IN CONSIDERATION OF EFFECTIVE GROUP WORK

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INTRODUCTION

The use of “group work” in the college classroom has grown in popularity over the last several years, though for many instructors and students alike it can still summon anxiety and fears about chaos in the classroom, content coverage, or group members who don’t pull their weight. Nevertheless, with the right planning and structure, group work remains an extremely effective strategy that can benefit students both academically and socially. In this paper, I will provide a brief overview of group work (otherwise known as “collaborative learning”) in the college classroom, its benefits for students, and some general tips for executing it effectively and managing the challenges associated with it.

DEFINITIONS

There are two common terms for “group work” that frequently get confused or conflated: collaborative learning and cooperative learning. As Kenneth Bruffee (1995) remarks, these are just “two versions of the same thing” (p.12). In more practical terms and for the purposes of this paper, “collaborative learning” is an umbrella term for any instructional strategy that involves students working together (Smith & MacGregor). By comparison, “cooperative learning” can be understood as a more specific form of collaborative learning, a “structured, systematic instructional strategy in which small groups of students work together towards a common goal” (Cooper et al, 1993). The easiest way to understand the differences between these terms is through example: you might think of collaborative learning as an informal small group discussion activity that takes place during class, and cooperative learning as a structured group project that takes place over the course of the semester. Ted Panitz (1999) takes a more philosophical stance on the difference, asserting that collaborative learning is student-centered and involves consensus-building, while cooperative learning is more teacher-centered and directive. For most, however, the primary difference between these two closely-related concepts is the presence and degree of structure.

BENEFITS

The research confirming the overall effectiveness and beneficial nature of group work in all its forms is long-standing and robust (Millis, 2002). Numerous studies have shown the many advantages, both scholarly and interpersonal, that collaborative/cooperative learning brings to students – far too
many to even summarize here. What follows are just a few of the most significant benefits from that long list.

**Academic Benefits**

- **Active student engagement.** Perhaps one of the most noticeable and important benefits of group work is that it is one way to get students participating actively in the learning process rather than passively taking in a lecture (Johnson & Johnson 1999; Panitz 1999; Laal & Ghodsi 2011). Participating in small groups can likewise be more inviting and comfortable for students who are introverted or less willing to contribute in a large-class setting (Cooper et al 2000). Above all, research supports that active student involvement in learning, with other students and with faculty, are vital factors in student retention and success in college (Smith & MacGregor). [Click here](#) for more information on Active Learning.

- **Deep learning.** Group work has also been shown to help students achieve greater conceptual understanding (Cooper et al, 2000; van Boxtel et al, 2000) and improves retention of “big ideas.” Further, it can lead to greater transfer of what is learned from one situation to another, and more frequent generation of new ideas (Johnson & Johnson 1999; Jones & Jones 2008) as well as an increased willingness to engage with new ideas (Bruffee 1999).

- **Critical thinking and other higher-order thinking skills.** Many studies have demonstrated that collaborative/cooperative learning is especially effective for fostering a number of highly desirable higher-order thinking skills in students (Gokhale 1995; Johnson & Johnson 1999; Cooper et al 2000). This list includes skills such as critical thinking, problem solving, application, creativity, and reasoning.

- **Increased understanding and retention.** Group work, especially when groups are heterogeneous in composition, can benefit students of varying ability levels as they help one another (Rau & Heyl 1990; Jones & Jones 2008). Collaborative learning groups can obviously benefit struggling students, who gain a multitude of teachers in their peers and the opportunity to learn from the stronger students in their group; strong students can likewise gain greater mastery of the material by teaching it to and assisting other students.

- **Increased student satisfaction and positivity.** Finally, many studies have shown that participation in collaborative learning activities can increase student motivation and general satisfaction with a course (Davis 1993) as well as promote a positive attitude toward the subject matter (University of Oregon). Because collaborative learning engages students actively and encourages individuals to work together, students may find the experience inherently more satisfying, fun, and interesting than a passive learning experience (Laal &

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Ghodsi 2012). Additionally, these activities foster higher levels of performance and productivity (University of Oregon; Rau & Heyl 1990; Johnson & Johnson 1999; Cooper et al 2000), thereby positively influencing students’ self-esteem. What’s more, greater student satisfaction can play a role in increased student motivation and decreased absenteeism (Cooper et al 2000; Smith 2000; Laal & Ghodsi 2012).

**PSYCHOLOGICAL AND SOCIAL BENEFITS**

- **Improved confidence and independence.** Research on collaborative learning reports that students engaged in group work display a greater sense of confidence as well as more independence in their work (Johnson & Johnson 1999; Cooper et al 2000). Johnson and Johnson (1999) note, “The more individuals work cooperatively, the more they see themselves as worthwhile and as having value, and the more autonomous and independent they tend to be” (p. 73).

- **Communication and listening skills.** Given the importance of communication between group members, it makes sense that collaborative learning helps improve students’ ability to communicate effectively with others, as well as their listening and cooperative skills (Johnson & Johnson 1999; Jones & Jones 2008).

- **Decision-making and conflict-resolution skills.** By necessity, group work also calls for students to learn how to make decisions with others and more likely than not, deal with conflict amongst the group. As such, group work promotes “positive societal responses to problems” (Laal & Ghodsi 2012, pp. 488) and cultivates an environment that helps groups “make good decisions, build trust, repair hurt feelings, and understand other’s perspectives” (Johnson & Johnson 1999, pg. 73).

- **Greater sense of community and appreciation for diversity.** Likewise, working with others can help students build relationships with their peers and gain a greater appreciation for diverse experiences (Johnson & Johnson 1999; Cooper et al 2000; Laal & Ghodsi 2012). Research further shows that students learn better when they are “embedded in a network of informal social relations” (Rau & Heyl 1990), so the generalized social aspect of collaborative learning also benefits students academically.

- **Self-reflection and assessment.** Collaborative learning can also enhance students’ abilities for self-reflection and self-assessment (Jones & Jones 2008). As Jones and Jones (2008) point out, “by working closely with others students, learners can evaluate their own strengths and weaknesses, utilizing the diversity of the group to accomplish their mutual goal” (p. 64).
CONCERNS

While collaborative learning clearly offers scores of benefits for students, it is not without its challenges, and there are several common concerns that give some instructors pause when considering the implementation of group work in the classroom. However, there are manageable ways to address those concerns with some forethought and structure.

- **Can I still cover all of my content?** The issue of content-coverage is a common concern with most pedagogy related to active learning, given that time during class is less devoted to traditional lecture. The faulty assumption here is that less “content coverage” equals less learning. In fact, the opposite is true! Cooper et al (2000) note that while two-thirds of the faculty members they interviewed in their study reported that they covered fewer topics in class when using group work, their students “learned and retained more of the ‘big ideas’ that they chose to address relative to using lecture formats” (p. 64). They also found that students involved in collaborative learning were matching or even outperforming students in previous teaching settings. Rau and Heyl (1990) likewise found that a majority of the students in their study cited collaborative learning groups as helpful in understanding course material and readings, including retaining ideas longer and expansion of knowledge base.

- **What about student “hitchhikers?”** Another common concern about group work, felt by both instructors and students alike, is the issue of “social loafing,” or in other words, those students who simply don’t pull their own weight in the group. Indeed, this is a worthy concern, because an unbalanced group dynamic can create larger problems. Other students in the group can become resentful and dissatisfied with the activity or even the course; Michelsen, Fink, and Knight (1997) write that “more assertive members will inevitably ‘take charge,’ and by doing so, will both reduce the need for additional input and create a sort of ‘caste’ system in which quieter members often feel that their ideas might not be welcomed” (pg. 375). Fortunately, there are strategies for reducing the odds of social loafing in groups. Namely, it is recommended that the instructor incorporate individual accountability and/or assign tasks that allow for fair division of labor within the groups (Cooper et al 2000; Davis 1993; Michelsen, Fink, & Knight 1997). Some of these suggested best practices in designing group work will be discussed later in this paper.

- **How do I grade group work?** Assessing group work fairly is likewise a fair concern, especially given the concern over social loafing noted above. Many students also fear the prospect of being evaluated as a group (King & Behnke 2005). It can be challenging to determine a grading schema for individual assignments, and adding in the group dynamic can certainly complicate the matter. Do you give one grade for the entire group? Individual grades? Some combination of the two? And how much should that grade be weighted? Cooper at al (2000) suggest that any undifferentiated group grades should only count for a
relatively small percentage of course grades, and some group work, especially informal activities, need not include any form of formal grading. Davis (1993), Millis (2002), and King and Behnke (2005) also note that incorporating peer assessment and even self-assessment can maintain accountability. You might even give students the opportunity to evaluate the effectiveness of their group as a whole or include group performance/cohesiveness as part of the grading schema (Michaelsen, Fink, & Knight 1997). In either case, a clear rubric denoting evaluation criteria and provided early in the process can help communicate how grades will be determined and appeal to students.

- **What if a group doesn’t get along?** This is more of a concern for group work involving long-term projects, but again, a dysfunctional group dynamic can wreak havoc on the learning process and student motivation. Sometimes the most careful of planning cannot predict how group members will function together, and as such, Davis (1993) recommends providing mechanisms for groups to deal with “uncooperative members” in addition to peer evaluations. One option she suggests is that groups might be allowed to dismiss a loafing group member by majority vote; any “fired” students might then work to persuade another group to take them on or take a failing/reduced grade on the project. King and Behnke (2005) point out that this strategy might cause problems later, especially if an instructor is operating under the assumption that the “fired” student was simply uncooperative or apathetic. Ideally, however, before any groups feel the need to take that extreme action, instructors should routinely monitor group progress (Davis 1993; Millis 2002) and help foster a productive and professional group relationship.

**A FEW MORE CONSIDERATIONS**

Collaborative learning obviously offers a wealth of benefits for student learning and development, and by following a few simple guidelines, it can be incorporated effectively into the classroom. While effective group work might require a bit of additional planning and preparation on the front end, once implemented, it can actually “decrease the work and stress of teaching” (Rau and Heyl 1990, pg. 145). What follows are some best practices to keep in mind as you design your group work strategies, both formal and informal.

- **Group size.** There are varying levels of agreement on exactly how many students to include in a group, but the general consensus is to keep the groups small, but not too small – around 3–4 students per group (Johnson & Johnson 1999). Millis (2002) asserts that 4 students in a group is “ideal” because the group is “large enough to contain students who will bring diverse opinions, experiences, and learning styles to aid in problem solving” (pg. 4). She adds that a 4-member group is large enough to function smoothly if one member is absent, but not so large that it makes it easy for students to hide. Davis (1993) contends that 3–5
students per group works best, and that the less skillful the students and the shorter the amount of time available, the smaller the groups should be.

- **Group composition.** It is frequently suggested that groups should be heterogeneous in composition and instructor-selected (Johnson & Johnson 1999; Millis 2002). Self-selected groups run the risk of self-segregating and too much off-task socialization (Davis 1993). Conversely, groups that are diverse in gender, ethnic background, and academic ability can foster more divergent thinking and enhance the likelihood of group success (Millis 2002). Further, if students of like abilities are grouped together, the weak groups will remain weak, and the strong groups might not only have an unfair advantage over others, but also simply divide up the work and avoid the dynamic interaction at the heart of effective group work (Felder and Brent 1994). Davis (1993), on the other hand, asserts that for very small classes, classes of majors, or classes in which students already know one another, self-selected groups could work.

- **Accountability.** As previously noted, ensuring accountability amongst all students is crucial to the success of collaborative and cooperative learning (Michaelsen, Fink, & Knight 1997) not only to discourage shirking, but also to ensure that students come away from the experience stronger as individuals (Johnson & Johnson 1999). A few strategies for incorporating individual accountability include calling on individuals to report back on the group’s work or randomly selecting one student’s product to represent the group and giving individual tests or quizzes (Davis 1993; Johnson & Johnson 1999). Peer assessment can also help encourage individual accountability, particularly when incorporated into individual group members’ grades for larger projects.

- **Group cohesiveness.** For groups to function successfully, it makes sense that group members need to perceive that their success is linked to one another, or what Johnson and Johnson call “positive interdependence” (1999). One way to achieve such cohesiveness is to offer joint rewards to group members (such as by offering bonus points to groups whose members succeed individually on tests or other related assignments) (Johnson & Johnson 1999; Smith 2000; King & Behnke 2005). Other strategies are to divide necessary resources for success amongst the group members or assign complementary roles (Johnson & Johnson, 1999; Jones & Jones 2008).

Undermining group cohesiveness, according to Michaelsen, Fink, & Knight (1997), is the group activity or project that allows group members to simply split up or delegate the work individually – especially common with writing-intensive projects. In fact, they deem group term papers to be the “worst activity” for building group cohesiveness because writing is an
inherently individual activity (pg. 381)!

- **Social Skills.** Group work is obviously a social activity, which consequently yields many social benefits for students, as noted previously. However, this means that in order to be successful, interpersonal skills are crucial. And you cannot assume that students – even college students – will innately possess well-developed social skills (Johnson & Johnson 1999; Jones & Jones 2008). As such, it might be wise to build in opportunities for you, the instructor, to help them develop those skills; consider outlining the necessary competencies for students early in the process (Jones & Jones 2008), and check in with them frequently to assess progress and assist with group dynamic when needed (Davis 1993). Johnson and Johnson (1994) even recommend formal training in social skills and bonus points for groups that demonstrate them.

- **Assignment design.** Finally, much of the success of group work inevitably relies on a well-structured and thoughtful assignment. As with any assignment, you should be sure to think through the purposes of the proposed activity and ensure that it fits with the learning objectives of the course (Millis 2002). It is also important to make sure students understand the value and relevance of the activity or assignment (Davis 1993; Millis 2002), and of collaborative learning in general, and that you provide clear instructions to guide them through the activity (Johnson & Johnson 1999; Millis 2002).

In addition to these general suggestions, Michaelsen, Fink, and Knight (1997) also suggest that certain types of tasks foster more successful group work. In particular, they favor assignments that “require members to make a concrete decision based on the analysis of a complex issue,” such as those that ask students to apply a rule or solve a problem (pg. 379). They add that “problem-based tasks almost universally immerse students…in information-rich, give-and-take discussions through which their content learning increases” (pg. 379). They further recommend assignments that ask students to “make a specific choice” because they foster higher-level cognitive skills by asking students to defend a clearly-defined position.

**EXAMPLES**

Collaborative learning as a whole exists along a continuum, with potential activities ranging from simple in-class, small group discussion to long-term projects. What follows are a few examples of different strategies along that continuum. If you are new to group work as an instructor, try starting out small with one or two of the suggestions on the top of the figure below; if you are ready to try something new and want to go big, look towards the bottom of the figure. For more details and resources on the activities listed below, please refer to the appendix at the end of this document. See

![Diagram of collaborative learning strategies]

**Less Structure/Lower Stakes**

- Think/Pair/Share
- Small-group discussion
- Study groups/writing groups
- Jigsaw activities
- Formal case studies
- Group tests
- Learning communities

**More Structure/Higher Stakes**

- Comparing notes/“Catch-up”
- Peer instruction
- Fishbowl activities/discussions
- Problem-based learning
- Team-based learning
- Extensive/long-term group projects
- Simulations

**Concluding Thoughts**

While at first glance collaborative learning might appear complicated, it certainly doesn’t have to be! Like any good teaching practice, it will always be more successful with some thoughtful planning, and its benefits are well-supported by research. Group work can be easily adapted for any type of classroom or learning situation, and can be as simple or complex as you need it to be. In the end, students will reap the rewards of deeper learning.
APPENDIX: EXAMPLES OF COLLABORATIVE STRATEGIES

<table>
<thead>
<tr>
<th>STRATEGY</th>
<th>BRIEF DESCRIPTION AND RESOURCES</th>
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<tbody>
<tr>
<td>Comparing notes/ “Catch-up”</td>
<td>Build time into class periodically so students can assemble into pairs or groups to compare and contrast the notes they have taken so far. <a href="http://www.cte.cornell.edu/teaching-ideas/engaging-students/collaborative-learning.html">http://www.cte.cornell.edu/teaching-ideas/engaging-students/collaborative-learning.html</a></td>
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<tr>
<td>Extensive/long-term group projects</td>
<td>Assign students a project to work on in groups that might take several weeks or even span the entire semester to complete. You might scaffold components of the larger project by breaking it up into smaller elements that are submitted periodically. This might be a business proposal or large-scale research project, or a project that asks students to solve a problem in the field, for instance. <a href="https://www.cmu.edu/teaching/design/teach/design/instructionalstrategies/groupprojects/design.html">https://www.cmu.edu/teaching/design/teach/design/instructionalstrategies/groupprojects/design.html</a></td>
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<tr>
<td>Fishbowl activities/discussions</td>
<td>Ask a small group of students to engage in a discussion while the rest of the class observes and analyzes. Another version of the activity asks students to take on certain roles in a discussion. <a href="https://www.facinghistory.org/for-educators/educator-resources/teaching-strategy/fishbowl">https://www.facinghistory.org/for-educators/educator-resources/teaching-strategy/fishbowl</a> <a href="https://www.edutopia.org/pdfs/coop_math_bowman/bowman_fishbowl_method.pdf">https://www.edutopia.org/pdfs/coop_math_bowman/bowman_fishbowl_method.pdf</a></td>
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<tr>
<td>Formal case studies</td>
<td>Provide students with detailed case studies that ask them to work in groups to solve a problem or apply a theory/concept from the course material to real-world situations. <a href="http://cft.vanderbilt.edu/guides-sub-pages/case-studies/">http://cft.vanderbilt.edu/guides-sub-pages/case-studies/</a></td>
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<tr>
<td>Jigsaw activities</td>
<td>Organize students into groups and assign each group a portion of an assignment or the course material. Groups then divide up and re-organize themselves into new groups to share their information with one another and engage in a new discussion. <a href="https://www.schreyerinstitute.psu.edu/pdf/alex/jigsaw.pdf">https://www.schreyerinstitute.psu.edu/pdf/alex/jigsaw.pdf</a></td>
</tr>
<tr>
<td>Learning communities</td>
<td>Organize students into groups (inside or outside of class) who share common goals and/or interests and meet regularly to collaborate on classwork. <a href="http://evergreen.edu/washingtoncenter/resources/learningcommunities.html">http://evergreen.edu/washingtoncenter/resources/learningcommunities.html</a></td>
</tr>
<tr>
<td>Peer instruction</td>
<td>Give students a question or problem to work on individually, then ask them to spend 2-3 minutes discussing their answers in small groups, attempting to reach consensus on the correct answer. <a href="http://mazur.harvard.edu/research/detailpage.php?rowid=8">http://mazur.harvard.edu/research/detailpage.php?rowid=8</a></td>
</tr>
</tbody>
</table>
| **Problem-based learning (PBL)** | Similar to using case studies but more extensive, in PBL students learn a subject by solving an open-ended problem in small groups rather than through traditional lectures.  
http://www.pbl.uci.edu/whatispbl.html  
http://www.studygs.net/pbl.htm |
|-------------------------------|----------------------------------------------------------------------------------|
| **Simulations**               | Engage students in a structured, staged replication of an event or concept that might last for a class period or a longer portion of the course.  
http://careерplancommoments.gc.cuny.edu/2013/10/using-simulations-classroom/ |
| **Small-group discussion**   | Ask students to work through specific questions or problems during class in small groups of 3 – 5. Those groups may report out to the larger class.  
https://teachingcommons.stanford.edu/resources/teaching/small-groups-and-discussions |
| **Study groups/ writing groups** | Help students form long-term small groups with peers to work through course material or writing projects together outside of class time.  
https://teaching.berkeley.edu/using-groups-classes-encouraging-study-groups |
| **Team-based learning**      | Organize students strategically into diverse teams that work together throughout the course. Students prepare material prior to class time and may complete both individual and group tests.  
http://cft.vanderbilt.edu/guides-sub-pages/team-based-learning/  
http://www.iub.edu/~tchso/t/part3/Maichelsen%20Team%20Based%20Learning.pdf |
| **Think/Pair/Share**         | Similar to peer instruction, though less structured and less focused on reaching consensus. Give students a minute to think or write about a personal response to a given question, then have them pair up with partners to share their responses before discussing with the entire class.  
https://www.brown.edu/about/administration/sheridan-center/teaching-learning/effective-classroom-practices/think-pair-share |

**ADDITIONAL ONLINE RESOURCES**

https://online.tarleton.edu/fdi/Documents/Burdick_Handout4.pdf
- “Collaborative Learning: Group Work,” from Cornell University’s Center for Teaching Excellence:  
http://www.cte.cornell.edu/teaching-ideas/engaging-students/collaborative-learning.html
- “Collaborative Teaching and Learning Strategies,” from Educause.  
• “Cooperative Learning Group Activities for College Course,” prepared by Alice Macpherson, Kwantlen University College.

• Sample Grading Rubric for a Group Project. From the Eberly Center for Teaching Excellence at Carnegie Mellon University.

• Sample Group Member/Peer Evaluation Rubrics.
  http://jfmueller.faculty.noctrl.edu/crow/altmangroupprocessrubric.pdf

REFERENCES


University of Oregon Teaching and Learning Center. (n.d.). Benefits of collaborative learning. [http://tep.uoregon.edu/resources/librarylinks/articles/benefits.html](http://tep.uoregon.edu/resources/librarylinks/articles/benefits.html)