Student Learning Goals, Objectives, and Outcomes:

What do you value and need to accomplish in your class?

We tend to overcomplicate –and to overstuff-- the teaching and learning process, and often this is because we start at the beginning. In most cases that is not a bad idea: The ambitious professor begins with a class title, a class description, and builds a syllabus from there, dotting the landscape with rules, policies, readings, and assignments.

But what if we backwards designed our classes?

What if we built everything from and around one simple question: "What do I really want or need my students to know or to be able to do in order for them to be able to reveal what they have learned?"

This requires us to have the end-game in mind and to think about –and clearly articulate—**S**tudent **L**earning **O**utcomes.

The best way to do this is to imagine –or literally have—a walk across campus with a colleague and think about how you would complete the sentence we've all uttered before: "If I could just get them to _____, then I will be happy." Now think about those things –three of them, in fact—and let's build from there.

- What are your student learning goals and how can we express them as outcomes?
- What kinds of assessments do you already use in class?
- How can you assess the accomplishment of learning objectives?
- Think about a class you teach or plan to teach and then identify:

	Student Learning Outcome	What are you already doing for assessment?	What else might work?
SLO1			
SLO2			
SLO3			

Now think about the "after" version of this and, with confidence, identify:

Student Learning Outcome	Assessment

Adding pieces to the puzzle

Think about your goals and objectives, of course, but don't forget to consider the expected changes brought about through an instructional innovation or intervention and not just what the primary assessment is, but how it will be done and when.

Putting it into Practice: A Large-Class Example

Objective	Expected Change	Instrument/Innovation	How to Assess	When to Assess
Objective 1a. Student Engagement In Class: PRSs	Greater participation/engagement	Personal response systems	Measure frequency of responses, N of respondents. But quality?	Each time device is used. How?
Objective 1b. Student Engagement In Class: Groupwork	Greater participation/engagement	Groupwork, think-pair-share, reflective writing.	Students submit a written individual and group report. Observe/record amount and type of participation. DEAL with it.	Each time exercise is conducted, then cumulatively to determine changes as semester progresses.
Objective 2. Student Engagement In-Between Class Sessions	Greater cognitive engagement in-between class sessions & enhanced preparation for class sessions	Forum, with rules/rubrics. Bridge metaphor. The online work builds from one class session & into the next.	Frequency of participation, fidelity to rules & rubrics. Quality of posts?	When Topic closes, but monitored in-between opening and closing periods.
Objective 3. Content Mastery	Increased command of key principles of the discipline.	General knowledge survey. Not teaching to the test but providing conceptual clarity in class	Administer general knowledge survey in all sections at end of semester	End of semester
Objective 4. Essential Skills: Locating & Gathering Information	Increased ability of students to know how and where to locate relevant scholarly sources	Assignments with clear expectations. Mandatory library/info literacy session	Have students submit a project based on info. lit. session. Have students complete assignments; measure them against rubrics	Per assignment.
Objective 5. Essential Skills: Critical Thinking	Increased ability of students to make sense of complex information; to exhibit critical thinking skills	Assignments with clear expectations. Emphasis not on content and conclusions as much as reasoning skills. Can include Forum	Design, implement, share rubrics that indicate and measures critical thinking	Per assignment

Putting it into Practice: *Your Example*

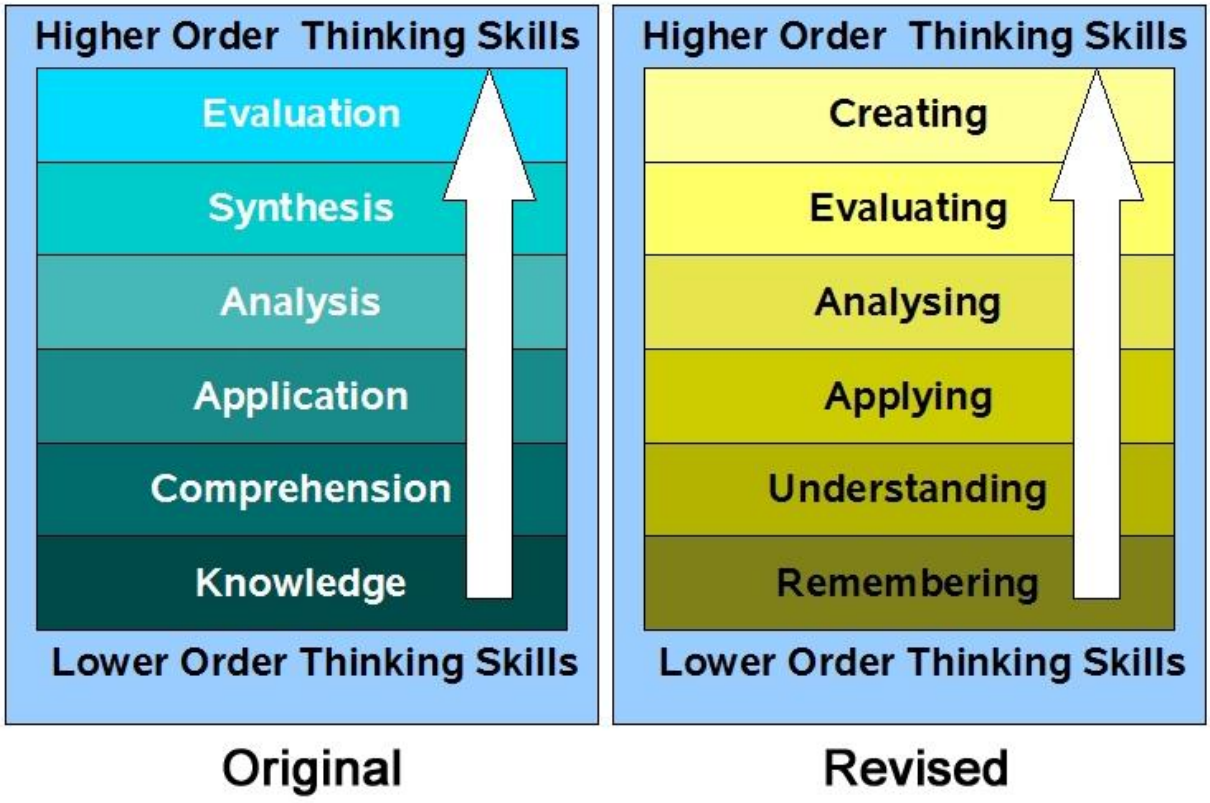
Objective	Expected Change	Instrument/Innovation	How to Assess	When to Assess
Objective 1:				
Objective 2:				
Objective 3:				
Objective 4:				
Objective 5:				
Objective 6:				

Now, how do we develop, articulate, share, and accomplish Student Learning Outcomes (SLOs) that address these goals and objectives?

A good student learning outcome is:

- Specific
- Observable
- Measurable
- Realistic

Therefore, we often and confidently look to Bloom's original and revised taxonomy, and we think in terms of verbs –things the students will do or demonstrate:



Where do the following terms fit?

Assemble	Critique	Diagram	Locate	Report
Calculate	Defend	Distinguish	Measure	Reproduce
Cite	Define	Explain	Persuade	Select
Classify	Demonstrate	Identify	Prioritize	Simulate
Contrasts	Design	Illustrate	Produce	Solve
Criticize	Devise	Integrate	Recite	Summarize

Cheat Sheet:

- Remembering: define, identify, label, locate, list, match, quote, recall, recognize, recite. *Think about the basic features of a thing or phenomenon.*
- Understanding: describe, explain, restate. *Think about how or why something works*.
- Application: apply, complete, illustrate, simulate. *Think about applying a rule to a different situation, or in a different context*.
- Analysis: compare, contrast, differentiate, interpret. *Think about analyzing quantitative data*.
- Evaluation: estimate, judge, prioritize, rate, score. *Think about measurement.*
- Create: compose, construct, design, develop, formulate, hypothesize, invent, produce. *Think: inventive.*

Assessing Student Learning Outcomes: Tips for Effective Measurement

Methods and Instruments

When considering how to measure student learning outcomes it may be helpful to think in terms of assessment *methods* and *instruments*.

- The assessment ***method*** is the general type of tool you will use to assess the Student Learning Outcome. Do your students typically take exams? Would you get a clearer sense of whether they accomplished learning outcomes from a written assignment or oral presentation?
- Once you have figured out the best general method of assessing student learning outcomes, you can then develop or retrofit existing instruments to measure them.
- The ***instrument***, then, is the actual assignment, quiz, exam, or project you will use to complete the assessment. This is what you give to them, and what they complete for you.
- So, the **first step** is to determine the method you want to use and the **second step** is to develop the actual instrument.

Choosing assessment methods and developing assessment instruments

First, consider the range of methods relevant to your discipline, course, and desired learning outcome. What are the general ways students reveal what they know or what they can do? Note that the most common assessment methods include, but are not limited to:

- **tests**
  - multiple choice, short answer, essay
- **formal writing assignments**
  - research papers, reaction papers, creative writing assignments
- **performances**
  - oral presentations, demonstrations
- **portfolios**
  - collated, aggregate representations of student work

Once there is a decision on the method, it is time to shift to the instrument. Think about moving from a general idea to a specific, implementable representation of it.

- **Example**: For a given class it may be decided that the most effective way (**method**) to measure student performance (related to an **SLO**) is to have students do an oral presentation in class. "In-class presentation" is the general method, and the assessment **instrument** might be stated and measured as "an in-class oral presentation that requires the students to identify (or reveal) X, Y, and Z (certain specific types of information or skills)".

Tips for pulling it all together

- One way to balance meaningful results with time spent scoring is to *use one assessment instrument to measure more than one outcome*.
    - This approach works especially well if you have both skill- and knowledge-based outcomes to assess.
        - Research Design example: one assignment, three SLOs…
            - Information literacy
            - Hypothesis formulation
            - Data analysis
- Make sure the assignment or exam questions are directly *aligned* with the outcomes.
- Write and share *clear directions*. Clearly articulate the expectations for completing the assignment.
- *Pilot* the instrument and ask for feedback from the students and faculty who used the instrument.
- *Use rubrics.* This is one of those endeavors that consume a lot of time up-front, but yield substantial dividends later. The bonus is that it keeps the students and the instructor on the same page of the instructional and grading script. There are no surprises. Students see where the points are gained and lost, and grading goes rather quickly and easily.
    - There are **two major types of rubrics: *holistic* and *dimensional***.
        - **Dimensional** is also known as a primary trait rubric. Both detail the particular qualities that separate excellent from poor student work along a spectrum, but the first groups the dimensions together, while the second keeps them separate.
        - **Holistic** rubrics look at the instrument as a whole; students receive one overall score based on a pre-determined scheme used by everyone. The dimensional rubric yields sub-scores for each dimension, as well as a cumulative score which is the sum, either weighted or un-weighted, of the dimensional scores.
    - Each type of rubric has its strengths and weaknesses. *Holistic* rubrics allow you to look at a student's overall performance, and often it corresponds better to the grade that pops into our heads immediately after we finish looking at the student work. The *dimensional* rubric provides more information about what's working and what's not. For example, perhaps students are doing a good job with learning the mechanics of writing, but not so well with learning writing development. A dimensional rubric will provide information with this level of detail, whereas a holistic rubric will not.
    - Regardless of the type of rubric, it is important that it be shared with students well before the assessment is administered. It is unreasonable to expect students to perform well on an assessment if they don't have a clear understanding of the standards being used to evaluate it.
- *Always consider* multiple means of representation, expression, engagement (UDL).