated comprehension levels more clearly.

A second source of evidence comes from a department wide project funded through FIPSE (Fund for the Improvement of Postsecondary Education) to investigate the link between rewards for good teaching and improved performance by students. One of the methods used to determine whether incentives were related to increased learning was a departmentally designed primary-trait scoring of research proposals written in the research methods class and of the research projects carried out in senior seminar. The two papers, gathered from each sociology major, were evaluated separately (and later were compared) in terms of 1) overall organization, 2) quality of citations, 3) use of language, 4) conceptualization of research design, and 5) plan for implementation of research design. A scale for scoring the sets of papers was developed, and high levels of interscorer reliability prevailed between the two faculty scorers. Scoring procedures then were reviewed by external consultants.

The results show statistically significant differences in scores between the research proposal (written in the research methods class) and the research project (prepared for the senior seminar). The greatest improvement occurred in research conceptualization and research design. (A fuller analysis of these results is provided in Jackson et al. [forthcoming].)

We interpret these preliminary findings as suggesting that the research methods course described here provides a solid foundation for the cumulative learning that follows. Although we cannot fully explain why improvement should occur, it seems clear that students not only retain what they learned in the research design course but also can integrate their skills...
with those acquired in their subsequent courses and can achieve further growth.

APPENDIX

Below are some examples of articles used in the introductory research design course, along with corresponding questions for the assignment.

1. Charles M. Shelton and Dan P. McAdams (1990): "In Search of Everyday Morality: The Development of a Measure." This article presents results of the administration of this scale to high school students and examines relationships between scores on morality and political orientation, empathy, and gender. The questions composing the scale are included in the appendix of the article and are divided into three subscales: private morality, interpersonal morality, and social morality.

   The article is used to demonstrate operationalization. Students are asked to compute their score on the morality scale and to compare themselves to other persons of their gender, for whom mean scores are presented in a table. In doing so they must glean from the article the Likert scale with which to respond to the statements of the scale, the direction of scoring (i.e., whether higher scores correlate with stronger agreement with the statement), and how to deal with statements in a negative direction. They also must be able to identify the correct table to be used in the comparison.

   Other questions on this exercise require students to tease out the remaining variables in the article with which morality scores are correlated (empathy, political orientation, and gender) and to discuss their operationalization where appropriate. Students are encouraged to consider the validity and reliability of the scales used to measure the elusive concepts in this study and to assess the authors' claim that their measures provide a superior alternative to Kohlberg's (1975) theory of morality.

2. Joel Brockner (1990): "Scope of Justice in the Workplace: How Survivors React to Co-Workers Layoffs." This article presents the findings of both field research and a laboratory experiment which explore the influence of unfair layoffs and the inclusion of the layoff victims in the co-workers' scope of justice regarding the "survivors" behavior and attitude in the workplace. The piece is used mainly to demonstrate the process of conducting experiments.

   The exercise asks students to identify the two independent variables in the laboratory experiment (caretaking provided by the employer in the layoff and scope of justice), to describe how these variables are manipulated in the experiment, and to list the six possible combinations of the two independent variables investigated (high inclusion in scope of justice with low-caretaking layoff; high inclusion with high-caretaking layoff; high inclusion with no layoff; all three layoff conditions repeated with low inclusion in scope of justice). Students are also required to discuss the operationalization of the dependent variable—survivor behavior—and to determine whether both a pretest and a posttest were used. In classroom discussion, we consider whether this experiment meets all of the conditions of the classical experiment.

   The students also are asked to assess which sources of internal invalidity (as laid out in class and in their textbook) would be most likely to affect this experiment and which ones would be least likely to pose a problem. Students are instructed by an exercise question to compare the laboratory experiment with the field research conducted by the author and to explain why the author asserts that the laboratory experiment was more valid than the field research. In a final question students are asked to consider how the laboratory situation might misrepresent the actual operation of these variables in the real world.

3. L.A.M. Van De Goor, R.A. Knibbe, and M.J. Drop (1990): "Adolescent Drinking Behavior: An Observational Study of the Influence of Situational Factors on Adolescent Drinking Rates." This Dutch study collected data on drinking rates, individual characteristics, drinking group variables, and aspects of adolescents' overall drinking situation, and presented differences between boys and girls with respect to variables influencing their drinking rates. The exercise questions direct students to ponder why field research is more appropriate for the objectives of this study than survey methods or an experiment, and particularly, how the Hawthorne effect could come into play. Students are asked to specify the researcher's role in the project (complete participant, participant as observer, observer as participant, or complete observer) and to enumerate the advantages and disadvantages of adopting this role. Finally the exercise asks why reliability might be a problem in an observational study of this kind and requires students to describe how researchers dealt with the issue.

4. Irene Padavic and Barbara F. Reskin (1990): "Men's Behavior and Women's Interest in Blue-Collar Jobs." This paper examines men's reactions of hostility, sexual harassment, paternalism, and functional differentiation to women temporarily filling plant jobs and discusses the subsequent effects of male behavior on women's interest in transferring to plant jobs. The article is used to illustrate the complexities of causation. The exercise questions help students to recognize that although the study uncovered pervasive adverse male reactions and widespread resistance among females to adopting their temporary jobs, the two factors were found not to be related causally. The implications of this finding are outlined in a series of statements that students must identify as true or false (e.g., "Wo-
men in this study who wanted blue-collar jobs were the ones who did not experience sexual harassment” —False).

REFERENCES


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