Assessing peer grading in a poster session

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Poster DOI: 10.6084/m9.figshare.8481932 — https://github.com/CyberCRI/PeersGraderApp — @AntTaly

Scientific article reading is an important competence for undergraduate students in the sciences. To help acquire this skill we chose to propose students a poster session with peer evaluation. Students are grouped in teams to which subjects are assigned. Each team prepares a poster during the semester and prints it before the exam. Students then enter a rotation system in which they alternatively present their poster to their peers and one teacher, or evaluate the posters of other groups. Each session is composed of a presentation, questions and evaluation. The evaluation is performed both by the teachers and peers. Students are also evaluated for their ability to evaluate their peers, comparing their evaluations to those performed by others (teachers and peers). Data from three years allow us to analyze the quality of the evaluation performed by the students and the possibility to grade it: i) the dynamic range of grades given by students tends to be smaller than in the case of teachers; ii) the evaluation conducted by students appears not to be biased in terms of gender but could be detrimental to visible minorities.

Evaluation grid

To facilitate and favor reproducible grading we use an evaluation grid.

Quantitative analysis of grades given by peers in poster sessions. Left distribution of grades ($m_T = 15.3$ and $s_T = 2.7$), middle correlation of mean grades given by peers and teachers. A regression line is shown ($r^2 = 0.23$). Right Altman and Bland representation of grades given by peers versus teachers. Bottom average grades given by peers as a function of teachers’ grades for a single group.

Detectable Biases?

We tested whether the poster session suffered from gender bias. The results suggest that there is no gender bias.

Test of gender bias Test of gender bias in Teacher’s and Peer’s grades with the (anonymous) written exam as a control.

We tested whether the poster session suffered from bias towards minorities. The results do not show effect on teachers’ grades but suggest that there could be a bias towards minorities in Peer’s grades.

Bias towards minorities. Comparison of mean grades as a function of origins (inferred from names)

We note however that it is difficult to conclude given the relatively small number of individuals tested here and the grade distributions of teachers and peers.

References


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