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CENTER for
TEACHING
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Making Group Projects Work

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What it is

One measure of successful teaching is student engagement. Instructors often find that student engagement increases when active learning strategies are implemented in the classroom. One strategy is to assign problem-based collaborative learning projects. Well-conceived group projects help students develop critical thinking skills, learn how to work in teams, and allow them to apply theories learned in the course to real-life situations, producing an appreciation for how the knowledge gained will be useful once the class is over. The end result is a richer learning experience for the students.



possible and regurgitating facts for exams with little concern for long term retention of knowledge. Problem-based group projects typically require an array of cognitive skills, induce collaborative learning, and allow students to take ownership of the process. Moreover, students who learn to work in teams are better prepared for their future work environments. They come to value each other's strengths and learn to be teachers as well as students. These become valuable skills when they enter the workforce, regardless of their specific discipline.

Why does it matter

Students are more likely to appreciate and retain information when they see a correlation between what they hear in lectures (and read in their textbooks) and what they expect to experience as working professionals. They are likely to focus on fulfilling the course requirements as efficiently as

How to do it

Developing effective problem-based group projects requires assignments that reflect your course learning goals and incorporate course information, permit management of the student groups, and facilitate assessment of student progress. Advance planning and thoughtful strategies will go a long way towards ensuring successful implementation. Below are some ideas to consider for easing your project development ensuring success.

I. Setting Student Expectations

- **Weight the project fairly.** You want your students to take the project seriously but you don't want to weight the project so heavily that experimentation or risk-taking is stifled. Consider dividing the project into parts and grading each separately, leaving the team with an understanding of which aspects of the project went well and what needs improvement.
- **Discuss student roles and what's needed.** Get the students thinking about what will be required of their team and how they can organize and manage the project. Emphasize that a team schedule is important. This is also a good opportunity to discuss the qualities of a good teammate so that students begin the project with mutual respect.
- **Start with small exercises as a warm up.** Before jumping into a large scale group project, consider doing a couple of smaller in-class team-based exercises so that students get used to the concept of working collaboratively.

II. Group generation methods

- **Allowing self-selection of teams can create problems.** Students like to choose friends as teammates. Personal issues then carry over into the project, friendships may suffer, or the members may take the project less seriously. These factors can produce a poor group performance.
- **Random selection is a reasonable alternative to student choice.** This method is the fastest way to generate groups and more reflective of the real world where one is unlikely to have a best friend as a work colleague. While random selection is convenient, consider ensuring diversity in each group to the extent possible.
- **Skills based alignment is ideal for creating groups.** Identifying students' strengths and weaknesses through in-class exercises can help establish well-rounded teams. As a part of the preparation for the project, generate a list of the skills needed, have the students identify their strong and weak areas, then group the students accordingly.

III. Getting each student to contribute

- **Assign the students to roles.** The difference between a dysfunctional group and a successful team lies in assigning roles. Unless students are given a specific role in the project, they can avoid responsibility. If students are assigned tasks with deadlines, they are more likely to take ownership and the responsibility for completing their work as part of the team. Establishing roles should be done early and can be a part of the group creation process. Avoid having students pigeon-holed into doing the same task for the entire length of the project. Instead, make the skill requirements for the team more conceptual. Use abstract concepts (Researcher or Synthesizer; Gatherer of Data or Analyzer of Data) so that broad expertise is required for each role.
- **Require that a different student present the team's progress for each report.** Make sure that each student has an opportunity to do one of the in-class presentations. Presenting their work is a skill that all students will use in the future. As it involves an understanding of all the parts of the project, these presentations by each team member also help to ensure successful group collaboration.

IV. Assessing the team/individual in and outside of class

- **Have the students do evaluations.** This can be done both during and after the project. Evaluations serve as reflective exercises for the students, allowing them to comment on how the process could be improved. Evaluations are particularly useful for gauging the team and individuals' contributions for grading. Questions that require students to evaluate their own performance, the performance of each team member, and the team as a whole can provide insight into how the team functioned.
- **Schedule time for team work in class.** Scheduling group work outside of class is always a challenge for students. By allowing time during class for team work, not only will you accommodate students' busy schedules, you also will have an opportunity to monitor student progress. This is a great way to gauge whether or not the students are experiencing difficulties. It also gives the students an opportunity to ask questions, clarify assumptions, or get assistance with problems. Some of the best learning comes from spontaneous discussion in class, and peer-learning can be extremely effective when students are working together to solve problems.
- **Ask for regular status updates.** Starting class with a brief progress report from each team will bring up questions and concerns that can be addressed at once, eliminating redundancy and saving time. Asking "Did you follow your team schedule this week?" is a good way to uncover issues that other groups may be struggling with. This provides an opportunity for the class to offer solutions collectively.

V. Build in time for reflection

- **Reflection is key to learning from failure as well as success.** Make sure you build in time for students to reflect on their progress. Conducting team member evaluations (mentioned above) during the project will start the process, but the best time to get the students to reflect on their experience is after the project during a debriefing discussion. Questions such as "What went well or not so well?" and "What would you do differently?" will enhance the opportunity for learning from their failures as well as their successes.

Author's Background

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