

Active Learning: What is it & Why should I use it?

MacEwan University CALIBRE Business Teaching Skills Symposium
October 12, 2017

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Today's Plan

1. What is Active Learning?
2. Why should I build Active Learning strategies into my teaching?
3. What are some Active Learning strategies?



Let's get active!

- Find the handout “Active Learning K-W-L Chart” on your table.
- Take a moment to reflect on what you **already know** about active learning, and what you **would like to learn** about it.
- Make some notes in the columns in the chart. Leave the third column blank.
- When I give you the cue, pair up with someone at your table to discuss the “K” & “W” sections of your chart. You will have **5 minutes** – use your time well so that each person has an opportunity to share.



What is Active Learning?

- “Active learning is a process whereby students engage in activities, such as reading, writing, discussion, or problem solving that promote **analysis**, **synthesis**, and **evaluation** of class content.” – University of Michigan CRTL (<http://www.crlt.umich.edu/tstrategies/tsal>)
- Responsibility for learning is transformed from a **one-way** responsibility (“the teacher teaches me so I should learn”) to a **two-way** responsibility (“the teacher teaches me but I also need to actively engage in order to understand and learn.”)
- Promotes **higher-order** thinking (beyond content memorization)



Bloom's Taxonomy

create

Produce new or original work

Design, assemble, construct, conjecture, develop, formulate, author, investigate

evaluate

Justify a stand or decision

appraise, argue, defend, judge, select, support, value, critique, weigh

analyze

Draw connections among ideas

differentiate, organize, relate, compare, contrast, distinguish, examine, experiment, question, test

apply

Use information in new situations

execute, implement, solve, use, demonstrate, interpret, operate, schedule, sketch

understand

Explain ideas or concepts

classify, describe, discuss, explain, identify, locate, recognize, report, select, translate

remember

Recall facts and basic concepts

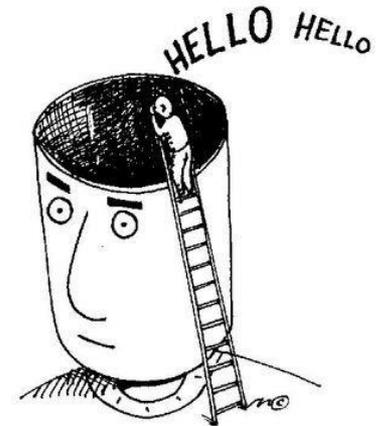
define, duplicate, list, memorize, repeat, state



Why should I use Active Learning Strategies?

Pedagogical benefits:

- When used at the **beginning** of a new unit of study/course, active learning strategies **activate** students' prior knowledge of a topic or concept (VELCRO)
- By revealing students' prior knowledge, instructor can **assess students' thinking** – areas of strength, but also misconceptions, naïve conceptions, gaps in knowledge
- Knowing more about students' thinking early in the course provides an opportunity for instructors to better meet students' learning needs
- Promotes **meta-cognition**: students' thinking about their thinking



“The most important single factor influencing learning is what the learner already knows. Ascertain this and teach him [sic] accordingly.”

(Ausubel, 1968, p. vi)



Why should I use Active Learning Strategies?

Pedagogical benefits:

- When used **during** a unit of study, active learning strategies can be used to **formatively assess** students' understanding of major course concepts/topics.
- **Formative Assessment** – Assessment **FOR** learning; provides instructor and student with information on how they are doing (am I on the right track?) and where they can improve. Also helps teacher determine next steps (do I need to reteach anything?). On-going/constant. Can be informal or formal.



A few words about Formative Assessment...

- Provides “just in time” feedback for the instructor – allows instructor to make adjustments to instruction as instruction occurs – this isn’t about *next time*. It’s about *now*.
- Encourages student engagement in their learning – requires students to monitor their learning (metacognition) and make changes (if needed) in how they are trying to learn.
- Our lessons always need “massaging” – takes guess work out of the question, “why did/didn’t my lesson work”?
- According to Hattie & Timperley (2007) formative assessment is the most powerful moderator of student learning.



Why should I use Active Learning Strategies?

Pedagogical benefits:

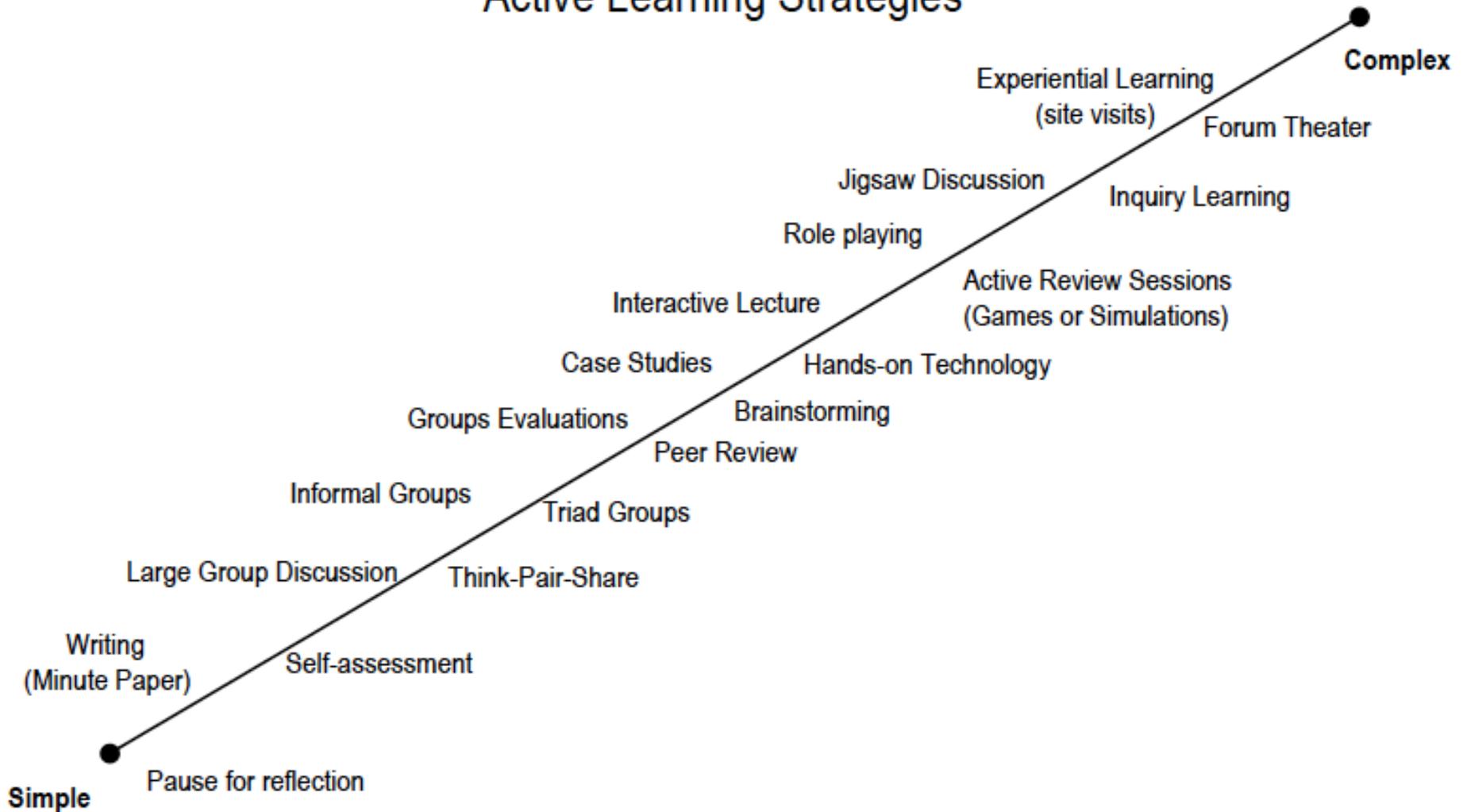
- When active learning strategies are used at the **end** of a unit of study or course, they enable instructors to perform **summative** assessments of student learning.
- **Summative Assessment** – Assessment **OF** learning. Occurs at the end of a unit or course and tells us if the instructor's and students' goals have been met.
- Active learning strategies encourage students to **internalize** their learning. Can be used for review activities prior to final assessments.
- Promote **meta-cognition** (thinking about thinking), for example, “Why do I understand things in the way that I do? How does this relate to my future career or to other things that I've learned?”



What are some Active Learning Strategies I can use in small or large classes?



Active Learning Strategies



This is a spectrum of some active learning activities arranged by complexity and classroom time commitment.

Prepared by Chris O'Neal and Terشيا Pinder-Grover, Center for Research on Learning and Teaching, University of Michigan



Exploring a Few Active Learning Strategies

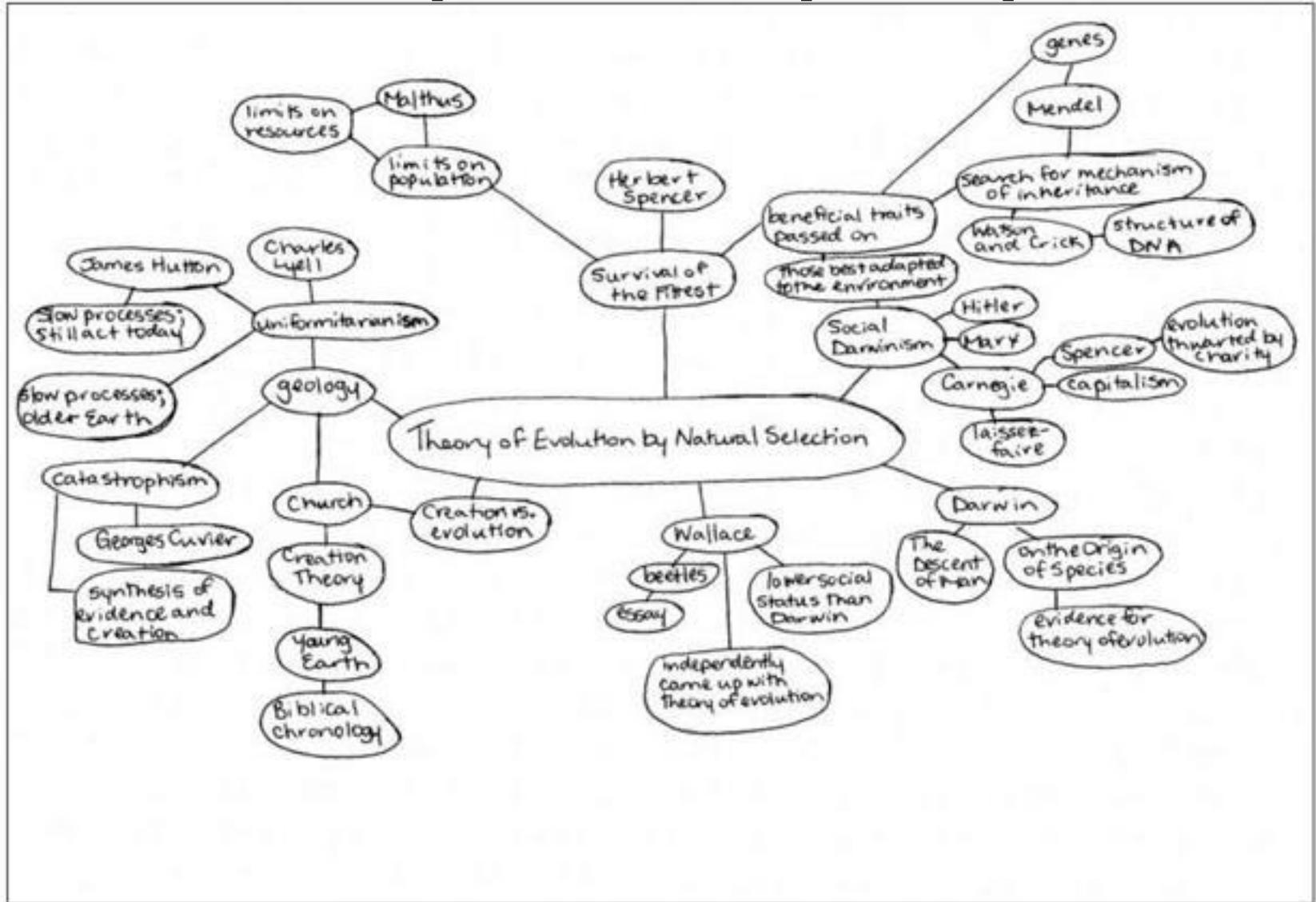
- **Think-Pair-Share:** Pose a question or topic to class. Give students 1-2 minutes to **THINK** about the question/topic, then have them **PAIR** up and **SHARE** their ideas. Variations: **Think-Pair-Write, Think-Write-Share.**
- **KWL Chart:** 3 column chart: What I **KNOW**, what I **WANT** to know, What I've **LEARNED**. Students fill in first 2 columns at the beginning of the lesson and the last column during or at the end of the lesson.
- **Carousel Brainstorming:** Place chart paper around the room, each one with a different question or prompt on it. Distribute students in small groups (3-4 per group) to each piece of paper. Students discuss and respond to prompt. After a few minutes, all students circulate to next paper.



- **One-Minute Paper:** Have students respond to a prompt and tell them they have one minute to write a response. You can provide paper (or students use their own paper), or you could do this in a Google Doc. Gradually increase the complexity of the questions throughout the term so that you move students from knowledge comprehension to application.
- **Concept Mapping:** Have students make a simple concept map to identify everything they know about a topic. Return to concept map at the end of the lesson so students can refine their thinking based on new knowledge.
 - Can use text and drawings.
 - Can be done individually or collaboratively.
 - Can be more complex, using lines between map bubbles to explain connections.
 - Have students use a different colour pen at the end of the lesson/unit to highlight new learnings.



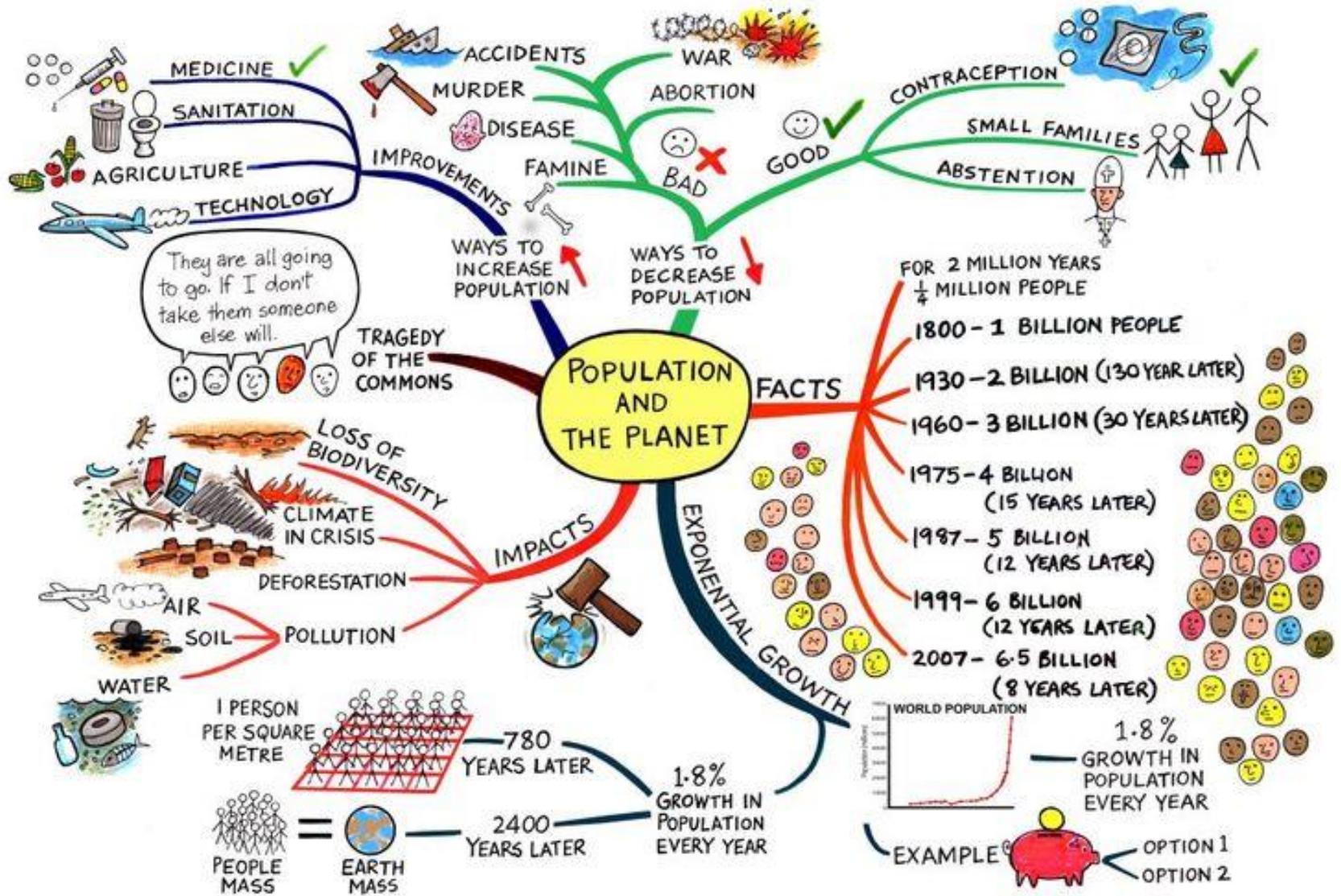
Simple Concept Map



Donated by University of Guelph Learning Commons Peer Helper Julie Irwin ©2010



Complex Concept Map



At the END of a lesson: Assessing learning & promoting meta-cognition

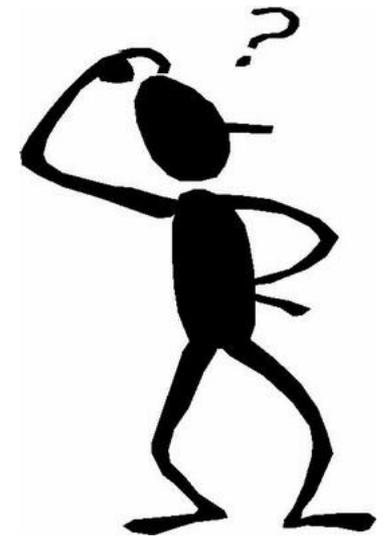
“Ticket out the door”:



- Similar to the “one minute paper” idea, except this happens at the end of the class.
- Students have to give you their “ticket” to “get out the door”
- Can be anonymous – some advantages to this
- **Ask students to write down, on a piece of paper, something you want to know:**
- *What was the most surprising thing you learned in today’s class and why did it surprise you?*
- *How has your thinking about _____ changed or grown?*
- *How would you explain _____ to someone else?*
- *What topics did you find confusing or difficult to understand?*
- *List 3 ways this topic is relevant for society today.*



What are the characteristics of powerful questions?



An Engaging Question...

- Causes inquiry into big ideas;
- Provokes discussion, deep thought, new understanding & more questions;
- Requires students to think critically (consider alternatives, weigh evidence, and justify answers);
- Stimulates rethinking of assumptions / prior knowledge;
- Sparks meaningful connections with experience/ prior learning;
- Naturally recurs and is transferrable

Wiggins & McTighe, 2005



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What about....?

Space – My classroom isn't set up for active learning.

- Your space doesn't have to constrain you. Just use what you've got... students will be okay.
- Break out but give a reason to come back.
- Consider splitting the class in 2 or 3.
- Create regular learning teams.
- Use virtual spaces if appropriate.

Time – I'm already squishing too much into my course. I don't have time for this.

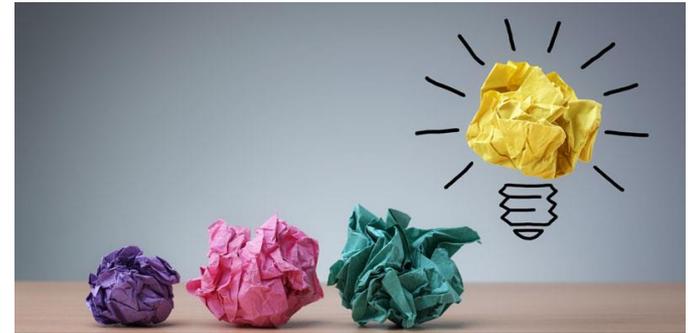
- I'm with you – there's never enough time!
- Many of these strategies can be done in just a few minutes. Use a timer.
- The pedagogical benefits far outweigh any perceived "loss" of time. In fact, you might gain time because students are learning in deeper and more meaningful ways and you can forge ahead confident in their abilities and knowledge.



Final Thoughts

Take a few moments to **reflect** on your learning using the KWL Chart.

- Be willing to try things more than once – you and your students will need time to learn how to use these strategies. Aim to find someone who is willing to try this with you.
- Investing time at the start of the term to incorporate these strategies into your teaching will pay off in dividends during the rest of the term:
 - More active classes
 - More engagement for everyone!
 - Deeper learning, that is both challenging & meaningful
- Think about how you can collaborate with your colleagues to support one another! Start a shared Google Doc folder!



Application

What Active Learning Strategies will you try?

- Identify one Active Learning strategy that you will commit to trying in the coming weeks.
- Write your commitment on your “ticket”. You will need your ticket to move onto the next CALIBRE session.
- Get ready to share your ideas with your peers!



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