

Peer assessment of group work

When breaking up students into groups, there's only so much monitoring you can do. You might wander around the classroom during activities and get an impression of who's engaged and who isn't; you might click around a digital platform that a group of students is using to see who's updating what.

But it's hard for an instructor to have a solid sense of an individual student's participation and contribution—even if groups have been carefully assembled and specific roles have been carefully defined. This is especially true if students are working together outside of class. Yet we know that individual assessment is an important component of collaborative learning.

Luckily, you have reporters on the ground: the students themselves. Though you may be worried that students wouldn't assess each other fairly, research has shown decent correlation to grades an instructor would give and subsequent individual performance (Kaufman et. al., 1999; Gibbs, 2009). Careful definition of what students are measuring about each other, as well as judicious calibration of peer grades with other means of assessment, can lead you to fairer (and more student-endorsed) individual grades.



What peers should measure

Don't ask students to make academic judgments about the quality of each other's work — that's your job. Instead, ask them to let you know about the process of how the group worked together, specifically the quantity and value of contributions to the collective effort. Their ratings of each other should be 'behaviorally anchored' — ie, clearly related to evident behaviors.

Researchers generally agree that a single overall judgement or rating, underpinned by a set of criteria (*ex: dependable meeting attendance, making an effort at assigned work, making an effort to contribute to the group, seeking help within the group when needed, cooperating with group effort*) surfaces the most accurate picture. However, some forms for peer assessment do list out individual components of a project or of teamwork, and ask students to come up with sets of ratings.

For one model of collecting peer assessment, see the sample Peer Rating of Team Members form later in this document.

Gathering measurements from your students

There are many ways to ask students to give you information that will help you ascertain individual effort during group work. The strategy you adopt will have a lot to do with the culture of your classroom. Here are some approaches to consider:

- Students rate each other's overall contribution to the group at the end of a collaborative assignment. These ratings could be submitted to you and summarized by you, to minimize interpersonal friction. Anonymous ratings have the advantage of a greater spread and greater distinction between students.

- The instructor lists major tasks of a group project, asks students to individually rate how much each group member contributed to each category as part of the submission of the project.
- Students offer you ratings of each other's engagement with the group in the midst of a collaborative assignment, allowing you to intervene if there's a problematic situation brewing — while there is still time for the group to course-correct and perform better together.
- Students document their own contributions, or keep a 'process journal' or 'work log' during the collaborative assignment that details their own efforts and contributions. Questions for such a journal might include: *What steps have you taken to promote and organize teamwork? What steps have you taken to improve the effectiveness of your team? What problems have arisen working as a team, and how have you helped to solve them?* You may scan these journals in-progress, or ask for them along with the submitted group assignment.
- The instructor designates a set number of effort points or credits, to be distributed among the group as the group members see fit. To cut down on drastic variation, the instructor can limit the point differences allowed. For example, a group of four could have 100 points to allot across group members, with no more than 10 points difference between allocations allowed.
- After submitting a group project, students are individually tested in a way that being totally involved in the group work is the only way to get a good score on the individual assessment.

Applying peer ratings to grades

Peer ratings will be factored differently into the project grades that students receive for their collaborative work, depending on the learning goals set by the instructor. An assignment emphasizing the development of **process skills** would weigh data about individual contributions to teamwork and interaction more heavily than one emphasizing the achievement of a **product**.

A common approach is to determine a group project grade, and then adjust this grade for each team member based on data collected from peers about his or her individual contribution. A 'peer assessment factor' can be calculated from an individual's total peer-given points divided by the average number of peer-given points, and then added to the project grade. For more details and some sample calculations, see the Grading Methods for Group Work charts at the end of this document.

For more:

Barkley, E., Major, C., and Cross. K. (2014). Collaborative Learning Techniques: A Handbook for College Faculty. San Francisco: Jossey-Bass.

Gibbs, G. (2009). "The assessment of group work: Lessons from the literature." The Assessment Standards Knowledge Exchange, Centre for Excellence in Teaching and Learning in Higher Education, Oxford Brookes University.

Methods for assessing group work - Centre for Teaching Excellence, University of Waterloo. Accessed Jan. 17, 2017, <https://uwaterloo.ca/centre-for-teaching-excellence/teaching-resources/teaching-tips/developing-assignments/group-work/methods-assessing-group-work>

Peer ratings of team members

A sample peer rating form, taken from Kaufman, D.B., Felder, R.M. and Fuller, H. (1999). Peer ratings in cooperative learning teams. Annual American Society for Engineering Education Meeting Proceedings of the 1999 Annual ASEE Meeting.

Name _____ Group # _____

Please write the names of all of your team members, INCLUDING YOURSELF, and rate the degree to which each member fulfilled his/her responsibilities in completing the homework assignments. The possible ratings are as follows:

- **Excellent** - Consistently went above and beyond—tutored teammates, carried more than his/her fair share of the load
- **Very good** - Consistently did what he/she was supposed to do, very well prepared and cooperative
- **Satisfactory** - Usually did what he/she was supposed to do, acceptably prepared and cooperative
- **Ordinary** - Often did what he/she was supposed to do, minimally prepared and cooperative
- **Marginal** - Sometimes failed to show up or complete assignments, rarely prepared
- **Deficient** - Often failed to show up or complete assignments, rarely prepared
- **Unsatisfactory** - Consistently failed to show up or complete assignments, unprepared
- **Superficial** - Practically no participation
- **No show** - No participation at all

These ratings should reflect each individual's level of participation and effort and sense of responsibility, not his or her academic ability.

Name of team member	Rating
_____	_____
_____	_____
_____	_____
_____	_____

Your signature: _____

Grading methods for group work

The tables on the next two pages are from Winchester-Seeto, T. (April, 2002). Assessment of collaborative work – collaboration versus assessment. Invited paper presented at the Annual Uniserve Science Symposium, The University of Sydney. Published by Eberly Center, Carnegie Mellon University at <http://www.cmu.edu/teaching/assessment/howto/assesslearning/groupWorkGradingMethods.html>.

Instructor assessment of group project		
Assessment option	Advantages	Disadvantages
<p>Shared Group Grade The group submits one product and all group members receive the same grade, regardless of individual contribution.</p>	<ul style="list-style-type: none"> encourages group work - groups sink or swim together decreases likelihood of plagiarism (more likely with individual products from group work) relatively straightforward method 	<ul style="list-style-type: none"> individual contributions are not necessarily reflected in the marks stronger students may be unfairly disadvantaged by weaker ones and vice versa
<p>Group Average Grade Individual submissions (allocated tasks or individual reports) are scored individually. The group members each receive the average of these individual scores.</p>	<ul style="list-style-type: none"> may provide motivation for students to focus on both individual and group work and thereby develop in both areas 	<ul style="list-style-type: none"> may be perceived as unfair by students stronger students may be unfairly disadvantaged by weaker ones and vice versa
<p>Individual Grade - Allocated task Each student completes an allocated task that contributes to the final group product and gets the marks for that task</p>	<ul style="list-style-type: none"> a relatively objective way of ensuring individual participation may provide additional motivation to students potential to reward outstanding performance 	<ul style="list-style-type: none"> difficult to find tasks that are exactly equal in size/complexity does not encourage the group process/collaboration dependencies between tasks may slow progress of some
<p>Individual Grade - Individual report Each student writes and submits an individual report based on the group's work on the task/project</p>	<ul style="list-style-type: none"> ensures individual effort perceived as fair by students 	<ul style="list-style-type: none"> precise manner in which individual reports should differ often very unclear to students likelihood of unintentional plagiarism increased
<p>Individual Grade - Examination Exam questions specifically target the group projects, and can only be answered by students who have been thoroughly involved in the project</p>	<ul style="list-style-type: none"> may increase motivation to learn from the group project including learning from the other members of the group 	<ul style="list-style-type: none"> may diminish importance of group work additional work for staff in designing exam questions may not be effective, students may be able to answer the questions by reading the group reports

Grading methods for group work (continued)

From Winchester-Seeto, T. (April, 2002). Assessment of collaborative work – collaboration versus assessment. Invited paper presented at the Annual Uniserve Science Symposium, The University of Sydney. Published by Eberly Center, Carnegie Mellon University at <http://www.cmu.edu/teaching/assessment/howto/assesslearning/groupWorkGradingMethods.html>.

Student assessment of group project		
Assessment option	Advantages	Disadvantages
<p>Student distribution of pool of marks Instructor awards a set number of scores and let the group decide how to distribute them.</p> <p><u>Example: 4 member group</u> Product grade: 80/100.</p> <ul style="list-style-type: none"> • $4 * 80 = 320$ pts to be distributed. • No one student can be given less than zero or more than 100. • If members decide that they all contributed equally then each get 80 • If they decided that person A deserved much more, then A might get 95, and the remaining if equal would get 75. 	<ul style="list-style-type: none"> • easy to implement • may motivate students to contribute more • negotiation skills become part of the learning process • potential to reward outstanding performance • may be perceived as fairer than shared or average group mark alone 	<ul style="list-style-type: none"> • open to subjective evaluation by friends • may lead to conflict • may foster competition and therefore be counterproductive to team work • students may not have the skills necessary for the required negotiation
<p>Students allocate individual weightings Instructor gives shared group grade & individual grade adjusted according to a peer assessment factor.</p> <p><u>Example</u> Group Grade = 80/100</p> <ul style="list-style-type: none"> • The individual student's peer grade ranges from .5 – 1.5, with 1 for full • $\text{Grade} = \text{Group grade} * \text{peer}$ • $\text{Below} = 80 * .75 = 60$ • $\text{Above} = 80 * 1.2 = 96$ 	As Above	As Above
<p>Peer Evaluation - random marker, using criteria, moderated Assessment items are anonymously completed by students who identify whether their peer has met the assessment criteria and awards a grade. These grades are moderated by instructor and rating sheets returned to student.</p>	<ul style="list-style-type: none"> • helps clarify criteria for assessment • encourages sense of involvement and responsibility • assists students to develop skills in independent judgement • increases feedback to students • random allocation addresses potential friendship and other influences on assessment • provides experience to careers where peer judgement occurs 	<ul style="list-style-type: none"> • time may have to be invested in teaching students to evaluate each other • instructor moderation is time consuming

