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Daniel J. Palazzolo

University of Richmond, dpalazzo@richmond.edu

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Research Methods

by Daniel J. Palazzolo

An undergraduate course on research methods and analysis is fertile ground for service-learning in political science. Research methods courses teach students a variety of data-collection and analysis methods, and many community service agencies and nonprofit organizations typically benefit from research on how their services are provided and how such services can be improved. This essay illustrates how undergraduate students can use survey design techniques to help community service organizations collect data on program effectiveness and program development.

My undergraduate course in political science, *Introduction to Research Methods and Analysis* [its syllabus follows on pp. 115-118], introduces students to the fundamental tenets of political behavioralism and the basic aspects of the research process. The course is structured by the stages of the social scientific research process. Students learn how to define a research problem, how to formulate hypotheses, how to conceptualize and measure variables, and how to collect and analyze data using a variety of methods. I have concentrated on survey design for collecting quantitative data and participant-observation and interviewing for collecting qualitative information.

The service-learning project has the potential to meet several minimal course expectations, including mastering the basic elements of survey design, improving computer skills, and developing oral, written, and group communication skills. At a more ambitious level, I want the students to learn to appreciate research as both an intellectual exercise and an applied skill that can produce real consequences. In the social sciences, we do research because we want to explain the way people behave and also because we want to contribute to a dialogue about how to better the world in which we live.

The course assignments are meant to correspond with the objectives and expectations. The best way for students to learn research methods and analysis is to experience the research process. Students are required to complete six or seven projects (one of which is a group project) that apply the research and analysis techniques they are expected to learn. The students also make at least one oral presentation and take a final examination that asks them to reflect on the value of social scientific research based on their experiences in the course.

How can service-learning assignments help to achieve the course objectives and expectations of a research methods and analysis course? I had taught the course several times since 1990, but I had never tied it to a

service-learning project until Spring 1995. It seemed to me that the course objectives and expectations were already being met — even before I assigned service-learning projects. But the service-learning projects certainly offered the potential for enhancing the class' capacity to attain the course objectives and expectations in several ways.

For the service-learning project, which I will describe in more detail below, students working in groups designed surveys for community service organizations, collected and analyzed the data, and wrote a paper on the survey design process and the results. In essence, the students were able to apply what they learned about survey design and help an organization that would benefit from the skills they could provide. Thus, the service-learning project enabled the students to learn as much as previous students had about group work and survey design. But, unlike other students who had taken the course before the Spring 1995 semester, these students experienced how a practical application of research methods could have real consequences for people and the programs that served them.

I am convinced that a general introduction to survey design is the best way to instruct students about the various aspects of the research process. Survey design requires thinking deductively about how to define a research problem; formulate hypotheses; and conceptualize, operationalize, and measure variables. I assign a book that covers the basic issues in survey design, and we cover the material in class.¹ Then the students construct the questions and the order of the questionnaire; they consider how to select a sample and how to administer the survey; and they enter and analyze the data produced by the survey.

Prior to the Spring 1995 semester, the class typically designed a survey on political attitudes and administered it to the student body at the university. But there is no reason why the techniques of survey design could not be used for other purposes. Indeed, with more at stake in terms of providing valid and reliable results to the service organizations, students might take the job even more seriously.

Though I had attended a service-learning workshop at the University of Richmond in 1992 and had directed numerous internships over the years, I had never attempted to assign a community service project in any course. I had always been intrigued with the idea, but worried about how it would work in practice. With a “nothing ventured, nothing gained” attitude and with the belief that a community service project might enhance the prospects of meeting the course objectives, I was encouraged by our Learning in Community Settings (LINCS) office to experiment. LINCS is designed to assist faculty in the process of incorporating service-learning projects into courses. With the advice and assistance of LINCS, I was able to find numerous organizations that were interested in having students do

research for them, several of which wanted some kind of survey.

I selected four organizations that requested assistance on designing and implementing relatively short surveys to be distributed to fairly small target populations. The four organizations were Big Brothers and Big Sisters, the Capital Area Agency on Aging, the Chesterfield/Colonial Heights Department of Social Services, and the Virginia Poverty Law Center. While all of the organizations sought to ascertain information about the programs they provided, they had a diverse set of needs, both in terms of the questions they wished to ask and the type of survey they wanted to design.

Each organization was assigned to a group consisting of five students, including a group leader. While I tried to achieve gender equity, the most important selection criterion for creating the groups was the students' academic and extracurricular schedules. Group work requires students to meet outside of class, and for this project the students had to be able to travel off campus to meet with the program director of their organization. So, it was very important for them to have compatible work schedules.

After we spent a few weeks on survey design, the student groups were asked to complete the following schedule:

- I. Meet with the program director of the organization and ascertain information on the following topics: (1) objectives of the survey, (2) sampling frame, and (3) a list of items (variables) to be included in the survey.*
- II. Meet with the instructor to discuss the interview with the program director and divide the workload for drafting survey questions.*
- III. Draft survey questions and arrange the order of the questions.*
- IV. Meet with the instructor to review the questionnaire.*
- V. Practice interviews with one another and check for validity.*
- VI. Present questionnaire to the class for review and critique.*
- VII. Clear the final survey with the program director.*
- VIII. Implement the survey and keep a record of phone numbers, nonresponse problems, unusual experiences.*
- IX. Enter the data (if applicable).*
- X. Write a report on the survey experience and the results of the survey to be presented to the program director and the instructor.*

With one exception, the groups were able to complete this schedule in about one month.² Most of the work was done outside of class, so in class we were able to cover other topics while the survey project was under way.

From a traditional standpoint, it is difficult to assess the value of service-learning projects because it is impossible to oversee every aspect of the project. Group projects are even more difficult to evaluate because it is often unclear which individuals are responsible for the outcomes of the project. Nevertheless, in this case, several instruments were available for

evaluating the service-learning projects: my general impressions, student evaluations of the project, and the final papers the groups wrote on their experiences. Before we evaluate the projects along these three dimensions, two caveats need to be addressed, both of which I brought to the attention of the program directors of the four service organizations.

First, it was important for the program directors to realize the limitations of the students' expertise in the area of survey research. I informed all of the program directors that the students would construct a good survey under my supervision, and that they could expect useful information about their respective programs. The results would be helpful in forming impressions about the program, and in some cases the data might suggest program changes. But I warned the program directors both before and after the surveys were completed against generalizing too much from the survey results and relying on them to legitimize policy change.

Second, it is important to bear in mind that the service-learning project was one of six research projects the students were required to complete for the semester. The course amounts to three academic hours, and unlike an internship or an independent study that might involve community service, the service-learning project for the course did not give students extra academic credit. Consequently, the value of having the students do a community service project, and do it well, had to be reconciled with the realistic time constraints posed by meeting other course objectives during the semester. The fact that it was a group project helped to spread the workload.

Nevertheless, the project had to be completed in a reasonable amount of time, since the grade for the project constituted just 10 percent of the overall course grade. This meant that the surveys would be relatively short, and the administrative time in implementing each survey had to be reasonable. We could not, for example, be expected to collect data on 200 or 300 variables for a sample size of 1,500. Fortunately, we knew in advance that the survey projects probably would not pose unreasonable time demands on the students.

My impressions of the projects were based on my observations of how each group was doing, my conversations with the group leaders and the program directors of the organizations, and voluntary comments students made about each group's work. With the exception of one group, the projects seemed to go well from the standpoint of group cooperation and the implementation of the project schedule. The group leaders were satisfied with the other students' work, and the leaders in turn were complimented by their colleagues in the group. The program directors were also generally satisfied with the process.

With a few exceptions, the program directors were also generally receptive to the two caveats I mentioned above. One program director bemoaned

the fact that the students could not devote more of their time to the project, but the other three were content with the arrangement. Two of the four program directors wanted to use the results more aggressively as a means of advocating for their programs. We tried to reach an informal agreement about how to use the information from the survey, but I am not sure how convinced they were by my concerns about the validity and reliability of the data.

A second assessment instrument that helped to evaluate the service-learning project was a LINC'S survey of the students that addressed questions concerning how the project related to the course. For example, one question was "What is the most important thing that you learned from your service experience?" Eighteen of the 19 responses could be classified into the following three categories:

1. Learned more about survey design and the problems associated with it (12 students made comments in this category).

2. Became more aware of the city of Richmond (four students made comments in this category).

3. Improved group interaction or communication skills (two students made comments in this category).

Another question was "Did your experiences help you to gain a better insight into the material and concepts of this course?" Fifteen of 19 students made positive remarks about how the project helped them to apply survey research. The other four thought the project helped only "a little" or "to some extent."

One of the interesting findings from the student survey was that the comments varied with the different groups and the organizations they worked for. For example, three of the four lukewarm comments to the second evaluation question about whether the "experiences helped you to gain a better insight into the material" came from students in the same group — the group that had a difficult time working with the organization and program director. This group had a difficult time scheduling meetings with the program director, and because of two irresponsible students, the group's internal cooperation suffered. This group's survey was finished later than the other three, and they did not even have time to implement the survey.

But it is also worth noting that the students from only one of the groups suggested that the project met the expectation that the course should make students aware that research has consequences for real people. Not surprisingly, this group did a study of check-cashing policies of stores and banks in poor neighborhoods. Their sense of efficacy was derived from the fact that they believed their survey had uncovered unfairness on the part of check cashers.

In sum, the student evaluations suggested that the service-learning project generally helped students to learn more about the problems and possibilities of survey design. The ultimate aim of realizing that research has consequences produced less encouraging results.

Finally, the written reports were another source of evaluation for the project. The assignment called for the report to contain information about the sample and sampling procedures, sources of error, the interviewing process, the interviewers themselves; a statement of nonresponse problems; a section on reliability and validity (about the pretesting questions, or problems that occurred in the data-collection process); and findings taken from the data.

Three of the four papers covered all of these areas and made very good observations about problems associated with survey design and administration of the survey instrument. The papers clearly illustrated that the students had benefited from the experience. Two papers reported findings that the organizations might use to evaluate their programs.

Certainly, a course in research methods and analysis offers the potential for conducting service-learning projects. This essay has indicated how survey design might be used in service-learning projects with reasonably encouraging results. Nearly all the students seemed to enhance their understanding of the problems and prospects for survey design by conducting surveys for community service organizations. Fewer students actually came away from the project with a strong sense that their research would influence the organization's programs. Meanwhile, some of the organizations were more satisfied than others in terms of how much they gained from the survey.

Notes

1. Floyd Fowler, Jr., *Survey Research Methods*, 2nd ed. (Newbury Park, CA: Sage Publications, 1993).
2. This group had a difficult time making an appointment with the program director, so their schedule lagged behind the other three groups.

Professor Palazzolo

Political Science 371: Research methods and Analysis
Spring 1995

Course Objectives: An introduction to the research process, including: hypothesis formulation, research design, and various methods political scientists use to collect and analyze political data. We shall construct an original survey for a local service organization and we shall analyze survey data and statistics on members of Congress.

Readings: Ethridge, Marcus, The Political Research Experience (2nd ed)
Fowler, Floyd Jr., Survey Research Methods (2nd edition)
Congressional Database
LIBRARY RESERVE

Assignments, Expectations, and Grading: This course has a demanding workload, including six projects, several quizzes, and a final examination. The projects involve research and analytic tasks, and the results will be reported in typewritten papers. I will distribute an assignment sheet specifying the tasks for each project well in advance of the due date. Students are expected to be prepared for class on a daily basis. There will be several "semi-pop" quizzes-- I will tell you on the day before a quiz **might** be given, and you should prepare accordingly.

I do not grade on a curve, each student is evaluated on his or her own effort and progress. A ten point scale with letter grades from "A" to "F," including pluses and minuses, will be applied for each assignment as well as the final course grade. A grade in the A range (100-90) is "excellent," B (89-80) "good", C (79-70) "average," D (69-60) "below average," and F (59 or below) "failing."

Due Dates and Grade Distribution for Assignments:

January 27	Project One: News Analysis (10%)
February 22	Project Two: Report on Observation of General Assembly (10%)
March 6	Project Three: Group Project on Survey Design (10%)
March 24	Project Four: Univariate Analysis (10%)
April 7	Project Five: Bivariate Analysis (10%)
April 17-21	Oral Presentation (5%)
April 21	Project Six: Multivariate Analysis (10%)
April 29	Final Examination: 9-12 (15%)
	Semi-Pop Quizzes (10%)
	Class Preparation and Participation (10%)

Attendance: Although attendance is only **mandatory** on days when quizzes and exams are given and when projects are due, studies find that students who regularly attend class earn higher grades on average than those who do not. Since my experience is consistent with this general finding, student attendance is considered in the 10% preparation and participation component of the final course grade. To prepare for class, pay attention to my

announcement in class and complete the assigned readings before Monday of each week, as indicated in the course schedule below.

Late Policy: Projects are due at the beginning of class on the dates clearly marked on the syllabus and assignment sheets. Any project that arrives after the time and date specified on the assignment sheet will suffer a **full grade deduction** per day. Any project submitted 72 hours, or more after the time specified on the assignment sheet will receive a failing grade. Having said that, keep in mind that I am quite flexible in cases of emergency. Please contact me if special circumstances prevent you from completing class work on time. Emergencies, however, do not include: weekend trips, social engagements, extracurricular activities, sleeping late, or the infamous "work overdose" syndrome.

Office Hours: I am available for consultation in my office located on the top floor of the PS/MS building on Wednesday and Friday from 1:30 PM to 3:00PM. I am also available by appointment which can be arranged either after class, or by telephoning me at (home) 282-7575 or (office) 289-8973. If I do not answer, please leave a message at either number and I will return your call as soon as possible. **My only restriction on calling at home is that you do so before 8:00 pm, by then my daughter Sarah should be sound asleep.**

COURSE SCHEDULE

Week of January 11 **Introduction**

Readings: Ethridge, Chapter 1: *A Science of Politics* (pp. 1-17)

Week of January 16 **Doing Before Knowing and Hypothesis Formulation**

Readings: Schlozman, Kay Lehman, Nancy Burns, and Sidney Verba, "Gender and the Pathways to Participation: The Role of Resources," Journal of Politics (1994), pp. 963-90 (LIBRARY RESERVE)

Week of January 23 **Conceptualization and Measurement**

Readings: Ethridge, Chapter 2: *Measurement and Operationalization I: Variables Pertaining to Aggregate Units* and **Excerpt 1** Thomas R. Dye, "Taxing, Spending, and Economic Growth in the States" (pp. 18-38)

Ethridge, Chapter 3: *Measurement and Operationalization II: Variables Pertaining to Individual Behavior* and **Excerpt 3** Lyn Ragsdale and Jerrold G. Rusk, "Who are Nonvoters: Profiles from 1990 Senate Elections" (pp.57-81)

Squire, Peverill, "Challenger Quality and Voting Behavior in the U.S. Senate Elections," Legislative Studies Quarterly, May 1992, pp. 247-64 (LIBRARY RESERVE)

*****January 27 Project One (News Analysis) is Due**

Week of January 30 **Survey Design I**

Readings: Ethridge, Chapter 7: *Surveys* (pp.177-85)

Ethridge, Chapter 6: *Sampling* (pp. 156-64)

Fowler, Survey Research Methods, Chapters 1-4

Week of February 6 **Survey Design II**

Readings: Fowler, Survey Research Methods, Chapters 5-11

Week of February 13 **Survey Construction and Observation of Assembly**

Readings: Rosenthal, Alan, "Soaking, Poking, and Just Wallowing In It," PS (1986), pp. 845-50 (LIBRARY RESERVE)

Week of February 20 **Research Design and Survey Group Presentations**

Readings: Ethridge, Chapter 5: *The Logic of Research Design: Experimental and Quasi-Experimental* and **Excerpt 7** Roy E. Miller and Dorothy L. Robyn, "A Field Experimental Study of Direct Mail in a Congressional Primary Campaign: What Effects Last Until Election Day?" (pp.117-37)

*****February 22 Project Two (Report on General Assembly) is Due**

Week of February 27 **Univariate Analysis and Indexing**

Readings: Ethridge, Chapter 11: *Univariate Analysis: Statistics of a Single Variable* and **Excerpt 16** Fred I. Greenstein, "The Benevolent Leader Revisited: Children's Images of Political Leaders in Three Democracies" (pp.301-322)

Ethridge, Chapter 4: *Indexing* and **Excerpt 5** Jack Walker, "The Diffusion of Innovations among the American States," and **Excerpt 6** Robert L. Savage, "Policy Innovations as a Trait of the American States" (pp. 93-116)

Week of March 6 **Meet in Computer Lab (Jepson G-21)**

*****March 6 Project Three (Group Project) is Due**

Week of March 13 **Spring Break**

Week of March 20 **Bivariate Analysis I: Crosstabs and Chi-Square**

Readings: Dometrius, Nelson C., Chapter 13: "Contingency Tables (CROSSTABS) and the Chi-Square Test" (LIBRARY RESERVE)

"Voting Behavior" (LIBRARY RESERVE)

*****March 24 Project Four (Univariate Analysis) is Due**

Week of March 27 **Bivariate II: Strength and significance**

Readings: Dometrius, Chapter 14: "Contingency Tables (CROSSTABS) and Measures of Association" (LIBRARY RESERVE)

Ethridge, Chapter 12: *Bivariate Analysis* and **Excerpt 17** Edward R. Tufte, "The Relationship between Seats and Votes in Two-Party Systems" (pp.323-35)

*****We Will Meet in the Computer Lab on March 27, 29, and 31 (Jepson G-21)**

Week of April 3 **Control Variables and Multivariate Analysis**

Readings: Dometrius, Chapter 15: "Control and Elaboration" (LIBRARY RESERVE)

Ehtridge, Chapter 13: *Multivariate Analysis: Statistics of More than Two Variables* and **Excerpt 18** Thomas R. Dye, "Taxing, Spending, and Economic Growth in the American States" (pp. 336-49)

*****April 7 Project Five (Bivariate Analysis) is Due**

Week of April 10 **Rethinking the Scientific Approach**

Readings: Ehtridge, Chapter 14: *Scientific Principles in Political Study: Some Enduring Controversies* (pp.380-392)

Almond, Gabriel, "Separate Tables: Schools and Sects in Political Science," *Public Affairs*, pp.828-841 (LIBRARY RESERVE)

Fenno, Richard Jr., "Watching Dan Quayle: Problems in Participant Observation," *Public Affairs*, pp. 1-10 (LIBRARY RESERVE)

Week of April 17 **Oral Reports**

*****April 21 Project Six (Multivariate Analysis) is Due**

April 24 **Conclusion**

April 29 **Final Examination (9-12)**