

Peer review increases student performance in both first and third-year biology labs

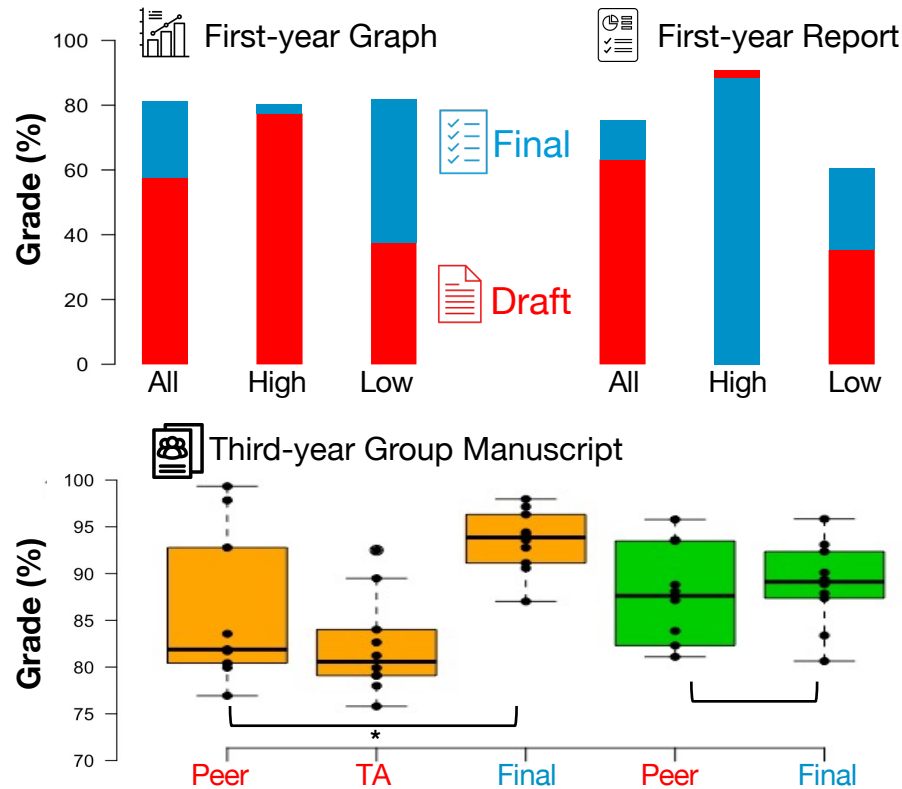


Research Objectives

- Determine the reliability and effectiveness of peer review in biology lab assignments
- Determine performance gains by different high and low draft scoring student submissions

Assignment Drafts (n = 1167) of the first-year lab were rated by peers (red) Average improvements were calculated from final grades (blue) and compared to draft grades for all assignments and high vs. low rated

Group Manuscript Drafts (n=10) in two third-year labs (orange and green) manuscripts were evaluated by peers and the TA (orange).



Major Findings

- **Significant** improvement in first-year **final** grades, on average 18%
- Largest average performance gains (35%) for students with low (below 60%) **draft** grades
- No significant difference between peer and TA evaluated group **draft group manuscripts** (orange)
- **improved (*)** **final** group manuscript grades with **TA feedback** at the **draft** stage compared to no **TA feedback**

Peer review can be used for a variety of assignment types at any level. Include TA feedback at the draft stage to maximize student improvement.

*"I feel both the processes of **getting** and **giving feedback** were extremely essential as it allowed us to not only help **better our own understanding**, but also gave us a chance to **help our peers** by giving them suggestions on areas that were inaccurate or lacked information [in their assignments]."* **1st Year Biology Student**