

Welcome Back to the Data Information Literacy Symposium

Housekeeping: Jake Carlson



D | I | L
data information literacy

<http://datainfoilit.org>

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Exercise 1: Program Development

Moderator: Sarah Wright

Exercise 1: Program Development

Case studies:

1. Chemistry / Lab Group
2. Engineering / Lab Group
3. Interdisciplinary / Large Research Center
4. Life Sciences / Lab Group

Exercise 1: Program Development

(Pink handout)

Imagine you want to develop a data information literacy program for the population in your case study.

1. Which data competencies?
2. Additional information needed?
3. Learning objectives?
4. Approach?

Scenario Discussion

40 minutes

Halfway Point

20 minutes left

Prep to Report Out

5 minutes

Panel 2: Implementing the DIL Program

Questions for Panelists:

1. Working with your faculty member and/or department?
2. Working with graduate students?
3. Working with others at the institution?

Relationships Matter!

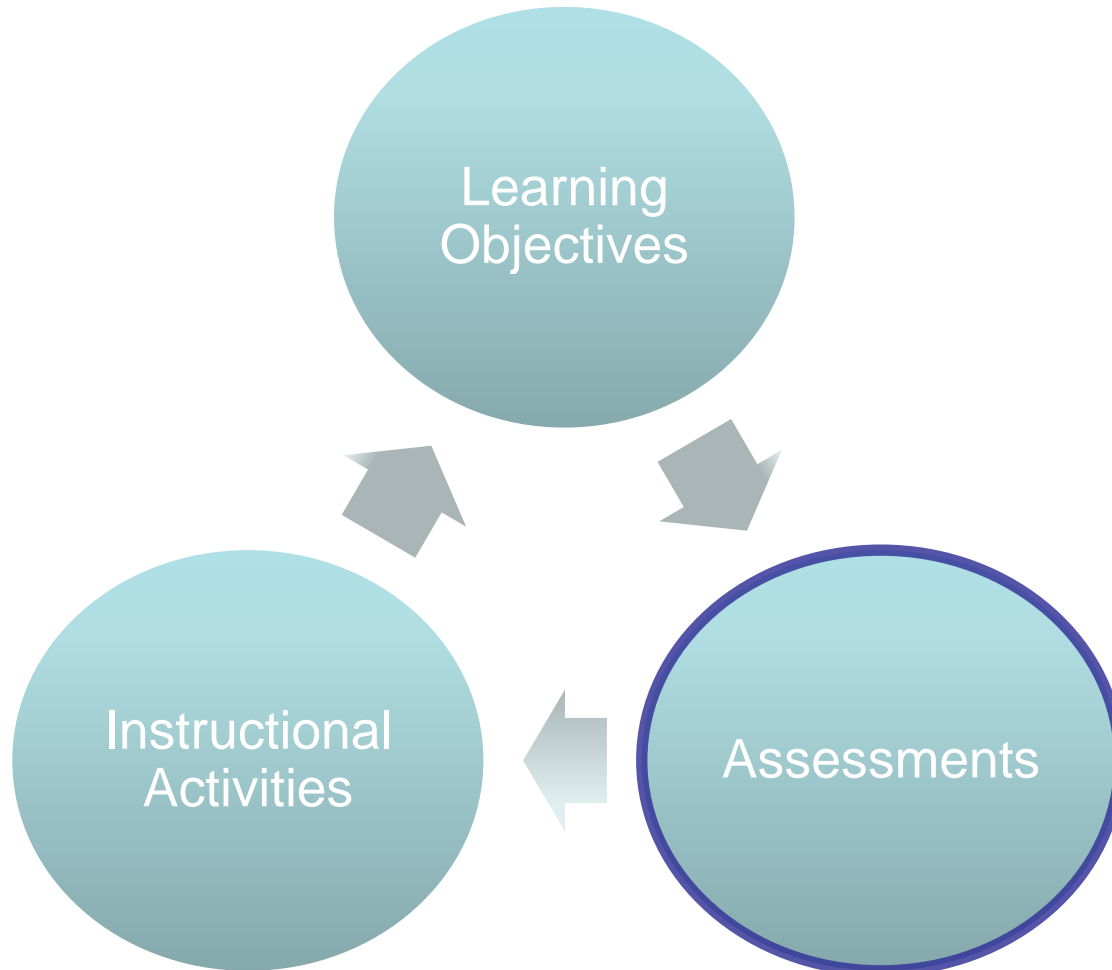
Break

10:15-10:45 AM

Assessment

Michael Fosmire
Dean Walton

Assessing Your Program



Assessment is...

- Valid
- Reliable
- Transparent
- Authentic
- Motivating
- Fair
- Equitable
- Formative, even when Summative
- Timely
- Incremental
- Demanding
- Efficient
- Manageable

Assessment Does...

- Guide Improvement
 - Of Students
 - Of teachers
- Set Standards
- Provides Evidence
- Differentiate Performance

Assessing SLO's



Specific

- Detailed enough so understandable
- Who, what, when, where, why, how

Measurable

- Is this something that is demonstrable?
- Can it be quantified?

Achievable

- Set the bar high
- ...but within reason

Relevant

- Aligned with goals/objectives?
- Appropriate level of assessment

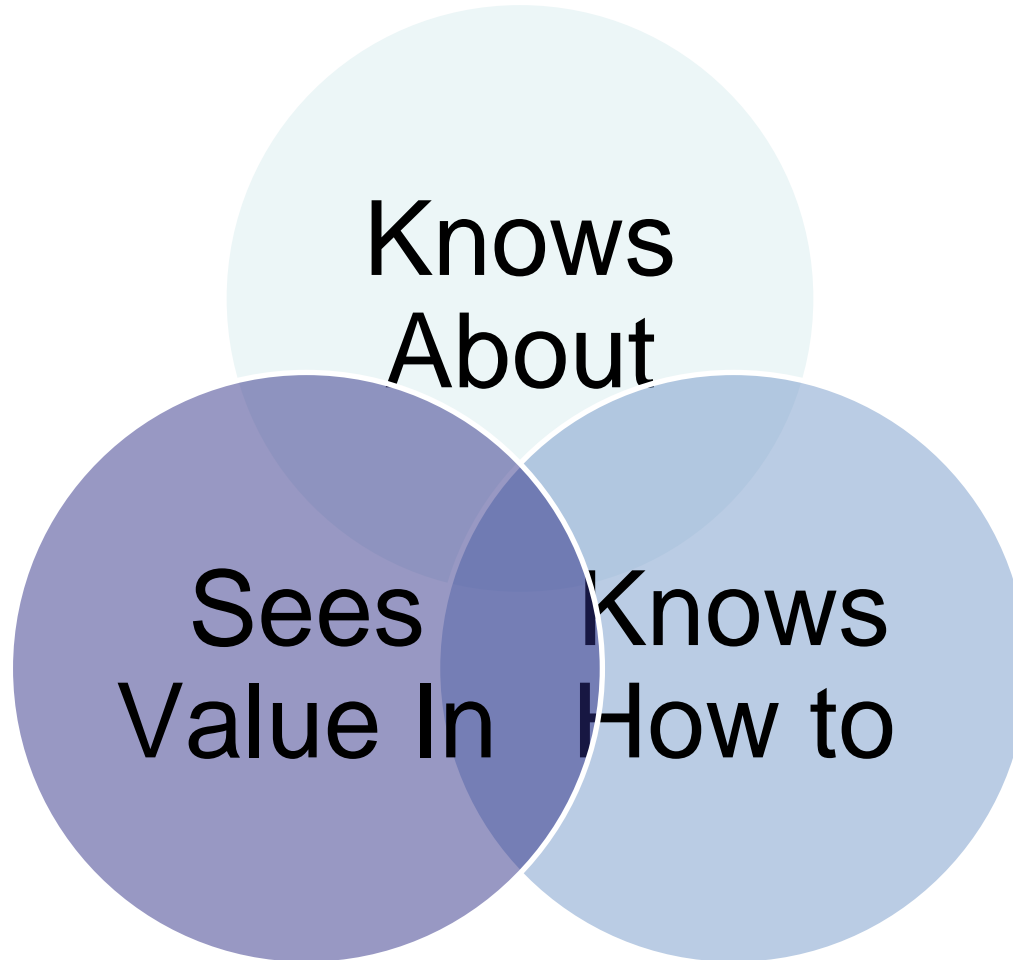
Timely

- Overall timeline for instruction/assessment
- Logical scheduling of assessment?

Bloom's Taxonomy Action Verbs

Level	Definition	Sample verbs					Sample behaviors
KNOWLEDGE	Student recalls or recognizes information, ideas, and principles in the approximate form in which they were learned.	arrange define describe duplicate	identify label list match	memorize name order outline	recognize relate recall repeat	reproduce select state	The student will define the 6 levels of Bloom's taxonomy of the cognitive domain.
COMPREHENSION	Student translates, comprehends, or interprets information based on prior learning.	explain summarize paraphrase describe illustrate classify	convert defend describe discuss distinguish estimate explain	express extend generalized give example(s) identify indicate	infer locate paraphrase predict Recognize	rewrite review select summarize translate	The student will explain the purpose of Bloom's taxonomy of the cognitive domain.
APPLICATION	Student selects, transfers, and uses data and principles to complete a problem or task with a minimum of direction.	use compute solve demonstrate apply construct	apply change choose compute demonstrate discover dramatize	employ illustrate interpret manipulate modify operate	practice predict prepare produce relate schedule	show sketch solve use write	The student will write an instructional objective for each level of Bloom's taxonomy.
ANALYSIS	Student distinguishes, classifies, and relates the assumptions, hypotheses, evidence, or structure of a statement or question	analyze categorize compare contrast separate apply	change discover choose compute demonstrate dramatize	employ illustrate interpret manipulate modify operate	practice predict prepare produce relate schedule	show sketch solve use write	The student will compare and contrast the cognitive and affective domains.
SYNTHESIS	Student originates, integrates, and combines ideas into a product, plan or proposal that is new to him or her.	create design hypothesize invent develop arrange assemble	categorize collect combine comply compose construct create	design develop devise explain formulate generate plan	prepare rearrange reconstruct relate reorganize revise	rewrite set up summarize synthesize tell write	The student will design a classification scheme for writing educational objectives that combines the cognitive, affective, and psychomotor domains.
EVALUATION	Student appraises, assesses, or critiques on a basis of specific standards and criteria.	Judge Recommend Critique Justify Appraise Argue	Assess Attach Choose Compare Conclude Contrast	Defend Describe Discriminate Estimate Evaluate Explain	Judge Justify Interpret Relate Predict	Rate Select Summarize Support Value	The student will judge the effectiveness of writing objectives using Bloom's taxonomy.

Knowledge, Skills, Attitudes (KSA)



Does your assessment engage all three facets?

Informal Assessments

- Muddiest point/Minute Papers
- Reflections
- Clickers/Quizzes
- Checks for Understanding (CFUs)
- Readiness Assessment Technique (RATs)

Know your audience, so you know what they need

Rubrics

INFORMATION LITERACY RUBRIC

-AACU VALUE rubric

Definition

Information literacy is the ability to recognize the extent and nature of information need, then to locate, evaluate, and effectively use the needed information. It involves designing, evaluating and implementing a strategy to answer questions or achieve a desired goal

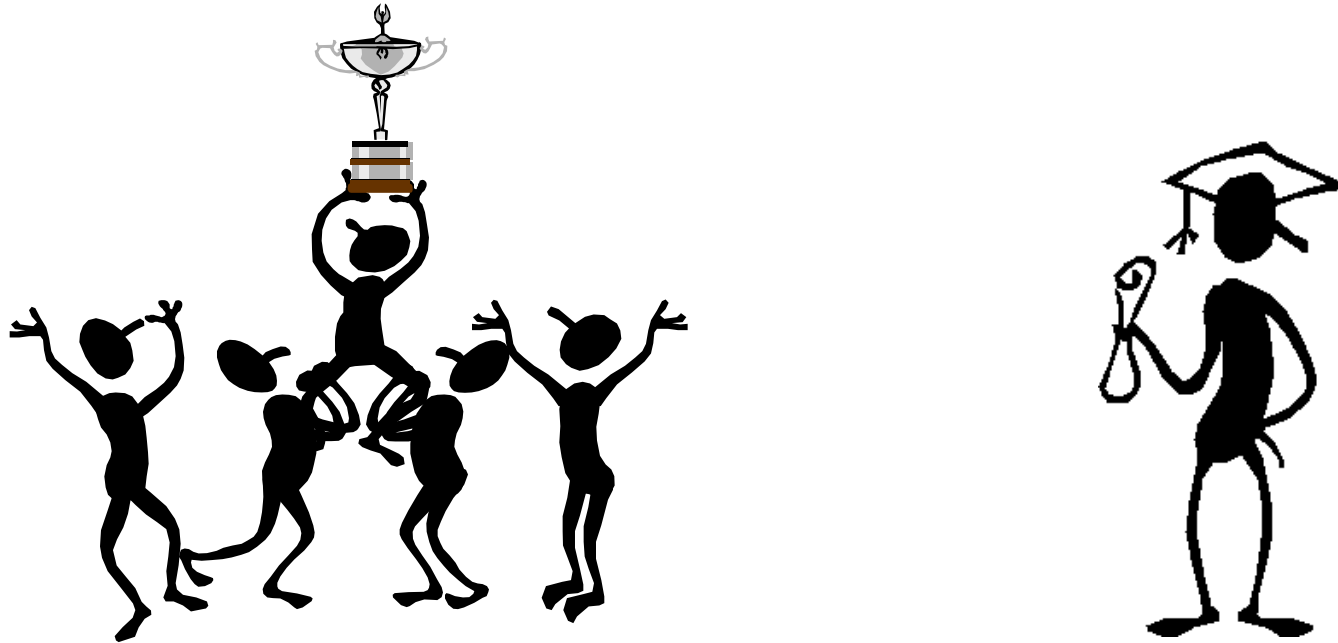
	Proficient 3	Emerging 2	Developing 1
Determine the Extent of Information Needed	Effectively defines the scope of the research question or thesis. Effectively determines key concepts. Types of information (sources) selected directly relate to concepts or answer research question.	Defines the scope of the research question or thesis completely. Can determine key concepts. Types of information (sources) selected relate to concepts or answer research question.	Defines the scope of the research question or thesis incompletely (parts are missing, remains too broad or too narrow, etc.). Can determine key concepts. Types of information (sources) selected partially relate to concepts or answer research question.
Access the Needed Information	Accesses information using effective, well-designed search strategies and most appropriate information sources.	Accesses information using variety of search strategies and some relevant information sources. Demonstrates ability to refine search.	Accesses information using simple search strategies, retrieves information from limited and similar sources.

Scaffolding

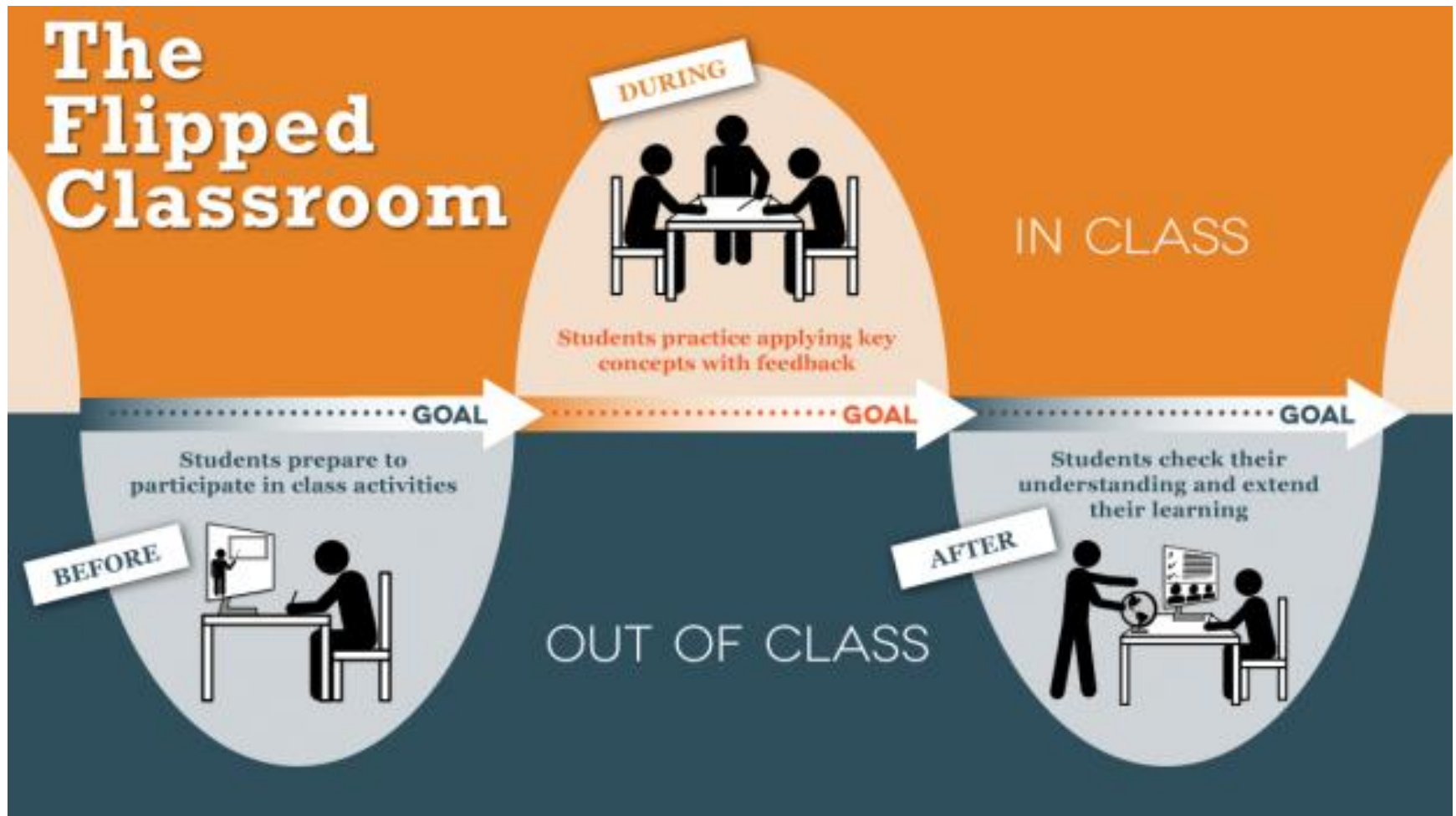


- Starting slowly and building complexity
- From more structure to less

Team vs. Individual Assessments

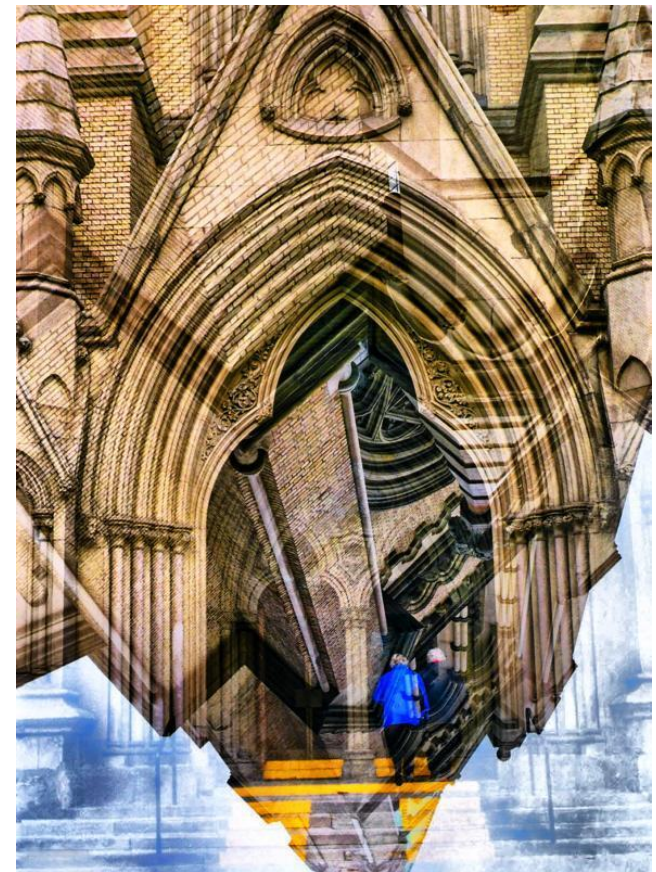


E-Science is a team sport. How do you balance cooperative outcomes with tracking individual achievement/comprehension?



Maintain Alignment

- Review outcomes
- Assessment at correct Bloom level



What is a program?

Assessment

*--Characteristics of Programs of
Information Literacy that Illustrate
Best Practices (ALA/ACRL)*

Developing the Program

- **Identifying Need**
- **Proposing Solutions**
- **Assessing Results**

When do you assess?

- **When it matters...**
- **Who are influencers?**
- **What do they want to know?**
- **How will they use the results?**

5min- brainstorm: Who are your influencers?

Step by Step Assessment

- **Mission/Goals**
 - **Defines purpose of program**
 - **Aligns with library/institutional mission or strategic plan**

5 min – This program *does what, for whom, for what outcome?*

- **How should I assess my program and when should it begin?**
- **Planning evaluation begins with planning the project**
- **Outcome Based Evaluations**
- **The Logic Model**

Outcomes

- **Students who participate in this program will be able to:**
- **Administrators who support this program will:**
- **Disciplinary faculty affiliated with this program will:**
- **Participating librarians/instructors will:**

- **It is important that what you want to assess is measurable!**
- **Think tallies of items**
- **Think percent change**
- **Think surveys**

Parts of a Logic Model

LOGIC MODEL					
Key Influencers (Stakeholders) <ul style="list-style-type: none"> • Influencers (or stakeholders) • Target Audience • Objectives • Outcomes • Indicators • Goals 	Target Audience	Objectives	Outcomes	Indicators (increase or Decrease)	Goals/Targets (the stated change in numbers or percentage)

Identify Outcomes

- **Using outcomes from yesterday, or starting over:**
- **Identify three outcomes, either learning outcomes or other programmatic outcomes.**
(10 minutes)

Identify Indicators:

- **What will indicate that the outcome has been met?**
 - Performance assessment of students**
 - Knowledge assessments (tests)**
 - Application (using data mgmt)**
 - Other Bloom-ish activities**
 - Satisfaction measures**
 - Efficiency/cost measures**

5 minutes - Indicators

Sources of Data

- **How will you gather this data?**
- **Who is your audience?**
- **How often/when will you gather data?**
- **What will you need (equipment, IRB approval, etc).**

5 minutes – sources of data

Goals and Targets

- **May be set by standards**
- **May be very subjective**
- **Should be reasonable and obtainable**

Criteria for Success

What is the threshold of success?

70% on an exam

<5% FTE librarian time per semester

Utilizing 50% of proper data management strategies

80% of points on a rubric from an artifact?

Check for Alignment

- Go back to your Outcome....does the assessment still *reveal whether students have achieved the learning outcome?*
- Is the assessment practical, effective and useful?

Bloom Activities

- **Knowledge:** Recall, Recognize, Identify
- **Comprehension:** Interpret, Exemplify, Classify, Summarize, Infer, Compare, Explain
- **Application:** Apply, Execute, Implement
- **Analysis:** Differentiate, Organize, Attribute,
- **Evaluation:** Critique, Assess
- **Synthesis:** Create, Generate, Plan, Produce, Design

What to Assess

- Look at your Learning Outcome.
- How can you tell whether an Outcome has been met?
- What Bloom 'verb' corresponds to this learning outcome?
- ***Write down a task*** in 'Bloom language' in the 'What to Assess' blank.

Bloom-ish Connections

- **Knowledge:** Recall, Recognize, Identify
- **Comprehension:** Interpret, Exemplify, Classify, Summarize, Infer, Compare, Explain
- **Application:** Apply, Execute, Implement
- **Analysis:** Differentiate, Organize, Attribute,
- **Evaluation:** Critique, Assess
- **Synthesis:** Create, Generate, Plan, Produce, Design
- Tests: Fill-in; multiple choice, matching, labeling
- Papers
- Problem Sets
- Class Discussions
- Concept Maps
- Performances
- Labs
- Prototypes
- Simulations
- Projects
- Debates
- Reviews

See Handouts

Activity

- Fill out Worksheet: How Will You Assess?
- Which Assessment technique is most appropriate for your outcome? (See handout)

What Constitutes Success?

- What is the threshold students should achieve?
 - Complete mastery?
 - More often than not? 70%, 90%
 - The ability to perform on command?
 - Consistent behavior change?
- Fill Out the ‘Success Threshold’ part of your form

When Do You Assess?

Considerations

- Availability of Audience/Instructor
- Purpose of Instruction
- Purpose of Assessment
- Types of Outcomes

- Fill out 'When' section of assessment

Exercise 2: Developing an Assessment Strategy

Moderator: Dean Walton

Lunch

12:00-1:30 PM

Lightning Round Presentations

Next steps for developing our DIL programs
with our faculty partners and/or at our
respective institutions.

Discussion: Where do we go from here?

Moderator: Jon Jeffryes