University of Massachusetts Amherst Course Redesign: Introductory Biology

"Using Technology to Facilitate Active Learning in the Large Lecture Hall"

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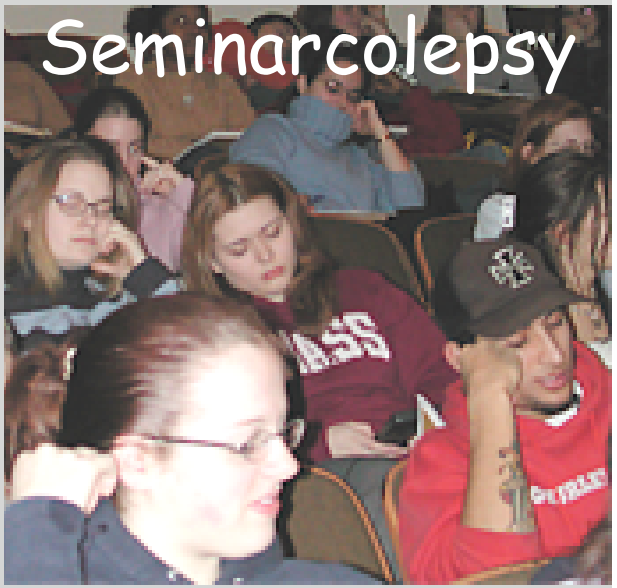
With thanks to the UMass Physics Education Research Group
And the National Center for Academic Transformation

Introductory Biology: Starting Point

- 700 students per semester, 2 sections
- Diverse Student Population
  - 9 majors
  - AP Bio ->8th Grade Health
- Straight lecture format



- Limited opportunities to practice skills
  - Observe, describe, construct, apply, problem solve

Step 1. Introduced Active Learning

- Better meet the new Learning Goals for Majors
- Classroom communication system
  - ClassTalk / Personal Response System (PRS)
- Brief lecture segments/Small group problem solving

Benefits of Active Learning

- Students practice critical skills
- Problem solving strategy is emphasized
- Provides feedback
- Relates content to real world issues
- Builds sense of community
- Increased interaction

- Content Coverage
- Preparation for in-class problems

- Active learning
- Student engagement
- Problem-solving skills

Step 2. Web-based Preparation Page

Online Class Preparation Page

- Objectives
- Reading assignment
- Related activities
- Online DUCK quiz

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In Redesign Format, Students

PREPARE	Before class
PRACTICE	In class
PRACTICE	Reviewing Website
PRACTICE	Quiz