# Learning by doing: group projects in research methods classes*

By: Monica A. Longmore, Dana Dunn, and Glen R. Jarboe

## Abstract:

In this paper we describe an approach to teaching research methods that involves student group projects.1 Many authors acknowledge the merits of group or collaborative learning at the college level (Bouton and Garth 1983; Bruffee 1984; Helmericks 1993; Hilligoss 1992; Hylton and Allen 1993; Ingalsbee 1992; Katz and Henry 1988; King 1990; McKinney and Graham-Buxton 1992; NIE 1983; Rau and Heyl 1990; Taub 1991; Whipple 1987). The literature suggests that group learning requires careful planning and implementation; yet strategies to support this form of learning have not received sufficient attention (Atwater 1991; Hayes 1989). Our purpose is to describe the rewards of using group research projects and to discuss some ways of coordinating, organizing, and evaluating the projects.

**Keywords:** Research methods | sociology | group research | group projects

## Article:

In this paper we describe an approach to teaching research methods that involves student group projects.[1] Many authors acknowledge the merits of group or collaborative learning at the college level (Bouton and Garth 1983; Bruffee 1984; Helmericks 1993; Hilligoss 1992; Hylton and Allen 1993; Ingalsbee 1992; Katz and Henry 1988; King 1990; McKinney and Graham-Buxton 1992; NIE 1983; Rau and Heyl 1990; Taub 1991; Whipple 1987). The literature suggests that group learning requires careful planning and implementation; yet strategies to support this form of learning have not received sufficient attention (Atwater 1991; Hayes 1989). Our purpose is to describe the rewards of using group research projects and to discuss some ways of coordinating, organizing, and evaluating the projects.

### The Context: Class Size and Group Learning

Unfortunately, class sizes at many colleges and universities today have grown far beyond the optimum for effective instruction. Large classes overburden instructors and often require changes in course format, such as limiting class discussions and reducing the number of assignments. Such changes in format alienate students and deprive them of learning opportunities (Billson

1986; McKinney and Graham-Buxton 1992; Scheff 1992). We have found that group projects can help solve pedagogical problems associated with teaching large sections of research methods.[2]

An informal survey of colleagues who teach research methods at other universities indicates that large class sections are not unusual. At most colleges and universities, research methods is a required course for sociology majors (Schutt, Wagenaar, and Mulvey 1987) and a suggested prerequisite for social statistics. The resulting demand for the course makes it difficult to place a cap on class size. Large class size is problematic for research methods courses because much of the material is applied and is especially well suited to experiential learning and small-group discussion. A survey sponsored by the American Sociological Association's Teaching Resources Center found that most instructors in research methods prefer to use student projects as a teaching tool, although many instructors feel that class projects require too much work and are too difficulo coordinate and organize (Schutt, Orenstein, and Wagenaar 1987). Large class size exacerbates difficulties associated with coordinating, organizing, and evaluating research projects.

Pragmatically, assigning group research projects can enhance instruction in large classes. First, group projects produce fewer research papers to grade. Ultimately the students benefit from these projects because the instructor can spend more time on each paper and can require multiple revisions. Second, group projects are useful when large class size results in a shortage of computers for the students. These pragmatic features are beneficial, but they are not the primary advantage to instructors with large classes.

More important, collaborative learning through group research projects may reduce students' feelings of isolation and alienation (Hilligoss 1992). Cooperative learning and information sharing among students are important particularly when large class size inhibits participation and students' discussions, and limits the amount of individual attention the instructor can provide to each student. Students' common experiences, vocabulary, and perspectives are conducive to effective communication in collaborative learning groups (Billson 1986), and students' comfort with peers reduces their inhibitions about asking questions of fellow group members. Students often rate the material in research methods courses as more difficult than in other courses in their major area (Judkins and Hand 1994). Consequently peer communication and information sharing in project groups are valuable supplements to other forms of instruction, such as lectures.

**Overview of the Group Research Project**

We require student groups to conduct an entire survey research project from the proposal to the final report. Briefly, the steps include problem recognition, literature review, problem definition, creation of the research design, choice of research method, selection of the sampling procedure, collection of the data, analysis of the data, and preparation and writing of the report. In our classes we emphasize survey research projects because this is the primary methodology used by sociologists (Singleton, Straits, and Straits 1993; Schutt, Wagenaar, and Mulvey 1987). The group approach, however, can be used for various other quantitative and qualitative research projects. (See, for example, Lofland and Lofland 1984 and Shaffir, Marshall, and Haas 1980 for discussions of group field research projects.) The group project involves a series of steps that begins with the identification of a research problem and ends with a final report containing findings, conclusions, and recommendations. Textbooks and lecture materials typically address

these steps of the research process (see Judkins and Hand 1994 for a review of research methods textbooks that generally follow these steps), so the students' projects can follow the normal progression of the course.

Students are responsible for their projects. We view the instructor's role as one of advisor and evaluator-answering questions and providing comments and responses on a group's progress. Groups choose their own research topics, subject to the instructor's approval. Topics examined by our students include the relationship between faculty rank and teaching effectiveness, sources of stress among returning students, "burnout" among social workers, attitudes toward the death penalty among criminal justice students and professionals, factors influencing the choice of single parenthood, and the perception of crime on American college campuses among Canadian, African, and eastern European students. One of the most important factors in students' enthusiasm for their projects is whether their topics interest them. Students are often uninterested in the answers to research questions assigned by the instructor. Consequently they disengage psychologically, view their projects as tedious, and simply go through the motions required for completion. In our experience, when students are allowed to choose their own topics, their desire to understand their chosen topics motivates hard work and improves the quality of the project. Not surprisingly, students often choose topics that are relevant to their own lives. For example, five women who had returned to college after their children entered elementary school designed the project dealing with stress among returning students; similarly, a group that included two international students designed the project addressing perceptions of campus crime among Canadian, African, and eastern European students.

Students form their research groups during the first week of class. We collect background data from students, including names, majors, whether they live close to or far from campus, whether most of their classes are held during the day or in the evening, and their research experience (e.g., prior survey projects or knowledge and experience of computer programs). Students have the option of organizing their own groups, or, if they prefer, we use the background data to form groups of five to seven persons each. We attempt to include in each group someone who has some computer knowledge. Although prior computer knowledge is not necessary for completing the project, we find that it relieves a group's anxiety if at least one student is computer literate. On the day when students choose their groups, we allow students to use the last few minutes of the class period to meet, exchange phone numbers, and plan their first meeting. The form (see Appendix A) provides students with a place to record team members' names, and phone numbers, days and times when they can meet, and other relevant information.

At their first meeting, we ask students to appoint (or elect) a team leader. The group decides on the limits of this person's authority. In most student groups, decisions are made by consensus; the leader simply serves as the instructor's primary point of contact with the group. Occasionally, however, disputes arise and must be resolved. For example, one student group could not decide on the best response format for a questionnaire item; should they use a Likert scale or a semantic differential scale? Another group was unsure whether to create its own attitude scales or to borrow existing scales from the literature. The group may decide to vote on all substantive issues, or the group leader may resolve them. Also, in some instances, personality differences and infighting have occurred among some group members. Unfortunately (or fortunately, depending on one's perspective), we have heard about these conflicts only at the end of the semester, usually when the project was submitted. In those rare cases when members cannot reach a decision acceptable to the group, we encourage them to seek the instructor's help.

What students do and discuss in each specific meeting is entirely their business. We encourage students to invite the instructor to any meetings in which they would like specific feedback on aspects of their projects. By about the third week of classes, we require student groups to submit a time line and a work schedule specifying the dates and stating the number of hours that they anticipate will be necessary to complete the various research tasks (see Appendix B for a sample). We find that allowing students to make decisions about their group work empowers them and increases enthusiasm for the project. This does not ensure that students will adhere to their work schedules, but a time line subtly encourages them to be aware of their project responsibilities and to use their time efficiently. The instructor can also insist that students adhere to their proposed schedules or lose points toward the final grade.

Some students are attracted to working on projects as part of a group; others take a more independent approach to their education. At the outset, our students have varying levels of experience with collaborative learning and differing degrees of enthusiasm for the project. We emphasize to the students that the group project is an excellent opportunity to experience the dynamics of working as part of a team, and that future employment opportunities may require teamwork. We share newspaper and magazine articles highlighting the fact that team skills provide job advantages for college graduates. The knowledge that prospective employers are moving increasingly to team approaches to performing tasks decreases resistance to the group research project, especially among students who are not naturally attracted to group projects and who require some extrinsic motivation.

One difficult aspect of group projects is bringing the entire group together on short notice. We require students to schedule a regular weekly meeting time, and allow the group to decide on any additional meetings that may be necessary to complete the project. The group (or group leader) occasionally may cancel a weekly meeting if it is not needed. A preplanned, regular meeting time, however, allows each group member to schedule other activities around the meeting.

We provide a series of handouts that orient students to the project and provide useful information about selecting a topic, conducting a literature review, and developing an awareness of ethical issues in social research (Longmore, Dunn, and Jarboe 1995). Early in the semester, we also introduce an example of a student survey project. The example project focuses on the relationship between work conditions, workers' satisfaction, and self-esteem. High-quality student proposals and subsequent projects from past semesters are on reserve in the library and serve as models. Following these examples, the group members develop a research proposal. After receiving comments from the instructor, they continue through the various stages of the research process.

Student groups may divide their labor as they see fit, with the requirement that each group member must participate in each stage of the project. For example, one of our research groups was studying the decision to become a parent: two students collected literature on single parenthood, two students collected literature on married parents, and two students examined the sociological literature on the acquisition of new roles. Similarly, all of the students developed and interviewed a snowball sample of single and married parents.

When project groups divide tasks at each stage of the project, they can do a more thorough job and produce a more professional report. For example, each student in a research group can abstract five articles for the literature review, interview 10 respondents, and enter a portion of the data into the computer. The magnitude of the resulting project is greater and provides students with a more realistic exposure to the complexity of the research process.

Because most research methods courses are taught in a single semester or quarter, individual students have insufficient time to address all the stages of a meaningful research project that culminates in a convincing report. In some cases, the reports that result from the students' group efforts are appropriate for presentation at professional meetings, a rare and valuable opportunity for students.

Instructor's comments on the research proposal help students crystallize their research objectives. Students are encouraged to schedule group meetings with the instructor during office hours for assistance with any stage of the project. After conducting their literature review, they translate their research objectives into questionnaire items. Each group then chooses a sampling method and designs sampling plans and procedures. Typical procedural decisions that must be made include whether to use a snowball sample, whether to use a convenience sample, and whether an ad or flyers should be used to recruit respondents.

The students administer the questionnaire to the sample respondents, thus generating data for analysis. The instructor can demonstrate how to enter the survey data into the computer and can introduce the groups to a software package commonly used for analyzing social science data. Typically we ask students who have quantitative computer skills to help us introduce their classmates to the computer. Computer commands are provided to accompany the example questionnaire; the students modify the commands to fit their own data. Students are introduced to some of the most commonly used tabulation procedures: frequency distributions and cross-tabulations, as well as some of the basic statistical summary and dispersion measures discussed in standard texts on research methods. The students then are shown how to analyze results and translate their results into findings, conclusions, and recommendations.

Perhaps the most difficult aspect of this project for many groups of students is adhering to a schedule which will ensure that the project is completed on time. Procrastination seriously affects the quality of the final product. We suggest using a form similar to the one shown in Appendix B, which lists the important steps required to complete the project on time. Some of the steps must be performed sequentially: for example, one cannot begin to gather data until the questionnaire is designed and the sampling plan is prepared. Other steps can be performed in tandem (e.g., reviewing the literature, designing the sampling plan). As a general guideline, we tell students to try to have all of the data gathered three or four weeks before the end of the term in order to allow adequate time for data analysis and writing the report.

To ensure that each group's work is collaborative and that there are no "free riders" refusing to contribute their share of labor, we ask each student in the group to evaluate the other members' contributions to the project (see Appendix C). As mentioned earlier, we allow each group to decide how to divide the work; we require only that each student must be involved at each stage, including the writing of the report.

If instructors do not like the idea of students evaluating each other's contributions, a suggestion provided by Hylton and Allen (1993) may be useful. These authors would require each student to write at least two pages and to provide a table of contents listing the numbers of the pages that each student wrote. In this way the instructor can assess at least some aspect of each student's contribution to the writing of the paper.

We tend to agree, however, with Helmericks (1993), who points out that because it is impossible to eliminate free riders, one must rely on the group's emerging esprit de corps as an informal social control agent. Students' peer culture creates a sense of obligation to perform well in project groups, where an individual's success is associated with the success of the group. Students who fail to pull their weight usually experience sanctions from the other group

members, such as social disapproval and negative assessments on the peer evaluation form. In addition, we ask group leaders to keep us apprised of students who do not attend their group meetings or are not carrying their share of responsibility. These sanctions by no means eliminate the potential for free riders in project groups, but they keep the phenomenon to a minimum.

Colleagues have asked us about the work performance of research groups composed entirely of weak students. (By "weak" our colleagues are referring to low grade point average.) Certainly, such groups might need additional assistance, but projects such as the one proposed here often give weaker students an opportunity to score high even if they typically do not score high on standard examinations. We believe that group projects benefit students of differing ability levels insofar as the students are involved in the project.

We attempt to motivate students' involvement extrinsically by making the project worth 25 percent of the final course grade.[3] Ingalsbee (1992) suggests motivating involvement in group meetings by requiring attendance. Every week each student must sign an attendance sheet listing the group's name, the location of the meeting, and the names of all the members. More than one unexcused absence results in an automatic 15 percent reduction in the final course grade. This harsh penalty discourages students from skipping group meetings.

**Discussion**

Katz and Henry (1988), outlining principles of basic learning, state that learning should be active, not passive; students' creativity and uniqueness should be encouraged; and opportunities to experience the process of discoveryshould be fostered. We believe that a group research project of the type described here fulfills these principles.

Students derive several benefits from the group project approach. The most obvious benefit is practical, hands-on experience. Many students find that they do not thoroughly understand the concepts and ideas addressed in readings and classroom lectures until they apply them. Fundamental concepts such as population, sample, and sampling frame take on deeper meaning when students, as part of their research project, carefully identify, define, and measure the characteristics of a group being studied.

A second benefit is that most students find considerable satisfaction in conducting the project and in using ideas from class to solve an actual research problem. Initially students may find it hard to imagine their final paper, but usually they are proud of the finished product. Although often the techniques best suited for increasing students' satisfaction are not conducive to increasing their knowledge (Long 1985), we believe that the group project approach is an exception.

Students often find that their group project is as close as they come during their college careers to the role of professional social researcher. Experiencing this process at first hand is invaluable for students who aspire to careers that require research. In addition, students sometimes find their final report useful when they begin looking for a career or a graduate program. Most representatives of graduate schools and prospective employers are pleased to see examples of students' college work, although they may not ask for it. Several of our former students have successfully used their group project reports in employment interviews as evidence of research proficiency.

Moreover, learning how to work as a team member gives students an edge in the job market because many companies now are interested in the value of teamwork in business. Jennifer Bookwalter, human resource administrator for the Whirlpool Corporation, states,

"Groups are essential to our workforce" (Hamilton 1994:4). According to Bookwalter, an individual preparing for an interview should be able to answer the following questions: 1) How do you solve conflicts within a group? 2) Describe a situation where you had a conflict with another individual, and how you dealt with it. 3) What role do you usually play when working in groups-leader or follower? 4) What are your team player qualities? Give examples. 5) Describe a team project that you are particularly proud of and your contribution to it. 6) Describe a leadership role of yours and tell why you committed your time to it. 7) Describe a situation where you were not successful as a team member or your group was not successful. What would you do differently?

We believe that students are best prepared to answer such questions after they have been involved in a group project. Because of our students' experience with group research projects, they should have few difficulties in answering these questions.

## APPENDIX A. GROUP INFORMATION SHEET FOR RESEARCH METHODS PROJECT

YOUR NAME _____   Team _____

MEETING TIMES:   DAY                    TIME                    PLACE
    Regular Meeting
    Alternate #1
    Alternate #2

GROUP COMPOSITION:

TEAM MEMBER_____   Phone
Special Skills_____

TEAM MEMBER_____   Phone
Special Skills_____

TEAM MEMBER_____   Phone
Special Skills_____

TEAM MEMBER_____   Phone
Special Skills_____

TEAM MEMBER_____   Phone
Special Skills_____

TEAM MEMBER_____   Phone
Special Skills_____

TEAM MEMBER_____   Phone
Special Skills_____

# APPENDIX B. TIME ESTIMATES FOR PROJECT ACTIVITIES

TEAM # _____

PROJECT TITLE:_____

| | Estimated Length of Time Required | Expected Completion Date |
|---|---|---|
| 1. Problem Recognition. Discuss the issues you may want to research with your group. Submit one or more project ideas to your instructor for approval. | _____ | _____ |
| 2. Review of the Literature. | _____ | _____ |
| 3 Problem Definition. (Statement of Research Objectives.) | _____ | _____ |
| 4. Turn in Research Proposal.* | _____ | _____ |
| 5. Creation of the Research Instrument. | _____ | _____ |
| 6. Selection of the Sampling Procedure (Probability, Nonprobability.) | _____ | _____ |
| 7. Collection of Data (This should be completed at least three weeks before the final report is due.) | _____ | _____ |
| 8. Analysis of Data. | _____ | _____ |
| 9. Preparation and Writing of Report. | _____ | _____ |
| 10. Turn in Report.* | _____ | _____ |

(Write in Report Due Date)

* Items to be turned in to instructor for review

# APPENDIX C. RESEARCH METHODS PROJECT: PEER EVALUATION

The purpose of this form is to allow you to evaluate the relative contribution of the members of your group to the project you have performed. Your instructor may also ask you to assign a score to the overall contribution of each team member, or she/he may ask you to evaluate individual areas as well as the overall contribution. In making your evaluation, you should divide 100 points among the members of the group, other than yourself. Thus, the total in each column should be 100. You will not evaluate yourself. However, you may use the "Comments" space at the bottom of the form, as well as the back, to mention specific aspects of your performance, or to provide written comments about the team members.

| | SPECIAL AREAS | | | |
|---|---|---|---|---|
| TEAM MEMBERS | CONCEPTUAL-IZATION | PROJECT EXECUTION | OTHER | OVERALL CONTRIBUTION |
| Your Name: | DO NOT EVALUATE YOURSELF | | | |
| Other Team Members: | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| Total | 100 | 100 | 100 | 100 |
| Comments: | _____ | | | |

# References

Atwater, Lynn. 1991. "Trading Places: Teaching with Students in the Center and Professors on the Periphery of the Principles Course." Teaching Sociology 19:483-88.

Billson, Janet Mancini. 1986. "The College Classroom as a Small Group: Some Implications for Teaching and Learning." Teaching Sociology 14:143-51.

Bouton, Clark C. and Russell Y. Garth. 1983. Learning in Groups. San Francisco: Jossey-Bass.

Bruffee, Kenneth A. 1984. "Collaborative Learning and the 'Conversation of Mankind.'" College English 46:635-52.

Hamilton, Julie. 1994. "Team Skills Provide Advantage for Graduates." BG News Update, p. 4.

Hayes, Elisabeth R. 1989. "Insights from Women's Experiences for Teaching and Learning." Pp. 55- 66 in Effective Teaching Styles, edited by E.R. Hayes. San Francisco: Jossey-Bass.

Helmericks, Steven. 1993. "Collaborative Testing in Social Statistics: Toward Gemeinstat." TeachingSociology 21:287-97.

Hilligoss, Tonya. 1992. "Demystifying 'Classroom Chemistry': The role of the Interactive Learning Model." Teaching Sociology 20:12-17.

Hylton, Jaime and John Allen. 1993. "Setting Specific Purposes for Writing-to-Learn Assignments: Adopting the Dialogue Notebook for a Human Services Course." Teaching Sociology 21:68-78.

Ingalsbee, Timothy. 1992. "Conceive-a-Community: A Group Exercise for Teaching the Theory and Practice of Communitarianism." Teaching Sociology 20:298-301.

Judkins, Bennett M. and Carl M. Hand. 1994. "The Changing Nature of Sociological Inquiry: A Review of Research Methods Textbooks." Teaching Sociology 22:105-17.

Katz, Joseph and Mildred Henry. 1988. Turning Professors into Teachers: ANew Approach to Faculty Development and Student Learning. New York: Collier.

King, Kim M. 1990. "Using the Group Presentation to Foster Functional Skills." Teaching Sociology 18:74-77.

Lofland, John and Lyn H. Lofland. 1984. Analyzing Social Settings: A Guide to Qualitative Observation andAnalysis. Belmont, CA: Wadsworth.

Longmore, Monica A., Dana Dunn, and Glen R. Jarboe. 1995. The Social Research Project Manual. St. Paul: West.

McKinney, Kathleen and Mary Graham-Buxton. 1992. "The Use of Collaborative Learning Groups in the Large Class: Is It Possible?" Teaching Sociology 21:403-408.

National Institute of Education. 1983. Involvement in Learning: Realizing the Potential of American Higher Education. Washington, DC: U.S. Department of Education.

Rau, William and Barbara Sherman Heyl. 1990. "Humanizing the College Classroom: Collaborative Learning and Social Organization among Students." Teaching Sociology 18:141-55.

Scheff, Thomas J. 1992. "Discovering Sociology." Teaching Sociology 20:248-53.

Schutt, Russell K., Alan Orenstein and Theodore C. Wagenaar. 1987. "Course Organization Strategies." Pp. 6-15 in Research Methods Courses: Syllabi, Assignments, and Projects, edited by R.K. Schutt, T.C. Wagenaar, and K.P Mulvey. Washington, DC: ASA Teaching Resources Center.

Schutt, Russell K., Theodore C. Wagenaar, and Kevin P. Mulvey. 1987. ResearchMethods Courses: Syllabi, Assignments, and Projects. Washington, DC: ASA Teaching Resources Center.

Shaffir, William B., Victor Marshall, and Jack Haas. 1980. "Competing Commitments: Unanticipated Problems of Field Research." Qualitative Sociology 2:56-71.

Singleton, Royce A., Jr., Bruce C. Straits, and Margaret Miller Straits. 1993. Approaches to Social Research. New York: Oxford University Press.

Taub, Diane E. 1991. "Strengthening the Social within Social Psychology: An Experiential Learning Approach." Teaching Sociology 19:186-92.

Whipple, William R. 1987. "Collaborative Learning." AAHE Bulletin 40:3-7.

Monica A. Longmore is an assistant professor of sociology at Bowling Green State University, with research interests in social psychology, family, and research methods. Address correspondence to the author at: Department of Sociology, Bowling Green State University, Bowling Green, OH 43403.

Dana Dunn is an associate professor of sociology with research interests in research methods, gender socialization, and sociology of education

Glen R. Jarboe is an associate professor of marketing with research interests in quantitative method

[1] This approach is discussed in greater detail in Longmore, Dunn, and Jarboe (1995).

[2] Large class size is problematic particularly when instructors teach three or more courses per semester. The authors' research methods courses average about 60 students at one university, where the faculty members have a three-course teaching load, and 30 students at the other university, where the instructor has a two-course teaching load and an assistant.

[3] In our courses the remaining 75 percent of the course grade is based on three examinations. Depending on class size constraints and the availability of teaching assistants, the format of these examinations varies from primarily essay to primarily objective. We find it useful to include at least one essay question on each test which requires the students to apply course material to their projects. Such questions serve as a check on individual students' comprehension of methodological details of the group research project.