Two models of paired teaching in first year physics lectures

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Funding acknowledgment: John and Deb Harris
Motivation

- What happens in co-taught classrooms?
  - Collect evidence through observations

- What do students think about different models of co-instruction?
  - End-of-term student survey

- (How) Do faculty develop as effective instructors and how does this depend on the co-teaching model?
  - Interviews (ongoing, not included here)

(See Tara Holland’s poster for more motivation and definitions)
Data tool: Co-teaching observation protocol

• Based on the COPUS (Smith et al., CBE-Life Sciences Education, 12(4) 2013)

• Observe how instructors collaborate to deliver classes
  • Record who is publicly facilitating different classroom modes
  • Observations taken on a minute-by-minute basis
  • Codes:
    • Lec: Lecture
    • CQ: Clicker question (including any lead-in and follow-up)
    • WS: Worksheet
    • Dem: Demos (including computer simulations)
    • Adm: Administration
    • Circ: Circulating (moving through class, guiding students)
    • Wait: Present but inactive.
Data tool: Co-teaching student survey

• Based on results of open-ended surveys (Jones and Harris, College Teaching 60(4) 2012)

• Validation:
  • Expert feedback
  • Student interviews for understanding

• Questions addressed
  • Specific advantages to students
  • Specific disadvantages to students
  • Specific perceived effects on students
  • Suggestions for improvements
Model 1: Continuous speckle

Course 1: 110 students
Advantages: Having two instructors in this course...

- ... allowed for easier access to help during the class
- ... allowed for easier access to help outside of class
- ... provided diverse expertise with regards to the course material
- ... provided a variety of perspectives on the course material
- ... ensured that content was covered more thoroughly
- ... improved the variety of teaching methods in the classroom.

Disadvantages: Having two instructors in this course...

- ... required me to adjust to two different teaching styles
- ... required me to adjust to different sets of expectations
- ... caused confusion as to who was in charge
- ... caused confusion in my expectations for the exams
- ... hurt my understanding of the course material
- ... created distractions during class

Overall: Having two instructors in this course was...

- a large advantage
- a small advantage
- neutral
- a small disadvantage
- a large disadvantage

Fraction of students
Student comments:
How do you think this co-taught course could be improved?

“Perhaps alternate classes. It becomes distracting when one prof adds comments to the other prof while they are teaching.”

“... I like the different perspectives and different styles of teaching. ...”

“More organization in terms of who answered / explained what”
Model 2: Half block plus speckle

Course 2: 290 students
**Advantages:** Having two instructors in this course...

- ... allowed for easier access to help during the class
- ... allowed for easier access to help outside of class
- ... provided diverse expertise with regards to the course material
- ... provided a variety of perspectives on the course material
- ... ensured that content was covered more thoroughly
- ... improved the variety of teaching methods in the classroom.

**Disadvantages:** Having two instructors in this course...

- ... required me to adjust to two different teaching styles
- ... required me to adjust to different sets of expectations
- ... caused confusion as to who was in charge
- ... caused confusion in my expectations for the exams
- ... hurt my understanding of the course material
- ... created distractions during class

**Overall:** Having two instructors in this course was...

- a large advantage
- a small advantage
- neutral
- a small disadvantage
- a large disadvantage
Student comments:
How do you think this co-taught course could be improved?

“The teaching style was very different and caused me to struggle in one part of the course.”

“Co-teaching, to me, isn't an ideal method of teaching. Adjusting to different teaching methods is an unnecessary burden on top of the stressor involved with understanding the material.”

“I enjoyed having two instructors, they fed off of one another and filled in gaps where the other may have thought unnecessary to cover or did not think of mentionning. [sic]”