

## Cooperative Learning: Students Working in Small Groups – An Abridgement

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Without denying the significance of traditional lectures and instructor-led discussions in undergraduate education, an increasing number of teachers are recognizing the value of assigning collaborative work to their students. Small group work, used both in and out of class, can be an important supplement to lectures, helping students master concepts and apply them to situations calling for complex applications of critical thinking skills. Sometimes called Problem-Based Learning, when it extends over a period of time, this form of instruction requires the teacher to plan projects in advance but then step aside in order to facilitate—not dominate—the actual learning process. PBL uses the following criteria:

- Projects that last an entire class period, several class sessions, or even an entire quarter
- Groups may be assigned by the instructor or decided upon by the student (there are advantages and disadvantages to each approach)
- Tasks to be accomplished require interdependence; that is, structured so that all students must participate and no one student can complete the assignment alone.

Collaborative group work requires careful planning on the part of the instructor, and is not without its difficulties for students. But the benefits can be substantial, including increased participation by students in all components of the course, better understanding and retention of material, mastery of skills essential to success in the course or in a career, and increased enthusiasm for self-directed learning—the kind of enthusiasm that can spur students on to independent research or honors projects.

Outlined here are some suggestions for using collaborative tasks to accomplish course goals, including advice on how to avoid potential problems.

### Assigning Group Tasks that Promote Learning

The decision to include cooperative learning assignments in a course should be based on a careful examination of course goals. It's best not to think of group work as something added on to an existing course structure, but instead something that helps shape the design of the syllabus and helps synthesize specific course objectives. Other important factors to consider before including group assignments are class size—since larger classes will require more attention to organization—and the means that will be used to evaluate group work (so that sufficient time and instructional support are available to provide feedback on group projects). And, finally, group assignments should include a detailed plan for proceeding with the work including, if possible, examples of stages along the way that help groups monitor their success. Instructor feedback, in meetings or from progress reports, should be included in the time-line for the project.

The kinds of group tasks planned for the course also need to be examined to ensure that they are likely to result in effective group efforts. Group cohesiveness can be encouraged and some of the difficulties groups face (which are examined below) can be eliminated or minimized if assignments are designed to:

- (1) **Require a high level of individual accountability for group members.** Individual accountability is essential to group success, since the natural tendencies of some students to dominate and some to withdraw will gradually come into play unless some mechanism is in place requiring everyone to participate.
- (2) **Require members to discuss issues and interact.** Interaction and discussion are much more likely if students are required to solve a problem or make a decision based on research and analysis of a complex situation. With such problem-based tasks which immerse students in information-rich discussions, “they are also likely to learn two important lessons about their group: (1) Other members’ input is a valuable resource and (2) we can accomplish something by working together that none of us could have accomplished on our own” (Michaelson, Fink, and Knight, 1997).

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<sup>1</sup> Barbara Gross Davis, “Cooperative Learning: Students Working in Small Groups” in *Speaking of Teaching: Stanford University Newsletter on Teaching* (Vol. 10, no. 2) 1999: 1-4. (retrieved on March 10, 2010 from <http://ctl.stanford.edu/Newsletter/cooperative.pdf>)

- (3) **Ensure that members receive immediate, unambiguous, and meaningful feedback.** Feedback from the instructor, from group members, and from other groups helps each group keep on track and therefore helps build cohesiveness.
- (4) **And, lastly, provide explicit rewards for high levels of group performance (Michaelson, Fink, and Knight 1997).** The final work should be graded as a group project, so that peer pressure from within the group motivates individuals to work together—even though organizational or personal difficulties may arise along the way.

### **Teaching Students to Work in Groups**

In a competitive academic environment, where students have most often been rewarded for individual effort, collaboration may not come naturally or easily for everyone. And even though most students have worked together informally in study groups or social organizations, they may never have thought carefully about the kinds of skills that best promote group achievement. Faculty who make collaborative assignments and fail to provide specific guidelines or models for successful work may find students struggling to get group projects off the ground.

- Students will be motivated to participate if they see the relevance of the group assignments to larger course objectives.
- Beyond highlighting the interpersonal and organizational skills needed (listening, probing assumptions and evidence, clarifying statements, and giving good feedback, for example ( Bosworth, 1994) ), if other, specific skills are called for in an assignment, the instructor should identify them and provide examples of the successful use of such skills in the assignment or classroom session.
- Demonstrate to participants the relationship between completing the project and achieving some of the larger goals of the assignment or course by identifying group management skills and by having students reflect on their successes and difficulties with exercising these skills.

### **Forming and Guiding Groups**

Most faculty who have included collaborative work in their courses agree that groups of between 4 and 6 students seem to work best, though depending on the task, larger groups (8-10 students) can function successfully.

- Groups should be diverse enough to include students with a range of intellectual abilities, academic interests, and cognitive styles. Random selection or selections made by the instructor based on questionnaires completed on the first day of class can work well.
- Include early check-ins or have clearly stated stages built into the assignment. This gives you the chance to offer suggestions and helps to prevent potential disasters.
- Remember not to dictate but rather have all students make their own decisions about how to proceed – have students solve the problem of the ‘student not doing her or his fair share.’

### **Evaluating Group Work**

Individual accountability is essential in ensuring successful group work and instructors need to determine how best to grade, taking both individual and group effort into consideration. For example, individual accountability can be assessed through:

- in-class quizzes asking for specific information on what they have learned so far, what they feel they have contributed to the project, and how they would improve the group’s efforts; or,
- individuals can be called upon at random to make brief reports on the group’s progress, including a description of problems overcome and questions still to be addressed.

## Grading Group Work

Grading the group achievement overall should be based both on the success of the final product and the group's assessment of its operations.

- If class size allows, the entire class can offer feedback on such products by having them shared—papers can be photocopied and made available on reserve or can be posted on a website; presentations can be made to the entire class or can be videotaped and circulated.
- The instructor can distribute evaluation guidelines that ask students to score projects (for example, on a scale of 1 to 5) in such areas as degree to which they address and clarify major issues, raise and answer relevant theoretical or practical concerns, explore relevant research, and address objections or contrary findings.
- Groups themselves can evaluate the effectiveness of their own work toward the final product, and assess each member's contributions.
- Explain these grading procedures early in the course, before the group work begins, so students are less uncomfortable with the idea of a group grade, and will feel peer pressure to contribute and work toward the common goal.

## Experimenting to Learn

Beginning with modest collaborative assignments and supplementing class work with additional readings will resolve some of the conflicts between coverage and depth for those who are concerned that group work means less time on topics or fewer topics. Students, with the proper help, can be guided toward greater autonomy and take on a greater responsibility for their own education if instructors provide them with useful, engaging, and relevant tasks to accomplish with their peers.

## Additional readings from the CTL library:

Johnson, D. W., Johnson, R. T., & Smith, K. (2007). The State of Cooperative Learning in Postsecondary and Professional Settings. *Educational Psychology Review*, 19(1), 15-29. [Full Text Link](#)

Michaelsen, L. K., Sweet, M., & Parmelee, D. X. (2008). *Team-based learning : small group learning's next big step*. San Francisco: Jossey-Bass.