

# How Do We “Activate” Student Engagement?

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# Session Objectives

1. Become familiar with (at least one) framework for defining engagement
2. Understand why student engagement is important
3. Understand the role of active learning in student engagement and be able to implement it in your courses
4. Be convinced that student engagement is something that any instructor can achieve success with in the classroom

# What do we mean by engagement?

- Student agency and motivation
- Interactions between teacher and student
- Active learning

“Student engagement is the student’s cognitive investment in, active participation with, and emotional commitment to their learning!”

(Chapman, 2003)

# Why do we care about engagement?

- Students learn better when they are interested in the content (Sousa, 2006)
- Students learn better when they enjoy going to class (Kahu, 2013)
- Students learn better when they value their own learning (Appleton et al. 2006)

Perhaps most importantly....

- Students learn better when they are not just passive recipients of knowledge (Barkley, 2004)

# Active Learning

- What is it?
- What does it look like?
- How can it be implemented to activate engagement?

# Active Learning: What is it?

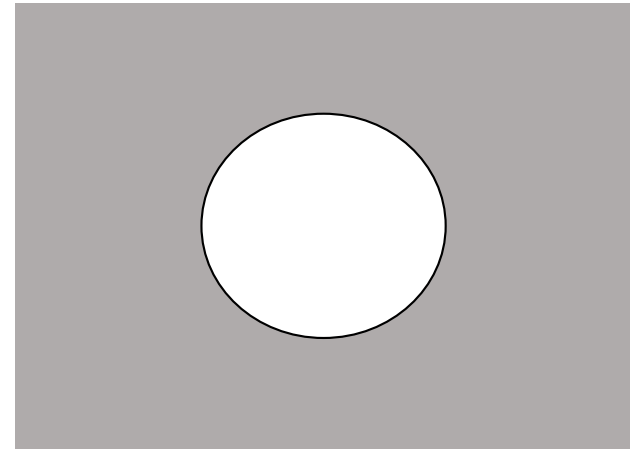
- “Anything that involves students in doing things and thinking about the things they are doing”  
*(Bonwell & Eison, 1991)*
- “Doing what we think and thinking about what we are doing”  
*(Barkley, 2004)*
- “A teaching strategy that requires students to engage cognitively, above and beyond passive listening and note taking”  
*- Chad Hershock, 2017*

# Active Learning: What Does it Look Like?

Imagine a metal plate with a circular hole in the center. You put this plate in a very hot oven.\*

Question: What happens to the hole?

- A. Hole gets larger
- B. Hole gets smaller
- C. Hole stays the same size
- D. I don't know



Eric Mazur, Physics, Harvard University

\*The exact oven temperature and physical properties of the metal are irrelevant to this problem.

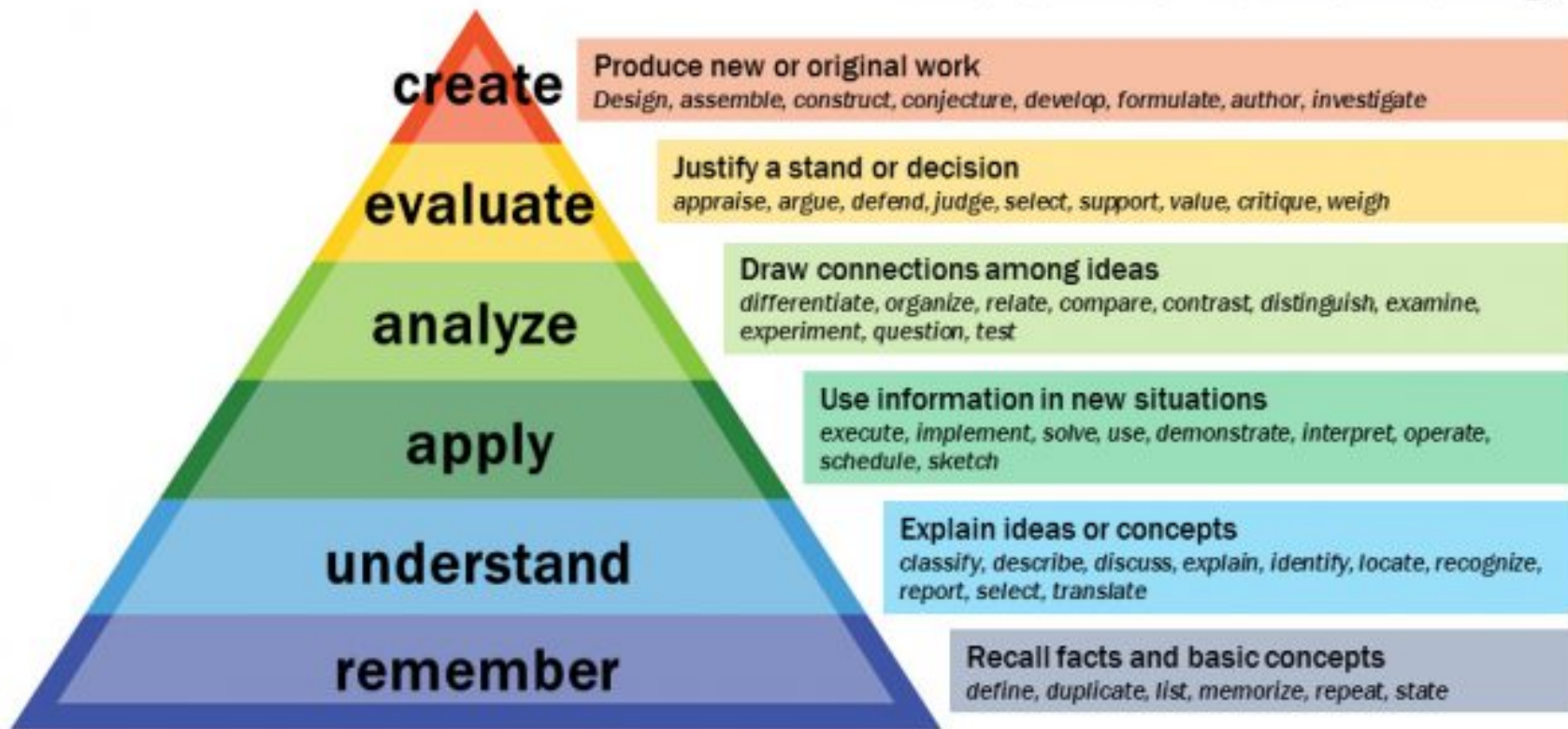
# Active Learning: What Does it Look Like?

## Think-Pair-Share

1. Think : Individually write, vote, click, etc.
  2. Pair : Talk to a neighbor for a brief moment (30-60 sec.)
  3. Share : Debrief responses and rationales
- Or*
4. Re-vote individually after the “pair”



# Bloom's Taxonomy



# Active Learning: What Does it Look Like?

## Application Card

- Students are provided with a task that challenges them to apply a concept or skill to a situation they have not encountered before, and/or challenged to generate examples that illustrate a concept to demonstrate transfer of knowledge.
1. Explain how you might go about opening a troublesome jar you have just taken out of the freezer (physics)
  2. What kinds of jobs do you think require people with knowledge of Calculus and why? (mathematics)
  3. Compare and contrast the process of finding the location of a residence in an unfamiliar area to the process used to identify the location of an electron within the atomic structure of an atom (physics)

# Application Cards: Discipline-based Teams

Think about your course...

- Imagine a scenario/challenge/problem that:
  - requires critical thinking (e.g., evaluation, synthesis, application),
  - does not have a single correct answer/solution/outcome, AND
  - a student could engage with for 1-10 minutes during class.

Take out a piece of paper....

1. Write down the gist of a scenario/challenge/problem
2. Write down a specific 1-sentence question/prompt for students to respond to during the activity (free response, NOT multiple choice format)

# What About the Other “Stuff”?

Student Engagement is multidimensional

- Active learning is important to get students to think, but what about students' attitudes, motivations, emotions, perceptions etc.?

# Rapport

Noun

1. Relation; connection, especially harmonious or sympathetic relation:  
*a teacher trying to establish close rapport with students*

Does teacher-student rapport matter for engagement or learning?

# Teacher-Student Rapport

- Wilson and Ryan (2013) developed a construct of teacher-student rapport to examine its importance for predicting actual student outcomes

Factor Analysis: 2 Dimensions

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graph TD; A[Factor Analysis: 2 Dimensions] --> B[Perceptions of teacher]; A --> C[Student engagement]
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## Perceptions of teacher

- My teacher is compassionate
- My teacher is enthusiastic
- My teacher cares about students as people
- My teacher is a role model

## Student engagement

- My teacher encourages questions and comments from the students
- My teacher challenges me to think
- My teacher makes class enjoyable
- I want to take more of my teacher's courses

# Teacher-Student Rapport

Wilson and Ryan (2013) outcomes

- Attitude toward the course and teacher
- Student motivation
- Number of days of class missed
- Perceived amount learned
- Estimated final grade
- Actual final grade

# Teacher-Student Rapport

Some other items from the scale that did *not* predict positive student outcomes...

- My teacher is eager to help students
- My teacher is understanding
- My teacher encourages me to succeed
- My teacher and I get along



# Engagement: It's a Good Thing!

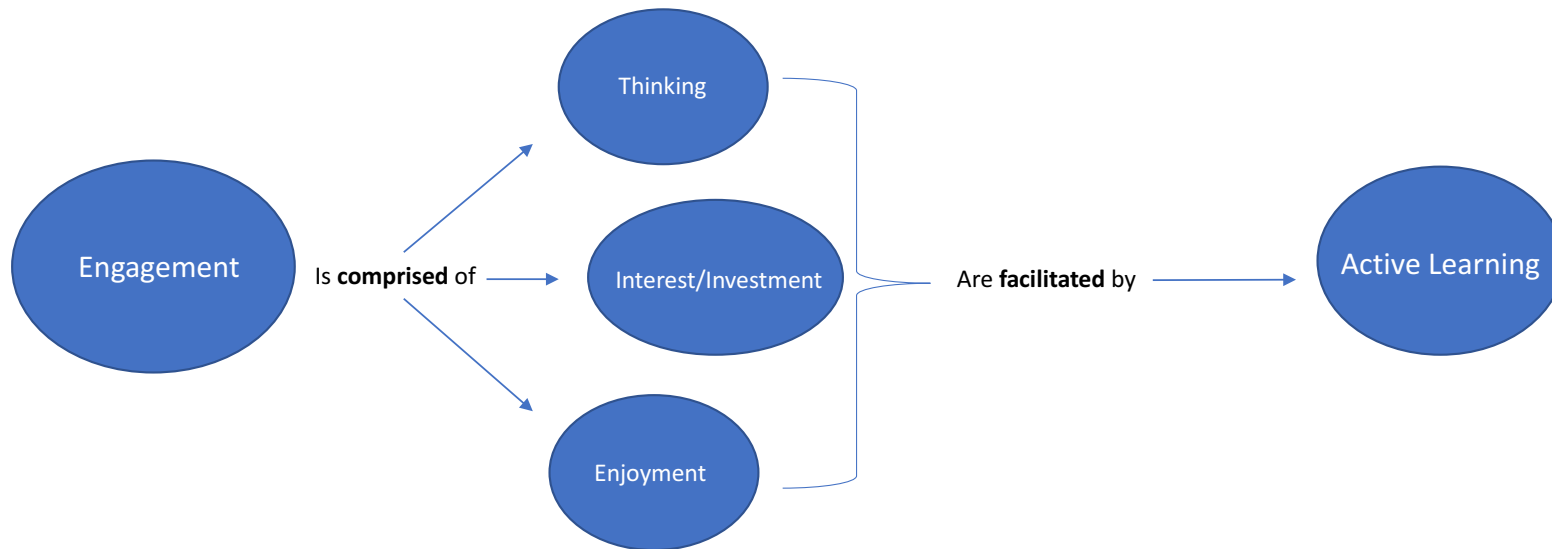
“Perhaps professor–teacher rapport reflects more than just a caring, likable teacher; useful rapport tied to student outcomes seems to move beyond liking the teacher to what the teacher does to make the class more engaging for students.” (Wilson & Ryan, 2013, pg. 132)

- Likeability not helpful without engagement
- Likeability not needed for engagement
- Engaging students is NOT just a popularity contest

# What About the Other “Stuff”?

- Research shows that students generally have a positive affective reaction to in class activities (i.e., active learning) (Nguyen, K. A., Borrego, M. J., Finelli, C., Shekhar, P., DeMonbron, M., Hendersen, C., ... & Waters, C. 2016)
- Relating material to real world problems helps students care about what they are learning (Sousa, 2006)
- Feeling of belonging to the class, enjoying the class and being a member of a group contribute to engagement (Finn, Pannozzo, & Achilles 2003; Fredricks, Blumenfeld, & Paris 2004; Kahu 2013; Kember, Lee, & Li, 2001).

# How Do We “Activate” Student Engagement?



# The Personalization Principle

In addition to the inherent benefits of active learning on students' engagement, the way information is presented can have a positive effect on engagement and learning.

## **The Personalization Principle**

Students learn better when words are in a conversational style rather than a formal style (Mayer, 2009)

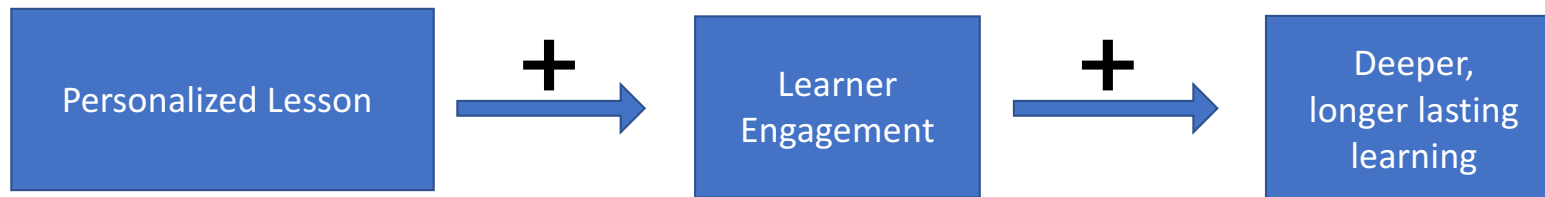
- People learn more deeply from lessons when learners experience heightened social presence, as when a conversational script or human narrative is used

# Personalization Principle Example

- “Lightning can be defined as the discharge of electricity resulting from the difference in electrical charges between the cloud and the ground.”
- “Let’s talk about what happens during a lightning storm. Lightning can be defined as the discharge of electricity resulting from the difference in electrical charges between a cloud you often see in the sky and the ground around you.”

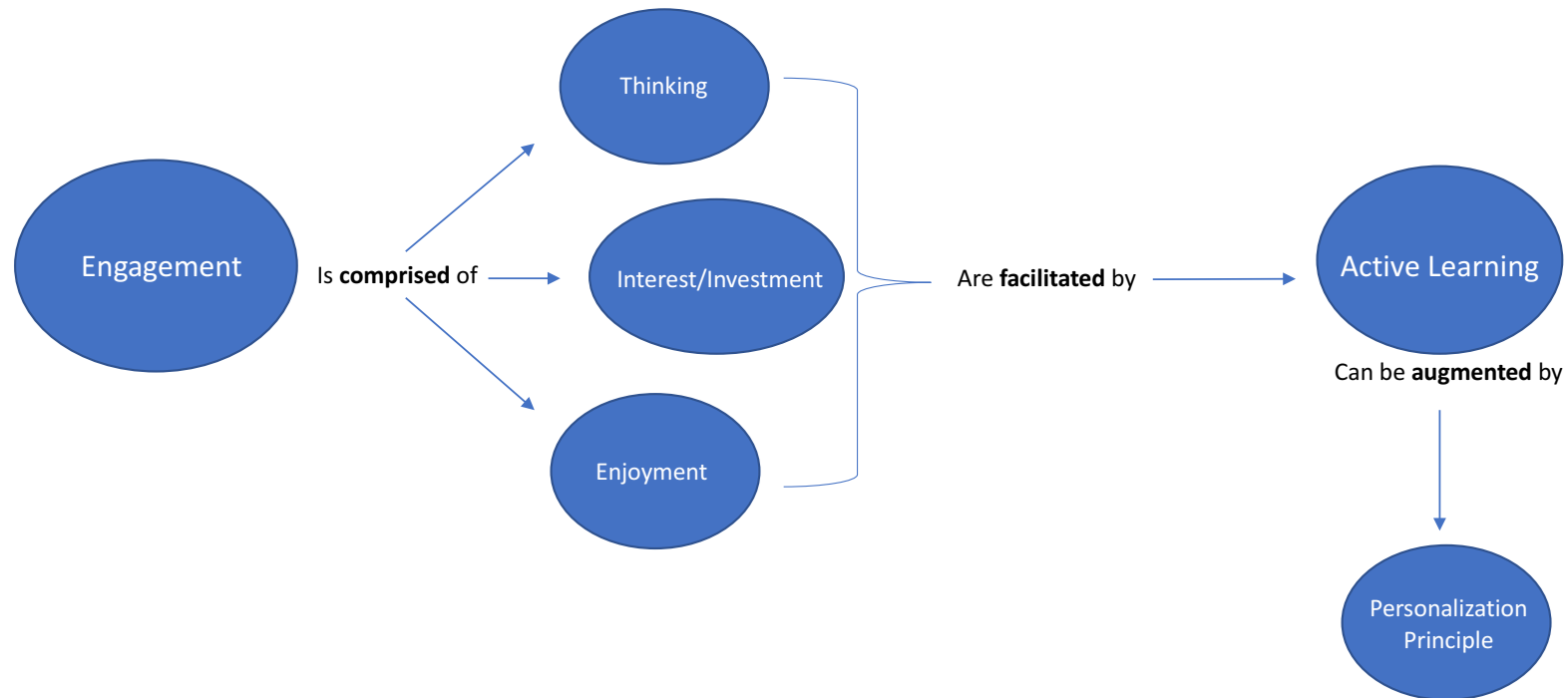
Often, making simple alterations to lessons can exploit the personalization principle and actually improve learning

# Personalization and Engagement



- The above model has been shown to work in labs as well as in real classroom environments
- Too much “personalization” can be distracting; don’t overdo it!

# How Do We “Activate” Student Engagement?



Thank You!

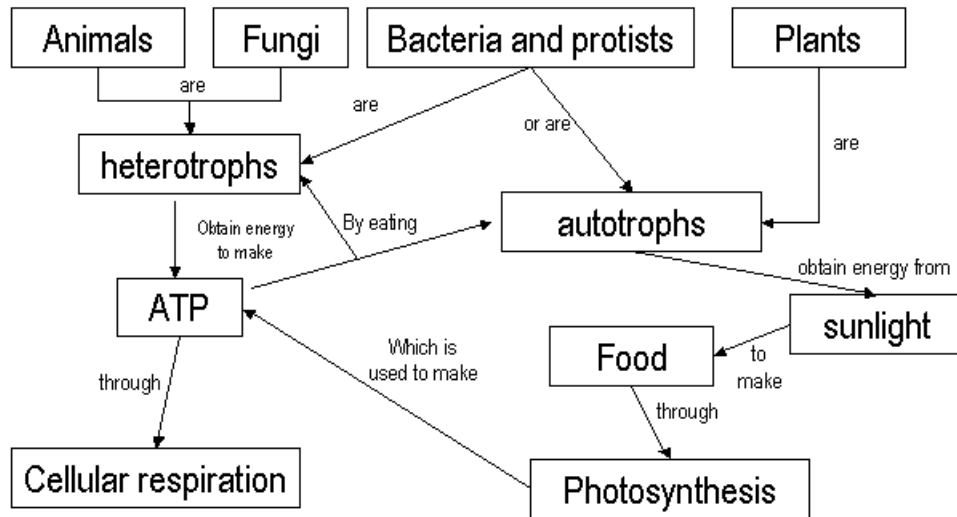
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