

Using “World Series Shares” to Fight Free Riding in Group Projects*

Robert Maranto, *Federal Executive Institute*
April Gresham, *Charlottesville, Virginia*

Like other forms of active learning, group projects are increasingly common in colleges and universities (Bonwell and Eison 1991; Erickson and Strommer 1991).¹ Group projects can allow students to do quality work, often including data collection and quantitative analyses, by pooling the skills of a diverse group and dividing the labor. This can help students develop a real understanding of the scientific method by actually developing a theory and testing hypotheses over the course of a term. Further, group projects force students to experience firsthand the joys and horrors of cooperative work, which they will soon experience in the workplace (Bales 1970; Gibson, Ivanovich, and Donnelly 1991).

Unfortunately, group projects often suffer from “free riding” as economists call it (Olson 1967), or “social loafing” as it is termed by social psychologists (Latane, Williams, and Harkins 1979). Free riding occurs when some members of a group shirk their responsibilities, forcing others to choose between working harder or accepting a poor project and a lower grade. Such behavior usually reflects self-interest or simple thoughtlessness on the part of shirkers. This is not always the case, however. Since students are rarely asked to work to-

gether, they may lack the skills needed to set expectations and divide labor. In addition, students may simply have different goals in undertaking a group project. For a burned-out graduating senior with a job or law school spot waiting, a “C” or “D” on a group project may be perfectly acceptable—much to the horror of a more engaged peer!

Free riding is possible, perhaps even likely, since professors can judge (grade) the overall quality of a final project, but have no idea who did what to get it there. An excellent project may reflect a sound effort on the part of all five members of a five-person group, or an extraordinary effort by two members. Similarly, even if a group project is of low quality, some members may have done a solid job.

The Knickrehm Method: World Series Shares

One way to overcome the free rider problem is to employ a method first suggested by political science professor Kay Knickrehm of James Madison University, and later revised by the authors. Under the “Knickrehm Method,” the professor grades the group project, and, in addition to this overall grade, students can gain or lose points depending on the evaluations of other group members. With this method,

each member of a group is asked to evaluate each other member of their group (but not themselves), and is given a set number of points (“shares”) to distribute to other group members in *confidential* balloting, much as the winning members of a baseball World Series team divide shares of the prize money. Students are asked not to discuss their evaluations with others.

Students are expected to award two shares to the average group member, and have an additional share to award the group’s “Most Valuable Person.” For example, a student in a group of five would have nine shares to award however he or she wishes—two shares for each of the other four members plus one bonus share. Share awards are described in the syllabus as follows:

- 0 — Contributed little or nothing.
- 1 — Contributed some, but significantly less than their share.
- 2 — Did a good, solid job, a fair share. (This should be the most common score.)
- 3 — Contributed significantly more than their fair share.
- 4 — Did *most* of the work on this project. (Obviously this can go to no more than one person in a group.)

Any additional shares awarded over and above the normal two-per-member (with one bonus share) must come at the expense of other group members. The awarding of shares thus serves as a deterrent to free riding. Students are urged not to split hairs: they should normally expect to award two shares to most or all of their peers. Higher and lower scores should be reserved for superior contributions and for obvious free riding. In addition, students are told that, in determining the group’s division of labor, they should consider the differential abili-

Robert Maranto (Ph.D., Minnesota, 1989) teaches at the Federal Executive Institute of the U.S. Office of Personnel Management, and has taught political science at various colleges and universities. He has written widely on bureaucratic politics, including *Politics and Bureaucracy in the Modern Presidency* (Greenwood, 1993) as well as articles for the *American Journal of Political Science*, *Administration and Society*, *Presidential Studies Quarterly*, *the American Review of Public Administration*, and *the Journal of Peace Research*. He is now researching presidential transitions, civil service re-

form, and school reform. He can be reached at ramarant@opm.gov.

April Gresham (Ph.D., Minnesota, 1993) is a researcher and statistician living in Virginia. She has taught social psychology at the University of Minnesota, Furman University, and Lafayette College. Her scholarly work has appeared in *Family Law Quarterly*, *the Journal of Applied Psychology*, *the Journal of Traumatic Stress*, and *Social Behavior and Psychology*. She is now conducting research on school reform, and is considering writing a novel about the perils of teaching at a small, insular liberal arts college.

ties of their peers. Those with fewer skills need not contribute less; instead they can master new skills or take on data coding and other simple but time-consuming tasks required for the project.

Single outlying scores are discarded in the calculation of mean shares awarded to limit the impact of individual personality clashes. Outliers are individual ratings of a group member that fall 1.5 or more shares distant from the mean share other students awarded the group member. (Discarding outliers has only rarely proved necessary, but announcing that doing so is possible may have encouraged more honest peer ratings.)

The overall group project grade is factored in as 30% of the course grade. In addition, students averaging 2.5 shares gain an additional 0.4 letter grade for the course as a whole; those averaging 2.51 to 3.00 gain 0.8 letter grade; any who average over 3.00 gain 1.5 letter grades. Conversely, those averaging 1.5 shares lose 0.4 letter grade; 1.00 to 1.49 lose 0.8 letter grade, and so on.

Since individuals have an extra point to award their MVP, this system raises grades more often than it lowers them. In addition, the method favors smaller groups since the single bonus share has more impact in a smaller group. This is suitable since smaller groups have fewer resources, though those in larger groups complain of greater transaction costs (e.g., "How can we find a time when all of us can meet?")—a problem often discussed in class.

Trial One: A Political Science Methods Course at a Southern University

The first author used this method for over 40 four- to seven-member groups doing research projects in 11 undergraduate Political Science Research Methods courses at James Madison University (JMU) in Virginia, a highly selective, public, comprehensive university. A dreaded requirement for political science majors, Research Methods normally contained 25 students, the maximum permitted. Group research was not

used in other methods courses at JMU, and the instructor began using group projects only after the failure of his first Research Methods class. The instructor was initially skeptical of the Knickrehm Method. He doubted that students could be trusted as peer raters and expected high levels of conflict. To forestall this, the instructor reserved approximately 25% of class time for research group meetings, usually 10–20 minutes at the end of class. The instructor also made it clear that groups would have to meet outside of class on a regular basis. In practice, the Knickrehm Method took little time to explain and most students supported it. Group conflicts were rarely serious, and groups tended to bond over the course of a semester. Most groups seemed engaged in the research process and produced lengthy and interesting research papers.²

The Knickrehm Method typically lowered the final averages (though not always the letter grades) of 4 to 8% of students (one or two in a 25-person class), and raised the grades of 8 to 16%. Only once did a student contest the outcome. In this case a 1.5 group share mean dropped her course grade from an 83 to a 79—from a "B" to a "C." The student claimed that other group members were biased since she was from a rural section of the state. After long conversations with the student, the instructor decided to award the student a "B" for the course.

Trial Two: A Social Psychology Course at a Liberal Arts College

The Knickrehm Method did not work well initially for the second author, who attempted identical implementation of it in an elective social psychology course at Lafayette College, a small, private, selective liberal arts college in Pennsylvania that draws most of its students from the New York City suburbs. Implemented in a class of 46, the method met with student opposition, even fear. Chiefly, students did not trust their peers to evaluate them fairly and feared what they perceived as a

lack of control over their grade. For example, one student wrote "I like to party with my friends, but I don't feel comfortable working with them." Many students made similar comments. In contrast to the JMU experience, in which the method directly affected few grades, five (11%) of the student group participation grades (given by other students) averaged 1.5 or below, decreasing overall course averages; 15 students (33%) had averages of 2.5 or higher, receiving a grade boost.

While many students noted in their evaluations that the method had decreased social loafing and taught them a great deal about how to interact in groups, significant student discord made use of the Knickrehm Method at Lafayette far more problematic than at James Madison. Students complaints were reflected in low teaching evaluations.

What could account for the relative failure of the method at Lafayette? We suspect four causes. Most important, the first author, who has taught at each institution, suspects that student-faculty relations are more collegial at James Madison than at Lafayette, perhaps reflecting regional differences or simple differences in institutional culture. (For example, mean faculty course evaluations are higher at James Madison, despite Lafayette's smaller size and relatively greater focus on teaching.) Indeed, perceived problems in students-faculty relations have recently been addressed by the Lafayette administration. Second, the plus-minus grading system used at Lafayette results in peer evaluations having more impact on GPAs, and might make students more grade conscious. Third, the method is more difficult to implement in a class of 46 than in a class of 25. Finally, differences in the styles of instructors may matter.

In response to student complaints, the Lafayette instructor modified the Knickrehm Method the second time she employed it (in the same course, with 40 students). First, the course led off with a unit on group dynamics. Second, students were required to write group reaction papers midway through the course. The papers required students to use Benne and

Sheets's (1948) classification of group roles and Bales's (1970) Interaction Process Analysis to analyze themselves and other group members and suggest ways to improve group interactions.

These changes resulted in much more successful group projects. In particular, the group reaction papers enabled the instructor to spot and work with problem groups to ease conflicts. Group reaction papers and comments indicated that students had learned a great deal about group interaction, and course evaluations improved. Still, a large percentage of students had their course means affected by peer ratings, with

10% losing points and 38% gaining points. Uncomfortable with the way in which students interpreted peer ratings and with the large investment of time needed to manage groups, the instructor ceased use of the method.

Summary: Should You Try This at Home?

In short, the Knickrehm Method has considerable promise for reducing the incidence of free riding. However, the method is not easily implemented in all teaching environments. Our very limited trials sug-

gest that it works better in small classes than large, and where plus-minus grading is not used. Most important, the method is most easily used where student-faculty and student-student interactions are characterized by trust. Where trust is lacking, we argue the method can be particularly important in building group interaction skills students will need after graduation. In other words, the students who most need group work are those who most resist it. Even under unfavorable conditions, the Knickrehm Method can succeed with sufficient investments of the teacher's time—a seemingly limitless resource!

Notes

* This work represents the views of the authors alone, and not those of the Federal Executive Institute, nor the U.S. Office of Personnel Management. We thank Kay Knickrehm for her assistance, but the usual caveats apply.

1. Active learning can include group projects and discussions, learning diaries, email bulletin boards, in-class surveys, student debates, and a range of other techniques that engage students. The debate between proponents of active learn-

ing and supporters of more traditional methods has gone on since at least the days of John Dewey. Now, as then, some argue that traditional lectures and tests do not encourage students to apply their knowledge, are coercive, and are ineffective cognitive transmitters (Christensen, Garvin, and Sweet 1991; Glasser 1992). Traditionalists maintain that lectures are very effective and that, by downplaying content in favor of process, active learning lowers standards (Hirsch 1996).

2. Original quantitative analyses were required, and most of the papers dealt with voting behavior or public opinion, with students surveying area residents or other students. Still, the instructor lectured on each of the subfields of political science, and the breadth of the field enabled students to research such topics as cheating, inter-racial dating, drinking, and date rape (the latter with the approval of JMU's Human Subjects Committee).

References

- Bales, Robert F. 1970. *Personality and Interpersonal Behavior*. New York: Holt, Rhinehart and Winston.
- Benne, Kenneth D., and P. Sheets. 1948. "Functional Roles of Group Members." *Journal of Social Issues* 4(January): 41-49.
- Bonwell, Charles C., and James A. Eison. 1991. *Active Learning: Creating Excitement in the Classroom*. Washington, DC: School of Education and Human Development, George Washington University.
- Christensen, C. Roland, David A. Garvin, and Ann Sweet. 1991. *Education for Judgement*. Boston: Harvard Business School Press.
- Erickson, Bette L., and Diane W. Strommer. 1991. *Teaching College Freshmen*. San Francisco: Jossey-Bass.
- Gibson, James L., John M. Ivanovich, and James H. Donnelly. 1991. *Organizations: Behavior, Structure, and Processes*. Boston: Irwin.
- Glasser, William. 1992. *The Quality School: Managing Students without Coercion*. New York: HarperCollins.
- Hirsch, E.D. 1996. *The Schools We Need and Why We Don't Have Them*. New York: Doubleday.
- Latane, Bibb, K. Williams, and S. Harkins. 1979. "Many Hands Make Light the Work." *Journal of Personality and Social Psychology* 37(September): 822-32.
- Olson, Mancur. 1967. *The Logic of Collective Action*. New York: Oxford University Press.