



UW Biology DBER Seminar

By: Jenny Knight

University of Colorado Boulder | Associate Professor, Department of Molecular, Cellular & Developmental Biology

<https://www.colorado.edu/mcdb/jenny-knight>

Improving student learning through understanding reasoning and problem solving tactics



Monday, November 23, 2020

12:00 PM PDT

Classroom practices affect student behavior, and by extension, their learning. Through studying how students discuss clicker questions in active learning classrooms, we have found that students rarely use reasoning when answering in-class questions. However, their use of reasoning increases when they are cued to use reasoning by instructors or peers, or when under pressure of accountability. Can students transfer in-class group practices to individual assessment opportunities that require reasoning and logic? To answer this, we are studying how

students independently solve complex genetics problems through written documentation of their problem-solving processes. We analyze their answers for correctness, use of reasoning, and other cognitive and metacognitive processes. We have also collected data on whether giving students content “hints” or modeling of problem-solving processes improves their ability to solve similar problems, or changes their problem-solving. Ideally, this work will lead to an understanding of how to better help students become life-long problem-solvers.

Seminar Speaker Host: Mary Pat Wenderoth

