PROBLEMS ASSOCIATED WITH EVALUATING STUDENT PERFORMANCE IN GROUPS

Paul E. King and Ralph R. Behnke

Abstract. Using small groups in student cooperative learning enterprises has become a major trend in American higher education (Cheng and Warren 2000). However, several practical issues involving the assessment of an individual’s performance in groups have sometimes created resistance to the method from both students and parents (Kagan 1995). This article evaluates the case for using cooperative group assignments and the problems associated with evaluating the performances of individuals working in groups. Practical suggestions for minimizing some of the potential problems associated with group grading are offered and some philosophic perspectives on this form of grading are advanced.

There is a growing trend toward using cooperative learning strategies in many academic disciplines, including business communication, biological and physical sciences, computer programming, engineering, mathematics, music, social studies, English literature, and others (for reviews, see Brufee 1993; Johnson, Johnson, and Smith 1998; Millis and Cottell 1998; Slavin 1990). Cooperative learning takes many forms. Two of the most common are peer tutoring and group investigation (Kroll, Masingila, and Mau 1992). In peer tutoring, experienced students help others who have not yet mastered a task. Peer tutoring is used primarily with beginning students but has some potential for expansion. Group investigation involves students cooperating to solve a problem or complete a task that they have not mastered independently. Tasks that involve constructing an engineering model, interpreting and offering recommendations on a case study in a business class, or planning and presenting a persuasive campaign in a communication class are examples of this second form, which is the type of cooperative learning that we primarily address.

A noteworthy argument in favor of using cooperative learning is that it is ecologically valid. Students should expect to spend significant portions of their lives working in groups, teams, and committees (Mello 1993). Those who lack either the experience in this learning context or the skills associated with group interaction, or who do not positively value the role of a team member or team leaders, will be at a major disadvantage in a society stressing and valuing cooperative work. Central to this argument is the assumption that education should prepare students for professional life. Of course, this argument is applied inconsistently. Some inherent aspects of work life that educators would not desire to replicate in the classroom include a glass ceiling on grades that prevents some individuals from making a high grade, preferential treatment given to the sons and daughters of friends or alumni, and a rigid dress code requirement. Although these aspects of organizational life generally are regarded as unappealing or even abusive, using teams usually is regarded as a valuable and legitimate mechanism for helping students achieve corporate and individual success.

Using group projects has been justified for other reasons as well: increasing student motivation (Nichols and Miller 1994); development of individual
responsible (Oldfield and MacAlpine 1995); co-constructing knowledge as a result of member interactions that produce new viewpoints (Vygotsky 1978); improving democratic skills and citizenship education (Fertig 1995); and improving skills for communication, organization, presentation, leadership, and so on (Butcher, Stefani, and Tario 1995).

It should not be assumed that such positive outcomes are inherent in group assignments. Smagorinsky and Fly (1993), employing a Vygotskian perspective in analyzing their students’ small group discussions, concluded that instructors must provide models of effective communication and teach students to employ relevant group communication strategies for discussion groups to be effective. According to Garside’s research (1996), group discussion alone does not necessarily provide greater development of critical-thinking skills than traditional lectures. McKendall (2000) argued that modern business schools stress the importance of work in teams and frequently require that students participate in team projects but often provide little or no specific curriculum to help students develop the necessary skills to become effective team members. Vik said it directly: “[F]ew instructors do much more than assign the teams, and effective teamwork requires training in how to work in teams” (2001, 112). Often, instructors simply lack the time or knowledge to prepare students properly for group activities.

Educators often cite individual responsibility as a primary advantage of group work because of the group member’s accountability to peers. This view is not universally held; in fact, the term “group-hate” has been coined to indicate the negative attitude that many students have about group work (Sorensen 1981). This attitude stems from the feeling that group work implies a loss of individual control resulting, in part, from the need to spend time tutoring less competent group members. Because skills in communication, negotiation, leadership, and relationship management are tied to success in group work, and because students may not have previously acquired those skills, feelings of self-efficacy may be particularly low, thereby exacerbating antipathy for group work. Still, for many students, it is not the group work per se that is distasteful; rather, it is the prospect of being evaluated as a group or by a group that engenders this aversive reaction.

Problems in Grading Group Performance

Researchers have discovered a litany of student complaints about group grading. According to Kagan (1995, 1996), group grades are unfair, debase grade reports, undermine motivation, convey incorrect messages, violate individual accountability, generate resistance to cooperative learning, and often are challenged in court. In a critical essay on group project assessment cast from the perspective of game theory, Pitt (2000) concludes that problems with group assessment should be expected. Under the tenets of the theory, students’ desires to receive the highest individual grades are, in these systems, at odds with effective cooperative learning. From Pitt’s perspective, the following conclusions are drawn:

1. Any method of selecting groups and assigning to projects, whether random or systematic, in general will give some groups an advantage and some a disadvantage.
2. Giving all students the same mark means that a sensible group strategy would involve having the weaker students contribute less.
3. Although the allocation of marks is a motivator, factors such as teamwork and contribution to the group are hard to define and essentially impossible to assess fairly.
4. Rating students on some perceived performance has as much to do with perception as performance and may sometimes be unfair; for example, the student who contributed least to the problem solving may give the most confident presentation.
5. Some assessment factors can actually promote dishonesty and competition. (239–40)

All of the alleged problems described should concern instructors and administrators, both of whom are responsible for the justification and defense of grading methods and must deal with grade complaints. When instructors assign one grade to an entire group, they are essentially using a mean to describe a population, with no thought given to dispersion. Some instructors assign the group grade on the basis of performance of the lowest group member, the highest group member, or even a member selected at random. Instructors concerned about measurement validity and reliability will have serious problems accepting grading methods that appear to maximize measurement error.

Some of these problems are difficult to manage. For example, groups can vary widely in terms of individual student talent, suggesting that more work and lower grades could be a natural consequence of being in a bad group. For this reason, heterogeneous grouping is suggested as an “essential element” (Sheeran 1994, 20) of group projects. Yet, this practice singles out and isolates students who lack skills or talent. In some cases, these students are at risk academically, special students, or minority group members. One example of such a quandary is the decision to split a small group of female students in an engineering class into several work groups (Rosser 1998). Although educators do admit that the isolation of minorities and low performers could cause these students to be fired by the group or to drop out of class (Felder and Brent 2001; Rosser 1998), they acknowledge the intractability of the problem: “The minorities will often find themselves isolated in workgroups on the job, and they may as well start learning how to deal with it while still in college” (Felder and Brent 2001, 70). The issue is whether or not to simulate the problems of the work world more accurately at the expense of fairness and methodological rigor.

Educators’ recent focus on these problems has prompted the emergence of a significant body of work concerned with finding ways to negotiate the minefields encountered in implementing group grading schemes (Cheng and Warren 2000; Goldfinch and Raeside 1990; Kroll, Masingila, and Mau 1992; Lejk, Wyvill, and Farrow 1996; Maranto and Gresham 1998; Sheeran 1994). One interesting approach is to have the students themselves assign a grade or portion of a
grade. Numerous possibilities exist within this strategy. The instructor can assign a grade to the entire group that is modified by the individual member’s personal rating. Another variation on that theme is one in which students either privately or publicly provide feedback on the other members’ performances directly to the instructor, who then assigns the grades. Finally, group members can be given a proportion of bonus points based on the overall quality of the final project, which can then be awarded to group members equally or unequally according to predetermined rules or criteria.

When group members are involved in evaluating the performance of their peers, it can be argued that an abandonment of instructional responsibility has occurred. If a grade complaint alleging unfairness is filed, the instructor cannot be confident that the grade was fairly arrived at when he or she was not present in group deliberations or evaluations. Second, this process can be prone to halo error. Well-liked students, argumentative students, ethnically divergent students, and apprehensive students may be subconsciously rated on characteristics other than the quality of their performances by peers who are inadequately trained about such issues. Finally, in a system in which only a limited number of high grades are made available, team members may be inclined to down-grade the performance of others because they themselves are part of the competition. Conversely, where there are no limits on high grades, students may inflate their ratings of each other in a conscious or subconscious evaluation conspiracy.

Generally speaking, then, group projects are graded by assigning a group grade to all members, with many disadvantages discussed earlier, or group members may assign grades. Attempts to provide a balance between these two approaches probably result in some level of each set of problems.

Suggestions

Based on the preceding discussion, a number of conclusions can be drawn. First, the use of work groups can yield significant educational benefits under certain circumstances. When students lack the communication and teamwork skills necessary to benefit from group assignments, the system breaks down. Educators should make the development of appropriate skills a part of the current class or require students to take prerequisites. Fortunately, most communication departments provide coursework in group discussion, small group dynamics, and leadership that can be used as part of the prerequisite work.

Second, educators should avoid assigning a single grade to attempt to represent the performance of a group of students. In addition to the disadvantages discussed, this technique tends to foster unhealthy interpersonal relationships. One common strategy in team assignments is to allow groups to fire poorly performing members. This tactic appeals to student participants when they first learn about it but creates difficulties later. In reviewing problems experienced by terminated students, Felder and Brent conclude: “The one who gets fired may have a lot of trouble and generally, he [sic] doesn’t care. Students who get to that point are usually failing the course [anyway]. If they get zeros on the remaining assignments, it makes no difference to them” (2001, 72). There are some problems with taking this perspective. Experienced communication instructors understand that when students fail to participate in group assignments it often is for reasons other than unwillingness to work, such as communication apprehension, cultural diversity, lack of communication skills, and so on (McCroskey 1980). To coldly dismiss problem students does not really address the problem, nor is it appropriate to abandon professional responsibilities and allow students to assign their own grades. Compromise or combined approaches maintain some of the disadvantages of each tactic already described.

What are some of the alternatives that allow using teamwork but avoid some of the grading pitfalls? It often is possible to use groups for assignments and academic preparation while focusing the grade on individual performance (Kroll, Masingila, and Mau 1992). Reporting groups could divide an assigned topic into several areas of individual responsibility then reported on by individual members. When the individual’s work is fully integrated into the overall group product, it most likely will enhance that individual’s grade. In summary, from this perspective a grade remains a mark of success of the individual member, which is directly related to the quality of the overall group effort.

Under certain circumstances, it may still be best for an instructor to concentrate on grading the group product, even if that means assigning a single grade to all members. Although the grade may not accurately reflect the individual work of group members, it is at least based on a product directly observed by the instructor, rather than filtered through the recollections of student comments or reports. Grading by students or grading that is absent direct observation of the product or process by the instructor is difficult to defend. Moreover, the demonstration of grade validity in such cases is much more difficult.

Group projects can be used for foundational or formative work while individual tests/reports only contribute to a summative assessment (Reedy 1995). All classroom activities need not be graded. In fact, significant advantages accrue from nongraded assignments. Sometimes such activities permit freedom of honest expression that might otherwise be impossible when grading concerns are present. Skills do not necessarily have to be evaluated to be transferable. In many cases, the advantages of team assignments can be realized without the need to solve all of the entanglements of group grading. This approach is particularly useful when students enter a class without possessing the requisite group skills and when class time cannot be devoted to teaching those skills.

Grades are not the only way to reward cooperative learning while avoiding reinforcement of a free-riding group member. When a student presents an oral report concerning a specific group role, activity, or topic, social pressure to appear prepared is an inducement for cooperative learning that provides sanctions against free riding. Requiring group members to put their names on written work can have similar positive effects. Although grading members on involvement in out-of-class group meetings has its own problems, the instructor can ask groups to monitor attendance.
with consequent grading effects. Attendance policies do not involve judgments on the part of student peers, and group members will not need to concern themselves with negative reactions of absent members, because they are simply following course policies.

Perhaps the most powerful tool at the disposal of the instructor for palliating the disadvantages of group work is the “cards on the table” approach. By engaging students in forthright discussions about the difficulties and rewards of group work, a number of advantages accrue. First, students can be persuaded to accept the practical values of developing skills in teamwork. Business and industry place such a high premium on these skills that the argument should be relatively easy to make. Second, students should be inoculated against potential problems. Students are less likely to attempt free riding when that practice has been discussed, exposed, and condemned in class.

Finally, students appreciate receiving due notice concerning class activities and grading methods. Participants will be less likely to complain or challenge grades if they have had fair warning and fair opportunity to question and discuss grading procedures. Ideally, the fair warning comes early enough in the semester that students who dislike group work will have the opportunity to select another class. Of course, the primary intention of the instructor is not simply to mute potential complaints but also to help students understand that the values of group work involve a trade-off between the benefits and complications. If students are convinced by this cost/benefit analysis, they will enter into group work with greater enthusiasm and commitment.

Academic freedom generally prescribes that university faculty members be accorded free rein over classroom practices and procedures as long as those procedures are defensible. Still, practices related to group grading may generate student complaints, which then involve administrators. Department chairs may be placed in the awkward position of defending faculty practices with which they themselves do not agree. Moreover, some aspects of group grading may violate university policies. For example, it is common for universities to mandate that students not be permitted to assign grades. Generally, this policy is intended to prevent abuses of teaching assistants (such as assigning a class to a master’s degree student). However, the policy also could place an administrator in an awkward position when it is applied to group grading practices. Finally, when several teachers maintain markedly different procedures for evaluating group work, problems associated with a lack of instructional equivalency and with varying student expectations can be encountered.

College faculty should consider placing group grading on department meeting agenda as a discussion item. If instructors are aware of the dangers associated with some forms of group evaluation and, furthermore, if faculty are apprised of the suggestions and alternative procedures discussed in this article, then it may be easier to take advantage of the opportunities and values of group work while reducing associated pedagogical and administrative problems.

Key words: grading, work groups, teams

NOTE

An earlier version of this manuscript was presented at the National Communication Association convention in Chicago, IL, in November 2004.

REFERENCES

Smagorinsky, P., and P. K. Fly. 1993. The social environment of the classroom: A