

What are the challenges of group work and how can I address them?

Unfortunately, groups can easily end up being less, rather than more, than the sum of their parts. Why is this?

In this section, we consider the hazards of group projects and strategies instructors can use to avoid or mitigate them. Find other strategies and examples here or contact the Eberly Center for Teaching Excellence for help.

For students, common challenges of group work include:

- Coordination costs
- Motivation costs
- Intellectual costs

For instructors, common challenges involve:

- Allocating time
- Teaching process skills
- Assessing process as well as product
- Assessing individual as well as group learning

Challenges for students

Coordination costs represent time and energy that group work consumes that individual work does not, including the time it takes to coordinate schedules, arrange meetings, meet, correspond, make decisions collectively, integrate the contributions of group members, etc. The time spent on each of these tasks may not be great, but together they are significant.

Coordination costs can't be eliminated, nor should they be: after all, coordinating the efforts of multiple team members is an important skill. However, if coordination costs are excessive or are not factored into the structure of group assignments, groups tend to miss deadlines, their work is poorly integrated, motivation suffers, and creativity declines.

Instructors should note that coordination costs increase with:

- o *Group size*: The more people in the group, the more schedules to accommodate, parts to delegate, opinions to consider, pieces to integrate, etc. Smaller groups have lower coordination costs.
- o *Task interdependence*: Tasks in which group members are highly reliant on one another at all stages tend to have higher coordination costs than tasks that allow students to “divide and conquer”, though they may not satisfy the same collaborative goals.
- o *Heterogeneity*: Heterogeneity of group members tends to raise coordination costs, especially if there are language issues to contend with, cultural differences to bridge, and disparate skills to integrate. However, since diversity of perspectives is one of the principle advantages of groups, this should not necessarily be avoided.

Strategies: To help reduce or mitigate coordination costs:

1. Keep groups small.
2. Designate some class time for group meetings.
3. Use group resumes or skills inventories to help teams delegate subtasks.
4. Assign roles (e.g., group leader, scheduler) or encourage students to do so.
5. Point students to digital tools that facilitate remote and/or asynchronous meetings.
6. Warn students about time-consuming stages and tasks.
7. Actively build communication and conflict resolution skills.
8. Designate time in the project schedule for the group to integrate parts.

Motivation costs refers to the adverse effect on student motivation of working in groups, which often involves one or more of these phenomena:

- o *Free riding* occurs when one or more group members leave most or all of the work to a few, more diligent, members. Free riding – if not addressed proactively – tends to erode the long-term motivation of hard-working students.
- o *Social loafing* describes the tendency of group members to exert less effort than they can or should because of the reduced sense of accountability (think of how many people don't bother to vote, figuring that someone else will do it.) Social loafing lowers group productivity.
- o *Conflict* within groups can erode morale and cause members to withdraw. It can be subtle or pronounced, and can (but isn't always) be the cause and result of free riding. Conflict – if not effectively addressed – can leave group members with a deeply jaundiced view of teams.

Strategies: To address both preexisting and potential motivation problems:

1. Explain why working in groups is worth the frustration.
2. Establish clear expectations for group members, by setting ground rules and/or using team contracts.

3. Increase individual accountability by combining group assessments with individual assessments.
4. Teach conflict-resolution skills and reinforce them by role-playing responses to hypothetical team conflict scenarios.
5. Assess group processes via periodic process reports, self-evaluations, and peer evaluations.

Intellectual costs refer to characteristics of group behavior that can reduce creativity and productivity. These include:

- o *Groupthink*: the tendency of groups to conform to a perceived majority view.
- o *Escalation of commitment*: the tendency of groups to become more committed to their plans and strategies – even ineffective ones – over time.
- o *Transparency illusion*: the tendency of group members to believe their thoughts, attitudes and reasons are more obvious to others than is actually the case.
- o *Common information effect*: the tendency of groups to focus on information all members share and ignore unique information, however relevant.

Strategies: To reduce intellectual costs and increase the creativity and productivity of groups:

1. Precede group brainstorming with a period of individual brainstorming (sometimes called “nominal group technique”). This forestalls groupthink and helps the group generate and consider more different ideas.
2. Encourage group members to reflect on and highlight their contributions in periodic self-evaluations.
3. Create structured opportunities at the halfway point of projects to allow students to reevaluate and revise their strategies and approaches.
4. Assign roles to group members that reduce conformity and push the group intellectually (devil’s advocate, doubter, the Fool).

Challenges for instructors

While group assignments have benefits for instructors, they also have complexities that instructors should consider carefully, for example in these areas:

Allocating time: While group assignments may save instructors time in some areas (e.g., grading final projects), they may add time in other areas (e.g., time needed up front to identify appropriate project topics, contact external clients, compose student groups; time during the semester to meet with and monitor student groups; time at the end of the semester to ascertain the contributions of individual team members.)

Teaching process skills: Functioning effectively in teams requires students to develop strong communication, coordination, and conflict resolution skills, which not all instructors feel qualified to teach. Many instructors are also reluctant to devote class time to reinforcing

these skills and may be uncomfortable dealing with the interpersonal issues that can arise in groups. In other words, dealing proactively with team dynamics may push some instructors out of their comfort zone.

Assessing process as well as product: Assessing teamwork skills and group dynamics (i.e., process) can be far trickier than assessing a team's work (i.e., product). Effective evaluation of process requires thoughtful consideration of learning objectives and a combination of assessment approaches. This creates layers of complexity that instructors may not anticipate.

Assessing individual as well as group learning: Group grades can hide significant differences in learning, yet teasing out which team members did and did not contribute to the group or learn the lessons of the assignment can be difficult. Once again, this adds complexity to group projects that instructors often underestimate.

Find effective strategies to help faculty address these issues in the design of effective group projects.

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