Course Background

- KIN/BIO 300: Physiology of Exercise is a required course for all Kinesiology majors.
  - Can be selected as an elective for BIO majors
  - KIN/BIO 301 is the associated laboratory class and is not required of all students
- The course focuses on applied human physiology, with applications to physical activity, exercise, and sport.
  - Students are challenged to understand the acute responses and chronic adaptations that occur within the cardiovascular, respiratory, metabolic, nervous and musculoskeletal systems as a result of exercise.
- Class size ranges from 45 – 94 students – dependent on available classroom space
- Students are typically sophomores and juniors from KIN and juniors and seniors from BIO.
- Teaching format includes lecturing and in class activities in small groups.
- Grade break-down: Exams: 80% (4 exams with cumulative mid-term and final), Written Assignments:15% (5 in class; 5 out of class, Class Participation: 5% (TopHat participation and attendance)

Course Changes

To help students become more active in the learning process, course changes were made including:

1. Adoption and use of interactive quizzing technology (TopHat) to increase the number of low stakes opportunities to engage with exam material
   - Change 1 was made to help students engage more readily with the material, allow for practice answering exam style questions in a low stakes fashion, encourage students to engage with one another to discuss course content
2. Implementation of Metacognitive Reflection for exam preparation and performance
   - Change 2 was made to help students to become more engaged and more aware of their learning process and reflect on their exam preparation and subsequent performance
   - students were asked to reflect on their exam preparation on exam day prior to engaging in the exam and after their grade was posted

Course Background

- Students reported that:
  - Tophat activities completed in class help them to connect with the material and practice answering exam type questions
  - Allowing students to discuss their answers with one another is helpful in increasing their understanding of the material
  - Powerpoint presentations/class notes are the top resource for exam preparation
  - A low number of students use their textbook as a resource
  - A large number of students recognized that they needed to begin preparing for exams earlier and give themselves more time spread out over several study sessions
  - Peer led review sessions were offered as a result of student suggestions in previous semesters, and students provided strong positive feedback for continuation of these sessions
  - In class comprehensive review activities were often cited as helpful for exam preparation
    - “The review worksheets are very helpful! Help me to get organized and start thinking about essay questions.”
  - Student feedback suggests that the use of interactive technology and metacognitive reflection is positively associated with their class experience

Results

- Students reported that:
  - Tophat activities completed in class help them to connect with the material and practice answering exam type questions
  - Allowing students to discuss their answers with one another is helpful in increasing their understanding of the material
  - Powerpoint presentations/class notes are the top resource for exam preparation
  - A low number of students use their textbook as a resource
  - A large number of students recognized that they needed to begin preparing for exams earlier and give themselves more time spread out over several study sessions
  - Peer led review sessions were offered as a result of student suggestions in previous semesters, and students provided strong positive feedback for continuation of these sessions
  - In class comprehensive review activities were often cited as helpful for exam preparation

"The review worksheets are very helpful! Help me to get organized and start thinking about essay questions."

- Student feedback suggests that the use of interactive technology and metacognitive reflection is positively associated with their class experience