Tools for Teaching
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Collaborative Learning: Group Work and Study Teams

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Students learn best when they are actively involved in the process. Researchers report that, regardless of the subject matter, students working in small groups tend to learn more of what is taught and retain it longer than when the same content is presented in other instructional formats. Students who work in collaborative groups also appear more satisfied with their classes.

All in all, there are three types of group work: informal learning groups, formal learning groups, and study teams (Johnson, Johnson, and Smith, 1991).

- *Informal learning groups* are temporary groups of students within a single lesson. Informal learning groups can be initiated, for example, by asking students to turn to a neighbor and spend two minutes discussing a question you have posed. You can organize informal groups at any time in a class of any size to check on understanding of the material, to give students an opportunity to apply what they are learning, or to provide a change of pace.
- *Formal learning groups* are teams established to complete a specific task, write a report, carry out a project, or prepare a position paper. These groups may complete their work in a single lesson or over several weeks. Students work together until the task is finished.
- *Study teams* are long-term groups (usually over a semester) with stable membership whose primary responsibility is to provide members with support, encouragement, and assistance in completing course requirements and assignments. The larger the class and the more complex the subject matter, the more valuable study teams can be.

The suggestions below are designed to help set up formal learning groups and study teams. If you have never done group work, you might want to experiment first with informal learning groups.

General Strategies

Plan for each stage of group work. When you are writing your syllabus for the course, decide which topics, themes, or projects might lend themselves to formal group work. Think about how you will organize students into groups, help groups negotiate among themselves, provide feedback to the groups, and evaluate the products of group work.

Explain to your class how the groups will operate and how students will be graded. Explain the objectives of the group task and define any relevant concepts. In addition to a well-defined task, every group needs a way of getting started, a way of knowing when its task is done, and some guidance about the participation of members. Also explain how students will be graded. Remember that group work is more successful when students are graded against a set standard than when they are graded against each other.

Give students the skills they need to succeed in groups. Many students have never worked in collaborative learning groups and may need practice in such skills as active and tolerant listening, helping one another in mastering content, giving and receiving constructive criticism, and managing disagreements. Discuss these skills with your students and model and reinforce them during class. Try exercises that help students gain skills in working in groups (Cohen, 1994).

Consider written contracts. Some teachers give students written contracts that list members' obligations to their group and deadlines for tasks (Connery, 1988).

Designing Group Work

Create group tasks that require interdependence. Students in a group must understand that they "sink or swim" together, that each member is responsible to and dependent on all the others, and that no-one can succeed unless everybody in the group succeeds. Knowing that peers are relying on you is a powerful motivator for group work (Kohn, 1986). Strategies for promoting interdependence include specifying common rewards for the group, encouraging students to divide up the labor, and formulating tasks that compel students to reach a consensus.

Make the group work relevant. Students must perceive the group tasks as integral to the course objectives. Some people believe that groups succeed best with tasks involving judgment. For example, in an engineering class, a teacher gives groups a problem to solve: Determine whether the city should purchase twenty-five or fifty buses. Each group prepares a report, and a representative from each group is selected to present the group's solution. The approaches used by the groups are compared and discussed by the entire class.

Create assignments that fit the students' skills and abilities. Early in the term, assign relatively easy tasks. As students become more knowledgeable, increase the difficulty level.

Assign group tasks that allow for a fair division of labor. Try to structure the tasks so that each group member can make an equal contribution. For example, if groups have to write a report on alternative energy sources each member of the group is responsible for research on one source, and then all the members work together to incorporate the individual contributions into the final report. Or if groups have to prepare a "medieval newspaper", students research life in the Middle Ages and each student contributes one major article for the newspaper, which includes news stories, feature stories, and editorials. Students conduct their research independently and use group meetings to share information, edit articles, proofread, and design the pages.

Consider group test taking. On a group test, either an in-class or take-home exam, each student receives the score of the group. Teachers report that groups consistently achieve higher scores than individuals and that students enjoy collaborative test taking. Teachers who use this technique recommend the following steps for in-class exams:

- Assign group work at the beginning of the term so that students learn how to work in groups.
- Use multiple-choice tests that include higher-level questions. To allow time for discussion, present about twenty-five items for a fifty-minute in-class exam.
- Have students take the test individually first. Then ask the groups to arrive at a group consensus answer for each question. Score the individual and group responses. Ninety-five percent of the time, the group scores will be higher than the average individual scores (Toppins, 1989).

Organizing Learning Groups

Decide how the groups will be formed.

- Some teachers random assign students to groups: a mix of males and females, verbal and quiet students, the cynical and the optimistic.
- Some teachers let students choose with whom they want to work, although this runs the risk that groups will socialize too much and that students will self-segregate (Cooper, 1990). Self-selected groups seem to work best in small classes, or classes of majors who already know one another (Walvoord, 1986).
- Other instructors form the groups themselves, based on students' prior achievement, ability, work habits, ethnicity, and gender (Connery, 1988).
- Other teachers spread the more able students evenly among the groups.
- A middle alternative (Walvoord, 1986) is to ask students to express a preference (if they wish), then make the assignments yourself. For example, ask students to write the names of three students with whom they would most like to work.

Be conscious of group size. In general, groups of four or five members work best. Larger groups decrease each member's opportunity to participate actively. The less skillful the group members, the smaller the groups should be. The shorter amount of time available, the smaller the groups should be. (Cooper, 1990; Johnson, Johnson, and Smith, 1991; Smith, 1986)

Keep groups together. When a group is not working well, avoid breaking it up, even if the group requests it. The addition of the floundering group's members to ongoing groups may throw off their group process, and the bailed-out troubled group does not learn to cope with its unproductive interactions. (Source: Wolvoord, 1986)

Help groups plan how to proceed. Ask each group to devise a plan of action: who will be doing what and when. Review the groups' written plans or meet with each group to discuss its plan.

Regularly check in with the groups. If the task spans several weeks, you will want to establish checkpoints with the groups. Ask groups to turn in outlines or drafts or to meet with you.

Provide mechanisms for groups to deal with uncooperative members. Tell the class that after the group task is completed, each student will submit an anonymous assessment of the participation of the other group members. If people indicate that an individual did less than a fair share, that person could receive a lower grade than the rest of the group. Groups should have a chance in the middle of the project to discuss whether any members are not doing their share. Members who are perceived as shirkers then have an opportunity to make amends. Here are some other options:

- Keep the groups at three students: it is hard to be a shirker in a small group.
- Make it clear that each group must find its own way to handle unproductive group behavior.
- Allow groups, by majority vote, to dismiss anyone. Students who are dropped must: i) persuade the group to reconsider; ii) find acceptance in another group; or iii) fail the project.

Perhaps the best way to assure comparable effort among all group members is to design activities in which there is a clear division of labor and each student must contribute if the group is to reach its goal. (Connery, 1988; Walvoord, 1986)

Evaluating Group Work

Ensure that individual student performance is assessed and that the groups know how their members are doing. Members need to know they cannot let others do all the work while they sit back. Ways to ensure that students are held accountable include giving spot quizzes to be completed individually and calling on individual students to present their group's progress. (Johnson, Johnson, and Smith, 1991)

Give students an opportunity to evaluate the effectiveness of their group. Once or twice during the group work task, ask group members to discuss two questions:

- What action has each member taken that was helpful for the group?
- What action could each member take to make the group even better?

At the end of the project, ask students to complete a brief evaluation form on the effectiveness of the group and its members. The form could include items about the group's overall accomplishments, the student's own role, and suggestions for changes in future group work.

Decide how to grade members of the group. Some teachers assign all students in the group the same grade on the task. They feel that grading students individually leads to competition within the group. Other teachers grade each student on the basis of individual test scores or the group's evaluation of each member's work. (Cooper, 1990; Johnson, Johnson, and Smith, 1991)

Dealing with Concerns About Group Work

"I don't want to work with my classmates, who don't know as much as the teacher." Let students know at the beginning of the term that you will be using some group techniques. Inform students about the research studies on the effectiveness of collaborative learning and describe the role it will play in your course. (Cooper and Associates, 1990)

"Our group just isn't working out." Encourage students to stick with it. Changing group membership should be a last resort. Help your students learn how to be effective group members.

"Students won't want to work in groups." Some students may feel uncomfortable helping others or seeking help. The best advice is to explain your rationale, design well-structured meaningful tasks, give students clear directions, set expectations for how team members are to contribute and interact, and invite students to try it. (Cooper and Associates, 1990)

"Students won't work well in groups." Most students can work well in groups if you set strong expectations at the beginning of the term, informally check in with groups to see how things are going, offer assistance as needed, and provide time for groups to assess their own effectiveness. Some groups may indeed have problems, but usually these can be resolved.

"If I do group work, I can't cover as much material during the semester." Research shows that students who work in groups develop an increased ability to solve problems and gain greater understanding of the material.

Setting Up Study Teams

Tell Students about the benefits of study teams. Study teams meet regularly outside of class to study together, read and review course material, complete course assignments, comment on each other's written work, prepare for tests and exams, and help each other with difficulties that are encountered in class. Study teams are guided by the ideas that students can often do as a group what they cannot do by themselves and that students can benefit from peer teaching-explanations, comments, and instruction from their coursemates.

Explain how study teams work. Study teams can work in a number of ways.

Model 1. All students read the assignments but each member agrees to provide to the group in-depth coverage of a particular segment of the material and to answer as fully as possible whatever questions other members of the study team might raise. Each member agrees to study all the material yet each also tries to become an "expert" in a certain area.

Model 2. The teams' activities vary from meeting to meeting. For example, at one meeting, teams might review class notes. In another session, teams might go over a class quiz or test to ensure that they clearly understand each of the questions, especially those that were answered incorrectly by one or more members. Another session might be devoted to reviewing assignments.

Model 3. The main agenda for each study team session is a set of study questions. Early in the term, the study questions are provided by the professor. After three or four weeks, each team member must bring a study question related to the week's lecture material to the team meeting. At the session's end, the study questions that the group chooses as the most valuable are turned in for review by the instructor. ("Study Groups Pay Off," 1991)

Let students know what their responsibilities are as study team members. Students who participate in study teams agree to do the following:

- Prepare before the study team meeting
- Complete any tasks that the group assigns to its members
- Attend all meetings and arrive on time
- Actively participate during the sessions in ways that further the work of the group
- Help promote one another's learning and success
- Provide assistance, support, and encouragement to group members
- Have periodic self-assessments about whether the study team is working successfully

Students can improve the effectiveness of their study teams by making sure each session has a clearly articulated agenda and purpose. They can also work more efficiently if all logistical arrangements are set for the semester: meeting time, length, location.

Limit groups to six students. In groups larger than six it is easy for students to become passive observers rather than active participants; they may not get the opportunity to speak frequently; their sense of community and responsibility may be less intense in larger groups.

Let students select their own study teams. Since the groups are designed to last the term and will meet outside of class, give students the opportunity to get to know one another. Offer small group activities during the first three weeks of class and rotate the membership of these groups.

Use a portion of class time for arranging study groups. Announce that study groups will be set up during the third or fourth week of the course. At that time, hand out a description of study teams and students' responsibilities, and let students talk among themselves to form groups or to sign up for scheduled time slots. Suggest that all members of the study team exchange phone numbers.

Devote a class session to study teams. Ask students to meet in their study teams to review course material or prepare for an upcoming exam or assignment. Use the time to check in with the groups to see how well they are operating. If possible, meet with a study team during an office hour or review the work of a study team sometime during the semester.

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