



# UW Biology DBER Seminar

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## From thought to plot: Revealing undergraduate biology student graphing practices



**Monday, November 30, 2020  
12:00pm PDT**

The analysis of quantitative data and its display in visual formats to explore patterns and communicate the findings of experiments and observational studies are essential practices in biology. However, creating effective and appropriate displays of data is a multi-faceted and reflective task. It requires knowledge of and reasoning with relevant concepts of the biological system under study, methodologies and measurements, mathematics/statistics, and visualizations. Given this complexity it is not surprising that even research scientists have room for improvement, leading to a series of articles in scientific journals calling for better data displays

(e.g. PLoS –Computational Biology, PLoS Biology, BioMed Central). Undergraduate biology students have the opportunity to analyze, display, and interpret data in their lectures, laboratory courses and as part of research lab apprenticeships. Helping students learn the practice of graphing requires insight into areas of student difficulty and competence. We have built from our previous work in which we interviewed faculty and students to develop a digital authentic assessment tool with the potential to gather data on the graphing practices from large numbers of students. I will discuss some of the lessons learned from the design and deployment of this digital assessment, common areas of student competence and difficulty with graphing, and implications for instruction and assessment.

Seminar Speaker Host: Mary Pat Wenderoth

