

Calculating Individualized Grades from Peer Assessment Scores

Below are three ways to calculate individual grades adjusted by the average scores assigned by one’s peers. These are arranged from simple to more complex.

There are two important items to note in the Grade Report spreadsheet presented by PA.

- a) **The Grade Report includes data for each quantitative, peer assessment question set that you selected for an assessment.** Thus, you may use in your grade calculations whichever measure you feel is most appropriate. One recommendation is Question Set (P-03) Team Member Overall Participation, which uses a 9-point comprehensive rating scale developed by Oakley et. al. (2004). This scale, shown in the Sample Reports document, is used in the examples below.
- b) **Each quantitative question set includes two columns of data.** The first is a simple average of the scores provided by an individual’s peers. In the example, it is a 9-point scale question. The second column is a percent calculated by dividing the average peer score by the possible points. In this case Wendy Turner received a 6.67, which is divided by 9, for a 74.07%. You may calculate grades from either the average score or percentage.

Example 1: Simple Participation Points

This approach benefits from easy calculation and a straightforward explanation to students. It starts with a pool of points intended for individual participation on the team assignment. Usually, the individual participation points are given separate from the team assignment grade that all members receive equally. Each student receives from 0 to 100% of the possible participation points based on their peer assessment average.

For example, assume up to 25 participation points could be earned by each student. PA has already calculated the percent possible in column J. Calculate the grade points in column K, multiplying each student’s percent by 25. Wendy Turner’s grade is in cell K2; the formula is =J2*25 This amounts to .7407 * 25, or 18.52 points.

	A	B	C	D	E	F	G	H	I	J	K
	Last Name	First Name	Username	Stu	Class	Assess #	Team	Comp-leted	(P-02) Team Member Overall Participation	(P-02) Percent	EXAMPLE 1 Participation Points
1	Turner	Wendy	WendyTurner		ENG 210 - 2	1	Blue	1	6.67	74%	18.52
2	Daniels	Duncan	DuncanDaniels		ENG 210 - 2	1	Blue	0	4.33	48%	12.04
3	Baxter	Paul	PaulBaxter		ENG 210 - 2	1	Blue	1	8.33	93%	23.15
4	Parker	Amy	AmyParker		ENG 210 - 2	1	Blue	1	9	100%	25.00

Example 2: Simple Weighted Team Project Points

This approach is similar to simple participation points, except that the peer assessed participation is applied to the team project grade itself. Each student receives from 0 to 100% of the

team project grade, based on their peer assessment average. This is slightly more work to enter the team points, but it is similarly easy to calculate and explain to students.

For example, we have added a column, K, to enter the Team Project Points received by each team. The Blue team received 89 points. PA has already calculated the percent possible or the assessment rating in column J. Calculate the weighted team project points in column L, multiplying each student's percent by the team project points. Wendy Turner's grade is in cell L2; the formula is =J2*K2 This amounts to .7407 * 89, or 65.92 points.

	A	B	C	D	E	F	G	H	I	J	K	L
1	Last Name	First Name	Username	Stu	Class	Assess #	Team	Completed	(P-02) Team Member Overall Participation	(P-02) Percent	Team Project Points	EXAMPLE 2 Simple Weighted Team Project Points
2	Turner	Wendy	WendyTurner		ENG 210 - 2	1	Blue	1	6.67	74%	89	65.92
3	Daniels	Duncan	DuncanDaniels		ENG 210 - 2	1	Blue	0	4.33	48%	89	42.85
4	Baxter	Paul	PaulBaxter		ENG 210 - 2	1	Blue	1	8.33	93%	89	82.41
5	Parker	Amy	AmyParker		ENG 210 - 2	1	Blue	1	9	100%	89	89.00

Example 3: Normalized Weighted Team Project Points

Another approach is to normalize individual scores using the team score, so they range from plus or minus 100% of the possible points. Thus, the average team member receives the team project score; each person receives more or fewer points based their distance from the average. This approach rewards team members who contribute extra effort to make up for the missing contributions of other members. Some instructors place a cap on the extra points that individuals can receive over 100%, and/or a floor for points deducted under 100%, although a measure of instructor discretion is usually included.

This approach involves dividing each member's percentage by the team average, then multiplying that by the team project points. As in the prior example, we have added a column, K, to enter the Team Project Points. And PA has already calculated the percent possible or the assessment rating in column J for each individual. So we can accomplish this with the following formula placed in cell L2: =(J2/AVERAGE(J\$2:J\$5))*K2 This takes the percent that Wendy received (J2) divided by the average percentage received by the entire team (AVERAGE(J\$2:J\$5)) multiplied by the team project points (K2). Wendy Turner's grade is then .7407/.7870 * 89, or 83.76. This formula can be copied to each other member in cells L3, L4 and L5.

[Oakley et. Al \(2004\)](#) describe their recommendation for using a variation on this approach, called the "Automating System".

	A	B	C	D	E	F	G	H	I	J	K	L
1	Last Name	First Name	Username	Stu	Class	Assess #	Team	Completed	(P-02) Team Member Overall Participation	(P-02) Percent	Team Project Points	EXAMPLE 3 Normalized Weighted Team Project Points
2	Turner	Wendy	WendyTurner		ENG 210 - 2	1	Blue	1	6.67	74%	89	83.76
3	Daniels	Duncan	DuncanDaniels		ENG 210 - 2	1	Blue	0	4.33	48%	89	54.45
4	Baxter	Paul	PaulBaxter		ENG 210 - 2	1	Blue	1	8.33	93%	89	104.70
5	Parker	Amy	AmyParker		ENG 210 - 2	1	Blue	1	9	100%	89	113.08