

SPHEIR Pedagogical Training 1.0

Classroom Assessment Techniques (CATs)*Presented by***Walt Hurley*****wlhurley@illinois.edu******University of Illinois at Urbana-Champaign******© 2021 WL Hurley. All rights reserved.***

For examples see *Classroom Assessment Techniques* or CATs (Tomas A. Angelo and K. Patricia Cross, 2nd edition, 1993, Jossey-Bass publishers, San Francisco, CA).

A similar set of CATs can be found online at:

<https://docs.google.com/document/d/1QMZC9igdgpGgg1SC-NbOuAB05WnG3ujAtJ1zNEHssx4/edit>

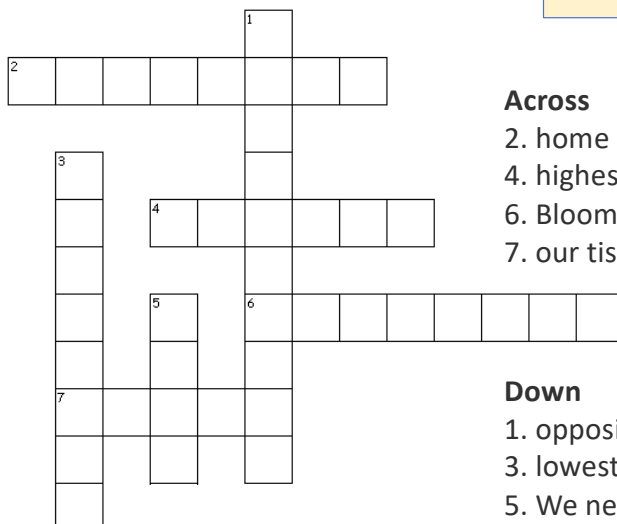
Some CATs specifically designed for large group instruction can be found at:

https://cei.umn.edu/sites/cei.umn.edu/files/active_learning_-_larger_classes.pdf

Activity:**Practice Crossword puzzle**

Criss-cross puzzle

puzzlemaker.discoveryeducation.com

**Across**

- 2. home state for Walt
- 4. highest level of Bloom's
- 6. Bloom's is one of these
- 7. our tissue that learns

Down

- 1. opposite of remembering
- 3. lowest level of Bloom's
- 5. We need a lesson _____

Activity: Crossword Puzzle

Be sure to complete the Crossword Puzzle at the end of this handout. This includes content from many of the videos in this training series.

Activity:**Characteristics of Teacher-Centered Learning vs Student-Centered Learning**

Consider the grid below that has the headings of Teacher-Centered Learning and Student-Centered Learning. Decide which of the following words/phrases are primarily associated with which heading. Write the respective words into the blocks below the appropriate heading. This is a type of categorizing grid (a CATs).

Lecture, lecture, lecture

Major exams only

Emphasis on the learning process

Emphasis on the learning endpoint

Using formative assessments

Using only summative assessments

Purveyor of knowledge

A partner in learning

A quiet, passive classroom

A noisy, active classroom

Teacher asking if there are questions

Students discussing assignments together

Students are penalized for being wrong

Students are allowed to learn from errors

Add any additional characteristics that you think distinguish these headings.

Teacher-Centered Learning	Student-Centered Learning

Activity: The Concept Map

Work with your fellow workshop participants to construct a concept map using the words/concepts from the table at the end of this handout. Cut out each word in the table and arrange the words on the large piece of paper in some way that expresses how you visualize the relationships between the words/concepts. Once you have agreed on your map, tape down the words and draw lines and arrows between words or clusters of words. You may add verbs to the lines to describe the relationships among the words. You may also include additional words in your map.

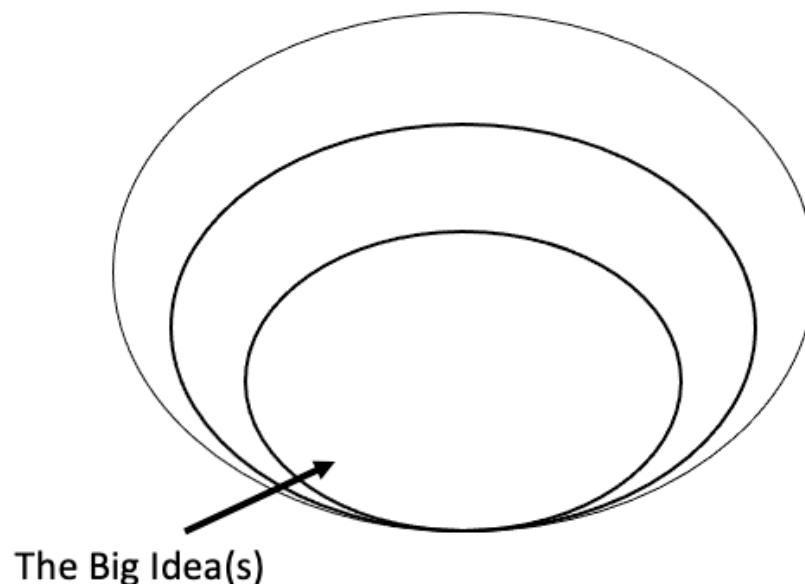
Activities:

1. Revisit the sketches and lists that you made at the end of the student centered learning video; make changes as you think best now that you have more information on learning, assessments of learning, CATs, etc.
2. Also, choose 2 of the CATs discussed in the videos or in the handout; design those for one or more components of your own course; determine how and when you would administer those CATs activities (individually, groups, need worksheets, etc?), how you would assess the activity (graded or not graded, etc), and how you would provide feedback to the students?

The Big Idea

Our goal as teachers should be to integrate these active learning concepts, the formative assessments, and a student-centered learning mentality into our teaching and our modules. This means that we may not be able to cover all the content that we think should be covered. Sometimes we might say to ourselves that the module is the only time that my students will have a formal educational opportunity to learn about my topic, therefore, I must teach them everything that I possibly can during the semester. This is exactly the wrong approach to take in designing a module. Students will learn, genuinely learn, only a small fraction of all the information that we could pass on to them during a semester. Is there a better approach?

If we step back and look at all the content that we stuff into the limited time of a semester, we should be able to partition that content into three subsets: that which provides enduring understanding of the topic/field (called the “big or essential ideas”), that which is important to know and do, and that which is only worth being familiar with. This is illustrated as below.



The concept of the Big or Essential Ideas is from G.P. Wiggins and J. McTighe, *Understanding by Design*, 2nd edition (2005, Pearson Education, Inc., New Jersey). It is available online at: <https://epdf.pub/understanding-by-design-2nd-edition.html>

Big Ideas

Topic

Concepts	Themes
<ul style="list-style-type: none"> • Equity • Friend • Function • Genre • Sample • Scarcity 	<ul style="list-style-type: none"> • Good triumphs over evil • Man's inhumanity to man • Saving for a rainy day
Issues or Debates	Problems or Challenges
<ul style="list-style-type: none"> • Nature vs Nurture • Liberty vs license • Majority always rules 	<ul style="list-style-type: none"> • How to maximize power and control in golf or tennis • Maximize shipping volume
Processes	Theories
<ul style="list-style-type: none"> • Problem solving • Scientific investigation • Decision making 	<ul style="list-style-type: none"> • Natural selection • The Atkins diet • Big Bang Theory
Paradoxes	Assumptions or Perspectives
<ul style="list-style-type: none"> • Fighting for peace • No force acting on a body moving at constant speed • Less is more 	<ul style="list-style-type: none"> • Art conveys meaning • Terrorist vs freedom fighter • Capitalism is the best economic system

From Understanding by Design, (UbD), McTighe & Wiggins, 2004

Big Ideas

Nutrition

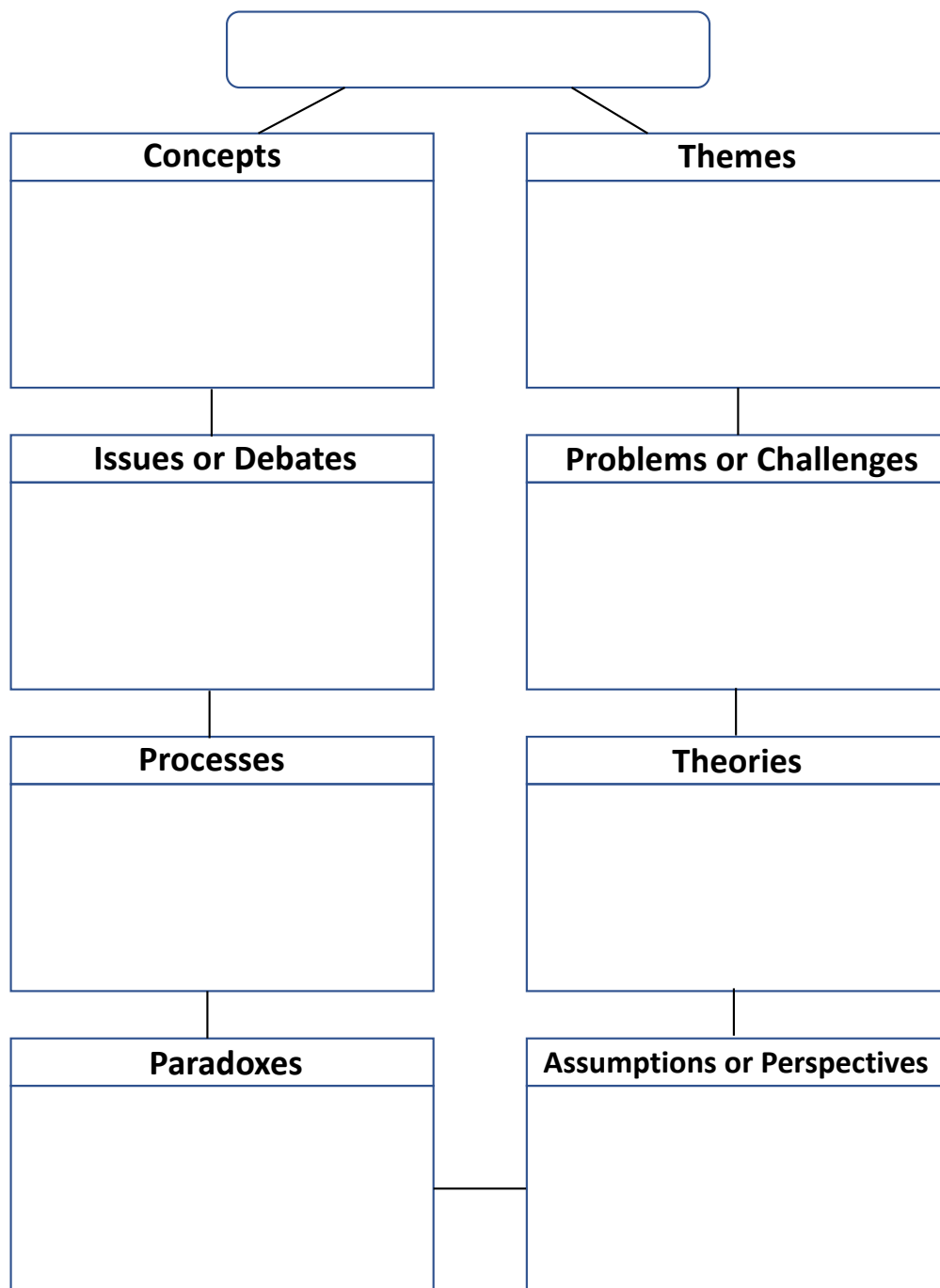
Concepts	Themes
<ul style="list-style-type: none"> • Food groups • Overweight 	<ul style="list-style-type: none"> • A balanced diet • You are what you eat
Issues or Debates	Problems or Challenges
<ul style="list-style-type: none"> • Value of synthetic vitamins • Safety and effectiveness of various diets 	<ul style="list-style-type: none"> • Balancing taste with good nutrition • The lure of fast food
Processes	Theories
<ul style="list-style-type: none"> • Research • Scientific inquiry 	<ul style="list-style-type: none"> • Various diets that promise weight loss • Diet affects longevity
Paradoxes	Assumptions or Perspectives
<ul style="list-style-type: none"> • Prevalence of nutrition-related health problems despite available information on healthy eating • A healthy diet for one may be unhealthy for another 	<ul style="list-style-type: none"> • The USDA Food Pyramid defines healthful eating • Vegetarians are healthier than meat eaters

From Understanding by Design, (UbD), McTighe & Wiggins, 2004

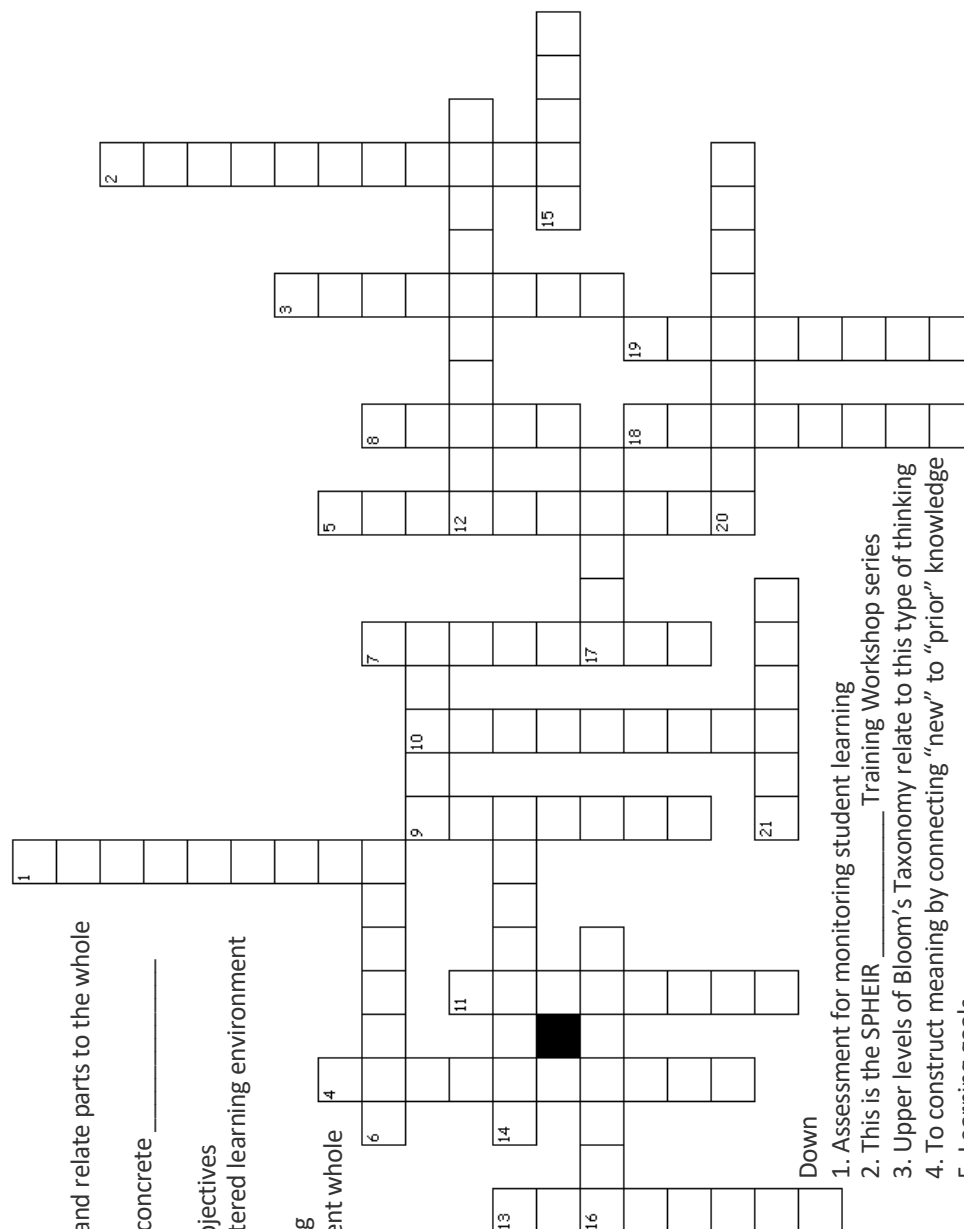
Activity: The Big Idea

1. Identify the Big Idea(s) for your module; Use the grid below to help you get started
2. Make a list of the topics that you include in your current module
3. For each topic, identify whether they are: Directly related to the Big Idea; Important to know and do; Only worth being familiar with
4. How much time do you think that you would gain in the semester by deleting the 'Only worth being familiar with' content? Now, how are you going to use that time?

Big Ideas



From Understanding by Design, (UbD), McTighe & Wiggins, 2004



Across

6. To break material into its constituent parts and relate parts to the whole
9. Learning is this type of a process
12. Kolb's Cycle of Learning includes a step of concrete _____
14. Your capital city
15. Author of the Taxonomy of Educational Objectives
16. Primary teaching method in a teacher-centered learning environment
17. The organ that learns
20. Assessment that evaluates student learning
21. To put elements together to form a coherent whole

Down

1. Assessment for monitoring student learning
2. This is the SPHEIR _____ Training Workshop series
3. Upper levels of Bloom's Taxonomy relate to this type of thinking
4. To construct meaning by connecting "new" to "prior" knowledge
5. Learning goals
7. To retrieve knowledge from long-term memory
8. To use a procedure to perform exercises or solve problems
9. A type of map or diagram that depicts relationships among components
10. Domain about knowing
11. We want this to be student-centered
13. Provides information about the module
18. What and where part of the brain; _____ integrative cortex
19. To make judgements based on criteria or standards

SPHEIR Pedagogical Training Workshop Series 1

Crossword Puzzle



Concept Map

Student	Bloom's Taxonomy
Motor Output	Novice
Learning Experiences & Instruction	Defining Features Assignment
Teacher	Minute Paper
Classroom	IEFs
Higher Order Thinking	Understand
Learning Goals	Create
Active Learning	True – False Questions
Big Essential Questions/Ideas	Teaching & Learning Activities
Frontal Integrative Cortex	Summative Assessments
Analyze	Lower Order Thinking
Making Connections	Learning Assessments
Remember	Temporal Integrative Cortex
Rubric	Apply
Concept Maps	Expert
Feedback & Assessment	Desired Learning Results
Evidence of Learning	Facilitator of Learning
Backward (module) Design	Integrated Course Design
Sensory Cortex	Formative Assessments
Student-Centered Learning	Lecturing
Objective Test Question	Subjective Test Question