Developing a Community of Practice through Interdisciplinary Research
WELCOME
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Learning Objectives

✓ Describe the importance of using a Community of Practice (CoP) model when developing online faculty development

✓ Describe the methodology used by the researchers to conduct their study of flipped classroom design

✓ Discuss the preliminary results of the study and their implications
Context
Wenger’s Community of Practice model

Move away from a technical approach to training and toward the development of reflective practitioners.

Statewide affiliation with Quality Matters
Center for Online Learning

Online Teaching Institute
Biologists

Instructional Technologist

Educational Psychologist
What is Flipped Classroom?
New Idea and tools?!!
LECTURE TODAY
Homework
Reading and questions due tomorrow

ACTIVITY TODAY
WATCH lecture online tonight!
C \[ \frac{6.256 \text{ g}}{12 \text{ g}} \times \frac{1 \text{ mol}}{12} = \frac{0.521}{1} = 0.521 \]

H \[ \frac{1.392 \text{ g}}{18 \text{ g}} \times \frac{1 \text{ mol}}{18} = \frac{1.392 \text{ mol}}{1} = 1.392 \text{ mol} \]

O \[ \frac{8.352 \text{ g}}{16 \text{ g}} = 0.521 \]

Total: \[ 0.521 + 1.392 + 0.521 = 2.67 \text{ mol} \]

Source: http://flippedclassroom.org/video/the-flipped-classroom
What is Flipped Classroom?
Rethinking Learning Environment as Learning Spaces

Community Space

Personal Space
What learning activities take place in each space?
The Critical Question in Managing Learning Spaces

What is the best use of the community space (especially the F2F class time)?
What learning activities take place in each space?
FLIPPED LEARNING MOVEMENT

Instructional Design + Learning & Cognitive Science + Content & Pedagogy
Research Questions

Does flipped classroom design lead to better learning outcomes?

How do students perceive the efficacy of this format?
Four sections of Biology 101
Flipped unit on
Chemistry of Biology and Biological Molecules
Outside of class students watched videos on content
Class time was spent in groups working on application activities
Performance on unit exam (flipped) was compared to performance in a previous semester (traditional)
Survey was administered to gauge student perceptions of the flipped classroom experience
Results of Learning Assessment
Overall performance on exam was not significantly different
Performance on **Factual/Recall Questions**

- **Teaching Method**
  - Flipped: 57
  - Control: 58

*Not Significant*
Performance on application type questions was significantly higher in the flipped group.
Teaching Method

Performance on Application Questions

Significant at p<.05

Mean Scores

Teaching Method

70

64

Flipped

Control
Results of Self-Report Survey
62% response rate (n=61)
76% female (n=45)
24% male (n=14)
93% between the ages of 18-29
Students reported general satisfaction with the format
Rank the following statements in terms of your level of agreement (1-Strongly Disagree – 5 Strongly Agree)

- The videos helped me understand the concepts being discussed. 
  - Rating: 4.05

- The recorded lecture format allowed me to replay segments if I needed to. 
  - Rating: 4.5

- I felt more engaged in class when the classroom was flipped. 
  - Rating: 3.73
Rank the following statements in terms of your level of agreement (1-Strongly Disagree – 5 Strongly Agree)

1. I think I learned more as a result of this method
   - Score: 3.52

2. I liked the flipped classroom format
   - Score: 3.72

3. I would like more units in this class to be flipped
   - Score: 3.58
Learner Autonomy

“I thought the flipped classroom method was effective because I could watch it on my own time. I enjoyed the fact that I could rewind parts that I did not understand and I could rewatch the videos if necessary.”
I liked the flipped classroom method, because I could watch the videos and go through the PowerPoint on my own. Then it was great to do the homework in class because I had already seen the videos and PowerPoint, so if I had any questions I could ask them. Lecturing in the classroom just gets boring, but when we engage in the class and work together, I feel like it was easier to learn.
Loss of Real Time Response

“I did not like not being able to communicate and ask questions.”
Something that was ineffective was the quality sometimes it worked and sometimes didn't it would go back to a different slide but it wouldn't repeat anything he said on that slide.
More Work for Student

“ I did not like spending so much time out of class working for the class. ”
Lessons Learned
Questions
Thank You