

What do we 'know' about peer marking?

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Pedagogical research is a 'hard science'

- Not because the researchers are stupid, it's just a multivariate set of questions with loads of potential confounds.
- I found several papers that I felt were good and relevant to our situation
- I will focus on one and mention others as they relate

My primary resource:

Peer assessment in large undergraduate classes: an evaluation of a procedure for marking laboratory reports and a review of related practices

Judy R. Harris
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Rock Star

Adv Physiol Educ 35: 178–187, 2011;
doi:10.1152/advan.00115.2010.

Why does this paper stand out?



- 4 year study
- approx. 180 students per year
- carefully considered and measured
- well-written

The methods:

- Students were assigned to 1 of 3 groups for the classic 'pee lab'
- Data collated and made available to all students 
- Lab report included short answers, data presentation and manipulation (including statistical analysis)
- Students hand in reports 2 weeks later

One massive marking session



- 2 hr session
- Provided training and marking rubric
- Marking took 40-45 min, including the writing of justifications
- Returned papers to owners, who then checked scores before either appealing or signing off.

What did she find?
(discuss with neighbour)

- 1) Student vs. faculty marking?
- 2) How satisfied were the students (consider TEF ratings)?

Faculty marking vs. student marking

- Students marked higher than she did by 2.5 – 2.9%
- My thoughts:
- Is this higher/lower than faculty bias?
- Answer: this result is consistent with many other studies.
- This is surprisingly precise: I am guessing that it is *far more precise* than demonstrator marking.

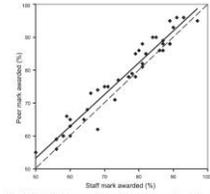


Fig. 1. Scatterplot of peer marks in relation to corresponding staff marks awarded in the first year of the study. The solid line represents the linear regression line; the dashed line represents the line of theoretical perfect correspondence ($y = x$), representing 1:1% of the total cohort; correlation coefficient (r) = 0.97; slope of regression line = 0.97. The average peer and staff-awarded marks = 77.5% and 75.2%, respectively, were significantly different ($P < 0.001$). Note that two of the data points represent data from year two only cases.

How was it received?

PEER ASSESSMENT OF LABORATORY REPORTS

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Table 1. Feedback obtained via written questionnaires in the first and second years of the study in relation to targeted learning outcomes of the peer marking session

Feedback Score	How Effective Was the Peer Marking Session in Increasing Your Understanding of the Kibbey?		How Effective Was the Peer Marking Session in Increasing Your Understanding of Preparing a Laboratory Report?		How Effective Was the Peer Marking Session in Encouraging You to Take Care in Preparing Your Work?	
	Year 1	Year 2	Year 1	Year 2	Year 1	Year 2
4	15	18	17	22	30	17
3	39	46	43	50	46	44
2	18	33	33	23	30	26
1	8	3	7	5	8	11

Values are expressed in %. Response rates, as a percentage of the total cohort, were 126/172 (73%) in year 1 of the study and 96/185 (52%) in year 2 of the study. Feedback was obtained on a scale of 1–4, where 4 = very helpful and 1 = not at all helpful.

- Question: How would these numbers compare to the same questions asked of a 'traditional' marking session?

A half-answer:

- I am surprised by the final column, given the others. Perhaps students felt it could become overused and outstrip its benefits?

Table 3. Feedback obtained via written questionnaires in the fourth year of the study in relation to generic aspects of peer assessment (its fairness, value for learning, and preferred frequency)

Peer Marking Gave Me Fair Feedback on My Work	Evaluating Another's Work Helped My Own Learning		Peer Assessment Should Be Used More Often
	Agree	Disagree	
Strongly agree	11	9	4
Agree	48	36	27
Neutral	30	34	40
Disagree	10	18	20
Strongly disagree	1	3	9

Values are expressed in %; n = 156 students (84% of the cohort).