Building a community of learners: strategies to enhance student learning and engagement

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Student engagement during a class period

Nutrition is awesome!

Why aren’t they texting me back?

What am I going to eat for dinner?

Student performance

Start  Time  60 minutes

Adapted from: http://www.epigeum.com/downloads/uct_accessibile/uk/01_lecturing1/html/course_files/2_30.html
Increasing engagement using learner-centered activities

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Class Description

- Senior level animal science course
  - Past eight years: ~30-35 students
  - Fall 2017: 59 students enrolled
  - Advanced animal nutrition (elective)
- 27 fifty-minute lecture periods
  - Meets on Tuesday and Thursday
- Covers non-ruminant and ruminant nutrition
- Attendance is taken randomly throughout the semester to account for 6% of the final grade
A Typical Day in Class

- Objective slide
  - Sets the stage for what is to come
  - Highlights expectations for the lecture
  - Ask if there are any questions from previous class
- Lecture
- Rest (approximately half of the way through class)
  - TTYP activity
- Summary points last 5 minutes of class
  - TTYP format
Turn To Your Partner (TTYP)

• Three opportunities to review material
  • INDIVIDUALLY: preparing their own response
  • PARTNER: comparing and contrasting responses
  • CLASS: sharing what they and their partner have learned

Adapted from: Project LEA/RN- Iowa State University
What does a TTYP activity look like?

• Consumes approximately 5 minutes in total
  • 1.5 minutes for formulating an answer individually
  • 1.5 for discussion with a partner
  • 2 minutes for group discussion
    • Timing can differ depending on type of question presented.
Things to consider when using TTYP

- Not all questions make good TTYP questions
  - Higher order questions
    - More than one answer
    - Provoke discussion
  - What makes this question important
- A good TTYP can make a great exam question
- Opportunity for clarification
- Can require students to think back to previous material
Examples of previous TTYP questions

• Compare and contrast the digestion of glycogen by a cat and digestion of starch by a pig.

• Compare and contrast rumen conditions and microbiomes of a grass-fed and grain-fed ruminant.

• What are some factors affecting vitamin requirements?
Increasing TTYP can increase retention of class material

\[ P = 0.06 \]

\[ P = 0.08 \]

TTYP: \[ P = 0.108 \]
Summary Points

• Past students had requested addition of summary points
  • A great study tool
  • Students should be doing the work
  • Summarizing is a difficult task for students

• Creating their own summary points helps to hold students accountable.
Incorporating Summary Points into a Lecture

- TTYP format; begin 5 minutes before the end of class
- Students generate summary points for the main points
- Compare and contrast with a partner
- Sharing with the class
  - Holding students accountable for their learning
- Discussion of summary points
Mid-Semester Student feedback

• Plus/delta evaluation after 2\textsuperscript{nd} exam
  • Asked students what was positively impacting their performance and what could be improved
• 80% of students noted summary points as a positive impact on their learning
• Encourage use of summary points as a study tool
  • Frequently ask the class how they are utilizing study points
End of semester feedback

• Student feedback from year two
  • 36 of 59 students completed anonymous course evaluations
  • 80% replied to the question “What helped your learning the most?”
  • 72% of these specifically indicated TTYP and summary point exercises as being beneficial to their learning
Advice for success

• Start on day 1…and every class period
• Set a timer
  • Wrap up your thoughts and start summary points
• Walk around and listen to student discussions
  • Use this time to decide which students you will call on
• You will probably learn that your lecture could use refinement
• Build off of summary points when creating exams
Is this worth adding to my courses?

- Negatives
  - Lost five minutes of lecture time
- Positives
  - Retain student engagement through the end of class
  - Opportunity to clarify information in front of the class (and before the exam)
  - Allows you to understand what students are taking away from your lectures.
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Questions