Development and Evaluation of a Hybrid ADI/SWH Model Pre-Laboratory Curriculum

Tabitha Alitz  
*University of Northern Iowa*

Dawn Del Carlo  
*University of Northern Iowa*

**Recommended Citation**

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Previous Research at UNI:
- Students value each part of the pre-lab differently, struggle to connect all of the components, and therefore fail to see the big picture.
- Students find the pre-lab moderately helpful in understanding both the concepts and mechanics of the lab, but find it less helpful at the end of the semester compared to beginning.
- The cognitive load demands of the SWH pre-lab hinders students’ ability to participate in authentic scientific inquiry.

General Chemistry Skill Assignment

**Introduction**
What students do during the assignment and why they do it

**Learning Objectives**
Clear statements of what the student should learn

**Skill Tutorial**

**Research Questions**
How are the cognitive and affective expectations of students met through the use of the hybrid model compared to a general SWH model in an undergraduate general chemistry course?

In what ways are expectations of students met in the prelab portion of the lab for hybrid and SWH model types?

In a freshman general chemistry class, how does having a mixture of videos, simulations, and interactive feedback questions as prelabs in a hybrid lab compare to SWH prelabs in supporting students in lab?

**Methodology (Fall 2019/Spring 2020)**
- Interviews
- MLLI

**Expected Results**
More confidence in lab, better lab technique, better understanding of concepts.