

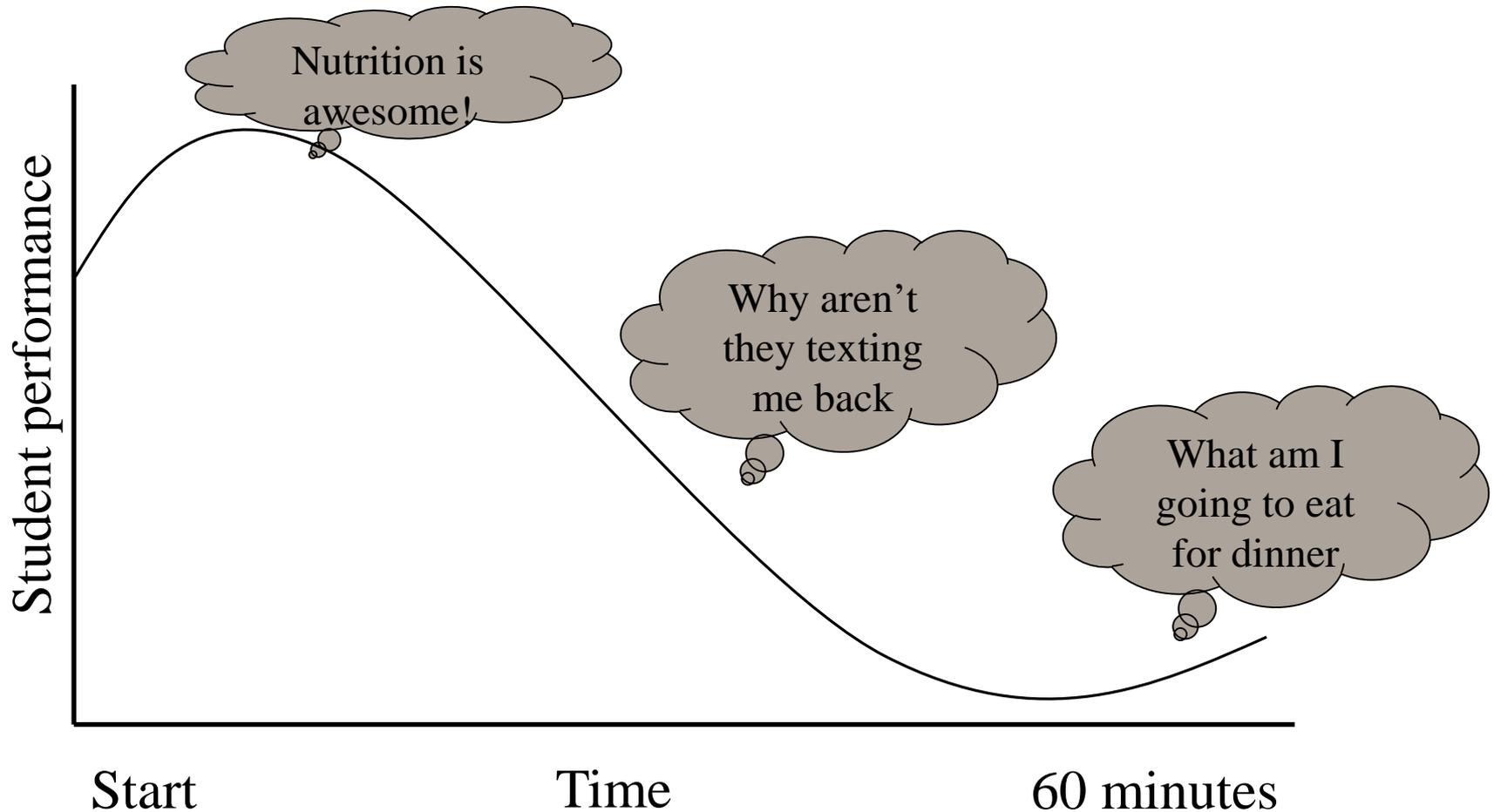
IOWA STATE UNIVERSITY

Department of Animal Science

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

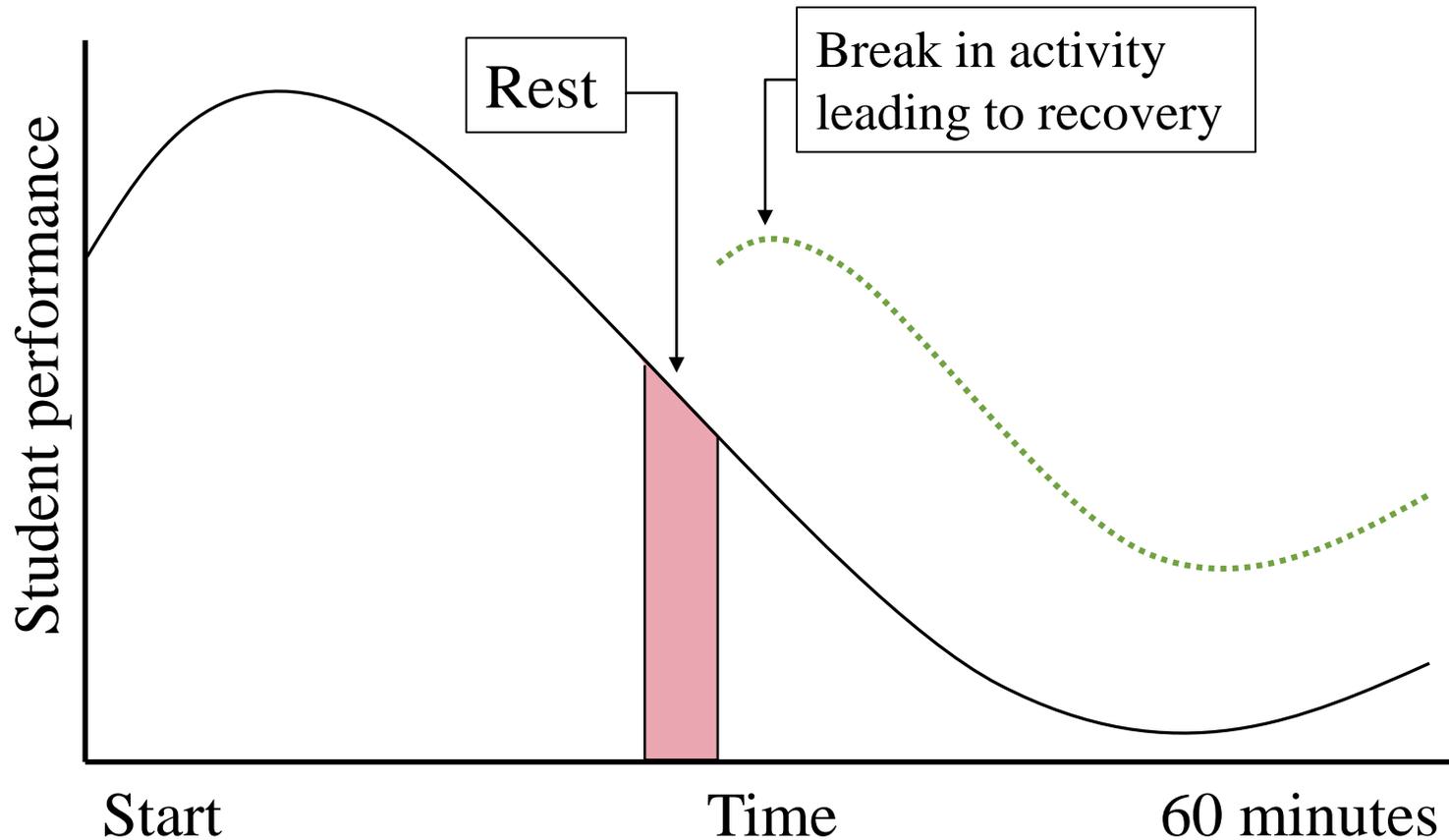
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Student engagement during a class period



Adapted from: http://www.epigeum.com/downloads/uct_accessible/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

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.

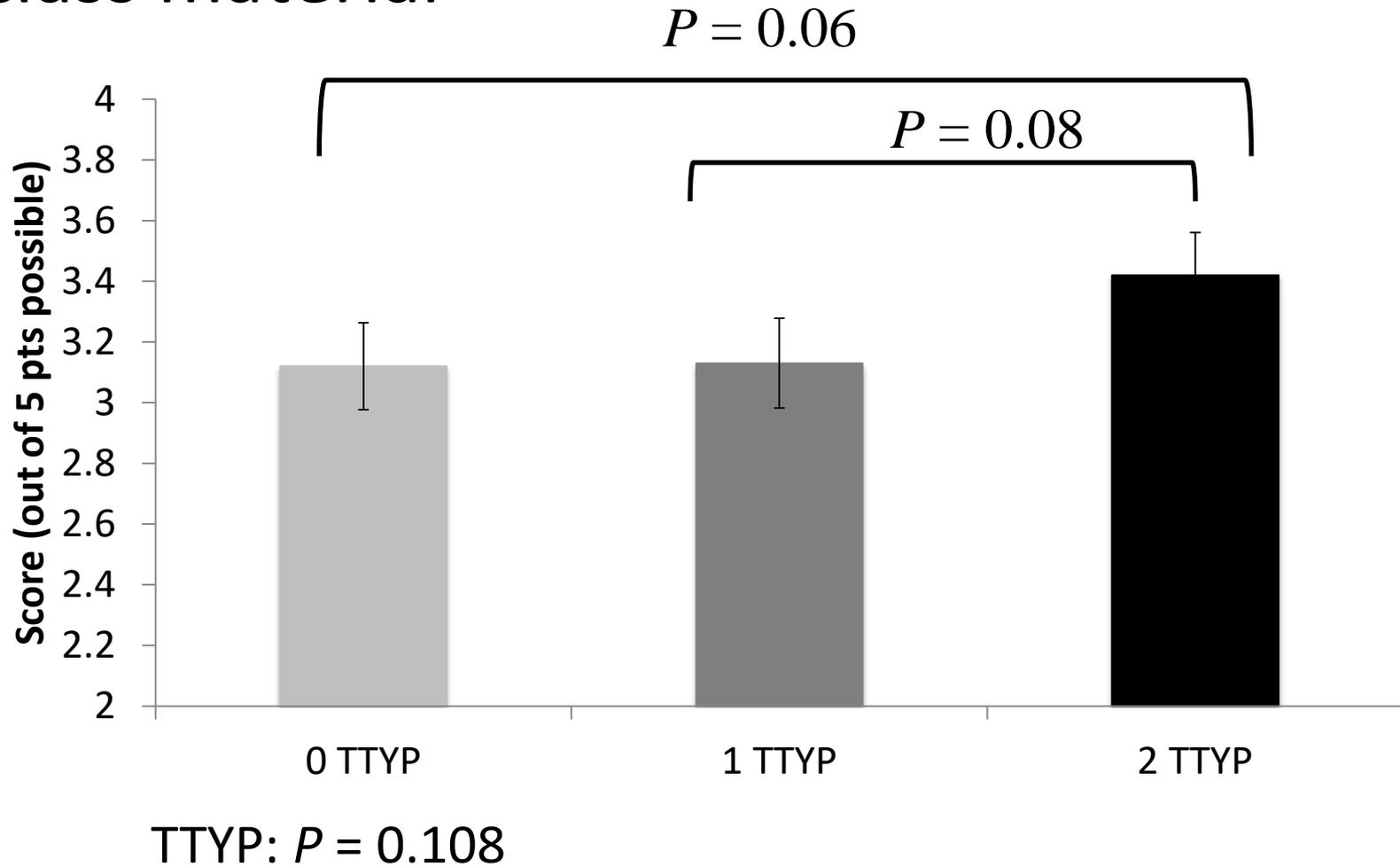
Things to consider when using TTYP

- 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



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 2nd 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

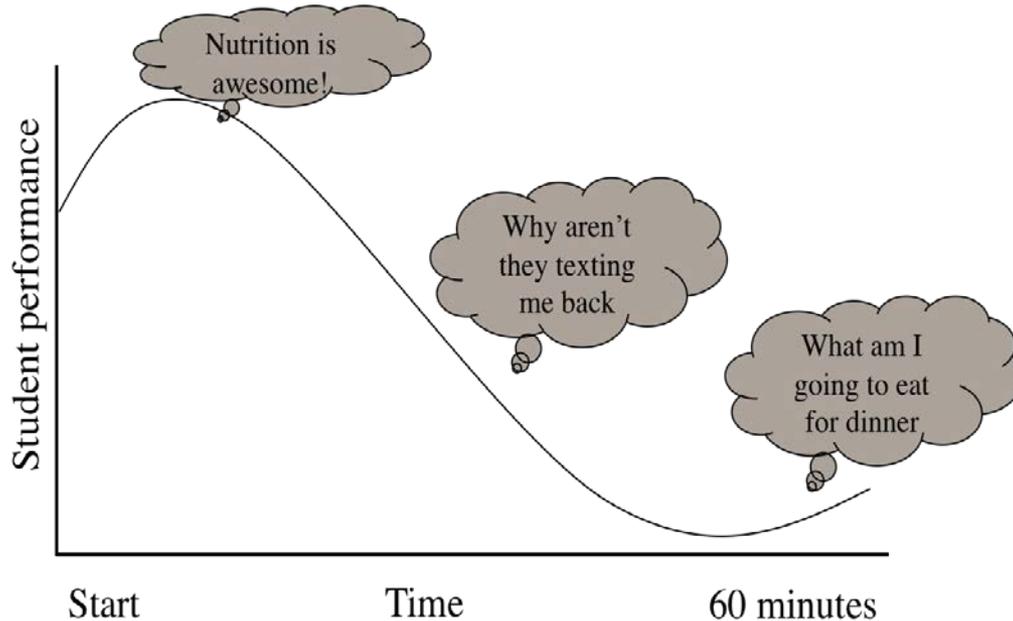
Advice for success

- 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.

Acknowledgements

- Project LEA/RN – Iowa State University
 - Learning Enhancement Action/Resource Network
- Stephanie Hansen
- Olivia Genter-Schroeder

Questions

