

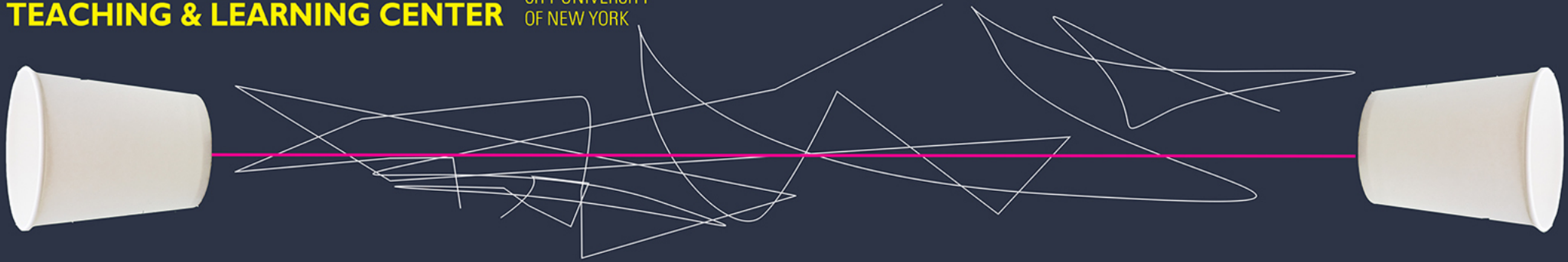


TEACHING & LEARNING CENTER

THE GRADUATE CENTER

CITY UNIVERSITY OF NEW YORK

TEACH@CUNY SUMMER INSTITUTE



**Bridging Lecture and Lab**

# Instructional Modality

## Lecture

- Instructor driven.
- Focus on the theoretical.
- Students are usually passive learners.
- Student learning (*generally*) assessed by exams.

## Laboratory

- Student practice driven.
- Focus on practical skills.
- Large active learning component.
- Learning generally assessed using reports/problem solving.

# Labs to Strengthen Student Learning

- **Ideally students should be exposed to background theory for lab in their lecture sections.**
- **What happens when lecture doesn't adequately prepare students to succeed in lab?**
  - Peculiarities of the CUNY calendar – sometimes labs meet before the corresponding lecture.
  - Some lecturers push off material to lab instruction only.
  - Other reasons...?

# ”The Gap Problem”

- Nowaczyk, S., et al. (2007) Mind the Gap! Bridging the Gap between Theory and Practice in Laboratory Assignments.
- “...a situation where the information, the understanding and the skills that students have are not what is needed for performing the laboratory assignments.”
- “...there is some knowledge which students are expected to have (and, often, are believed – by teachers – to have), but which they are, in fact, missing.”

# Reflection - “The Gap Problem”

- Where have you witnessed or experienced a “gap” in your own experience as a student or instructor?
- Take a few minutes to reflect and list some examples.
- How did you mitigate the “gap” or how could the “gap” have been mitigated in hindsight.

# Is “The Gap Problem” Unidirectional?

- **Is the “gap” always from the theoretical to the practical?**
  - What about gaps in students’ practical skills?
    - Microscopy.
    - Instrumentation.
    - Coordination.
- **Think of examples of the following in your own discipline or laboratory practice:**
  - A gap that goes from lecture content to lab.
  - A gap from lab to lecture.
  - A gap that goes both ways.
- **Think about ways that you, as a lab instructor can strengthen student learning.**

# Getting to Work – Development of a Bridging Prelab Activity

- Consider where a specific gap in a student's knowledge or skills may exist between the lab and lecture portion of your course.
- Develop a student-centered prelab activity that will help mitigate this gap.
- Now, get to work. Start drafting. Post any comments or questions in the workshop slack channel: #labworkshop.