# Sciences Feature: Evidence-Based Teaching Guide to Group Work

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## **INSTRUCTOR CHECKLIST – GROUP WORK**

The following summarizes literature-based recommendations for implementing extended, formal group work. The statements below include areas of ambiguity or disagreement in the literature. Summaries of the articles leading to these recommendations can be found in the LSE Feature: Evidence Based Teaching Guides.

| GR<br>□ | OUP FORMATION <u>Compose gender-balanced, ethnically diverse groups consisting of students with a mixture of problem-solving styles</u> . Groups with these characteristics exhibit enhanced collaboration. However, there is less consensus on how to form groups of students based on achievement.   |
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|         | <u>Instructors rather than students should form groups</u> . Student self-selected teams are more likely to be given as examples of students' worst group experiences, are more often linked to negative student opinions of the course, instructors, projects, classmates, and are more likely to lead to clique behavior. Students did express greater enthusiasm, communication, and conflict resolution in self-selected teams compared to teams that are randomly assigned.   |
|         | <u>Limit the size of groups to 3-5 students</u> . Smaller teams have less difficulty coordinating effort and experience less social loafing, which occurs when not all group members are needed to complete the task. The smaller the group (e.g., pairs vs. 6-7) the more likely all students are to participate in the work and engage in meaningful interactions.   |
| SET     | Provide an opportunity for students to discuss their initial expectations for group work in your course, including what they hope to get from interacting with their peers. This initial discussion allows students to express reservations, share prior experiences, and devise methods to express and remedy dissatisfaction as the group work proceeds. Make sure that students understand that when they see that groupmates are not doing their part, they must speak with them. If groupmates continue to be non-cooperative, students must contact the professor. Creating a group contract for a project can aid in this process. Resources can be found at: <a href="https://cns.utexas.edu/teaching-portal/group-work">https://cns.utexas.edu/teaching-portal/group-work</a> |
|         | Encourage students to consider the <u>channels of communication</u> they will use to interact with their groupmates, such as email, Facebook, in-person meetings, or phone calls.  |
|         | Assign or have students select particular roles. If each of these roles is essential for task completion, students will necessarily depend on each other, promoting cooperation, and instructors can check that all the members are active and participating on a shared document space, classroom management system, or through acknowledgements sections on each assignment.   |

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### **ENVIRONMENT AND TECHNOLOGY**

☐ Be sure to <u>consider the materials</u> required for students to perform the task (physical space, site lines, learning resources, handouts, collaboration tools, whiteboards, etc.)

#### **ACCOUNTABILITY**

- ☐ Ensure equal participation by <u>requiring submission of individual contributions</u> prior to allowing students to work collaboratively. Students' achievement and cooperation are greater when they understand that everyone must contribute if the group is to complete its goal.
- <u>Create milestones and deadlines</u> for groups but also provide time for the students to expressly assign duties and roles to meet those deadlines.
- Provide opportunities for formative peer evaluation: Performance improves when students know that their contributions can be identified. Students believe that evaluating their peers reduces free-riding, but evidence that peer grading reduces free-riding is inconsistent. Formative evaluation provides opportunity for instructors to address problems rather than relying on summative end-of-semester evaluations that may encourage students to tolerate bad behavior and exact retribution later. Also, students rate other factors—including group cohesiveness, small team size, the option to divorce a team member, or the option to leave a team—as having a stronger effect on reducing lack of effort by free-riders than peer evaluations.

#### **REWARD STRUCTURE**

Reward both individual and group outcomes. Placing students in situations in which success on a task depends on success for all members of the group increases students' motivation, encourages students to help others learn, and results in greater learning gains. Rewards can consist of shared grades where individual students earn a final grade that relies on scores earned by their team members on a test or assignment, to certificates of recognition that students can earn if their average team scores on quizzes or other individual assignments exceed a pre-established criterion.

### **TASK STRUCTURE**

- Promote student buy-in and learning by sharing the goals of group work with students and explaining how group work aligns with those goals.
- ☐ Consider tasks that involve complex or ill-structured problems for which the benefits of collaboration have demonstrated support for learning. Formalized pedagogies include Problem-based, Team-based, Process-Oriented Guiding Inquiry, Case-Based, and Peer-Led Team Learning.
- ☐ Increase students' intrinsic motivation by <u>selecting tasks that inherently interesting to the student</u> (e.g. related to contemporary issues or representing tasks relevant to their careers) and include opportunities for autonomy and individual choice.

Instructors who desire a less structured approach can find additional suggestions for informal group work in the LSE Feature: Evidence-Based Teaching Guide to Group Work.