

Genteels' Excellence in Teaching Seminar

Are They Really Learning What We Are Teaching Them?

Using Assessment to Enhance Teaching Effectiveness and Measure Student Learning

Program for Session One

- Thoughts on (and misconceptions about) assessment – with some history and research to support the case

Audience Participation!!! 😊

What two words would
best describe how
you
feel about assessment?

Audience Participation!!! 😊

What two words would
best describe how
your colleagues
feel about assessment?

My Two Words...

- Confusion
- Myths (or Fallacies)
- Magic Bullets
(Yeah, I know...)

Confusion

Confusion Tower of Babel



Reducing Confusion...

...by defining our terms

Terms of...confusion

- Assessment – What is it, and how does it work?
- Course, program, and institutional assessment
- Goals, outcomes, objectives, etc.

Assessment: What is it?

What is Assessment?

(Huba and Freed 2000)

Assessment is the process of gathering and discussing information from multiple and diverse sources in order to develop a deep understanding of what student know, understand, and can do with their knowledge as a result of their educational experiences; the process culminates when assessment results are used to improve subsequent learning.

What is Assessment?

(Suskie 2009)

Assessment is the ongoing process of:

- Establishing clear, measurable expected outcomes of student learning
- Ensuring that students have sufficient opportunities to achieve those outcomes

What is Assessment?

(Suskie 2009)

Assessment is the ongoing process of:

- Systematically gathering, analyzing, and interpreting evidence to determine how well student learning matches our expectations
- Using the resulting information to understand and improve student learning.

What is Assessment?

(Walvoord 2010)

Assessment is the systematic collection of information about student learning, using the time, knowledge, expertise, and resources available, in order to inform decisions that affect student learning.

What is Assessment?

(Eberly Center)

Assessment is simply the process of collecting information about student learning and performance to improve education.

Assessment: How Does It Work?

a.k.a. Assessment in Six Easy Steps

How Assessment Works (1)

What do we want our students to know and be able to do?

- Goals, outcomes, objectives
- “End-in-view” (Dewey)

How Assessment Works (2)

What information will help inform our decisions?

- What measures, or evidence, or “artefacts” best suit our needs?

How Assessment Works (3)

Where are the best mechanisms/vehicles for collecting this information?

How Assessment Works (4)

Once we have the information, what's the best way for us to share it and review it?

How Assessment Works (5)

Based on our review of the information, what changes/suggestions/tweaks would we recommend?

- “Closing the loop” (eeeew.)

How Assessment Works

Always remember:

The aim of assessment is *action*.
(Walvoord)

How Assessment Works (6)

Rinse and Repeat

Course, Program, and Institutional Assessment

Course, Program, Institution

- Course: Assessment of student learning in individual courses in the curriculum
- Program: Assessment of overall program effectiveness
- Institution: Assessment of overall institutional effectiveness and efficiency
- TA-DA!

Course, Program, Institution

AAC&U:

*Levels of Assessment:
From the Student
to the Institution
(2005)*

Course, Program, Institution (AAC&U)

1. Assessing individual student learning within courses
2. Assessing individual student learning across courses

Course, Program, Institution (AAC&U)

3. Assessing courses
4. Assessing programs
5. Assessing the institution

Course, Program, Institution (AAC&U)

- Questions
- Evidence
- Actions

Course, Program, Institution (AAC&U)

1. Assessing individual students within courses

– Questions:

- How well has the student achieved the learning outcomes set for this course?
- What are the student's strengths and weaknesses?

– Evidence:

- Student work embedded in the course (quizzes, papers, presentations, exams, etc.)

Course, Program, Institution (AAC&U)

1. Assessing individual students within courses

– Actions:

- Sharing (“diagnostic”) results with the student (feedback for learning).
- Analyzing results to explore potential improvements in course design and/or communication.

Course, Program, Institution (AAC&U)

2. Assessing individual student learning across courses

– Questions:

- How well has the student achieved the disciplinary outcomes of the program (major, gen ed, certificate, etc.)?
- To what extent does her/his performance reflect the larger institutional goals?

– Evidence:

- Performance data from “key” courses or assignments; portfolios; external exams; “capstone projects”

Course, Program, Institution (AAC&U)

2. Assessing individual student learning across courses

– Actions:

- Feedback to students so they can understand their “progress over time.”
- Feedback to program stakeholders on the efficacy of the curriculum, or program design, or student profile.
- Identification of “targets” (courses, sequences, projects) for further study and refinement.

Course, Program, Institution (AAC&U)

3. Assessing courses

– Questions:

- To what extent are students achieving the course outcomes? Are assignments appropriately designed to measure student performance?
- How well does the course prepare students for other courses in the program?
- Is there consistency across different sections of the same course?
- How well is the course fulfilling its purpose in the larger curriculum?

Course, Program, Institution (AAC&U)

3. Assessing courses

– Evidence:

- Course-embedded assignments
- Results from common assignments across sections
- Reflections on student preparedness from courses that follow in the sequence; course evaluations
- Senior surveys
- Alumni surveys

Course, Program, Institution (AAC&U)

3. Assessing courses

– Actions:

- Formative feedback to instructors to improve course design and delivery
- Conversations with colleagues to explore “multi-section” coherence
- Course-sequence analysis

Course, Program, Institution (AAC&U)

4. Assessing programs

– Questions:

- Do the program's courses contribute to its outcomes as planned?
- Does the program's design resonate with its outcomes?
- Are the courses organized in a coherent manner?
- How and in what ways does the program advance institutional goals?

Course, Program, Institution (AAC&U)

4. Assessing programs

– Evidence (far more complex and varied):

- Aggregate scores from core courses and key assignments
- Results from common assignments
- Placement records
- Results from commercial tests
- Acceptance, retention, and graduation rates
- Alumni and employer surveys, focus groups
- Etc.

Course, Program, Institution (AAC&U)

4. Assessing programs

– Actions:

- Analysis of program alignment with program outcomes
- Examine how well the program fosters “cumulative learning”
- Identify missing or superfluous courses, content, or experiences
- Ensure the curriculum reflects the highest expectations of the field/discipline

Course, Program, Institution (AAC&U)

5. Assessing the institution

– Questions:

- How much do our students learn over their college years?
- How well does the institution prepare students for their fields – and for the complexities of the 21st century?
- What evidence is there that the institution is fulfilling its educational mission?
- Are curricular and co-curricular experiences aligned in a meaningful way?

Course, Program, Institution (AAC&U)

5. Assessing the institution

– Evidence:

- Summarized data from program assessments and program review
- External evaluations (e.g., accreditation)
- Job and graduate school placement records
- External stakeholder feedback
- Results from benchmarking studies
- Indirect measures (NSSE, alumni surveys, etc.)

Course, Program, Institution (AAC&U)

5. Assessing the institution

– Actions:

- “Value-added” studies (e.g., analysis of how gen ed influences the major)
- Resource allocation (for new programs, faculty, etc.)
- Identification of new program areas (disciplinary and multi-disciplinary)
- Identification of “best practices” and “areas of strength” for future growth and support
- Communication strategies for key external groups (parents, alumni, potential students, SUNY, etc.)

Assessment: Some Myths and Fallacies

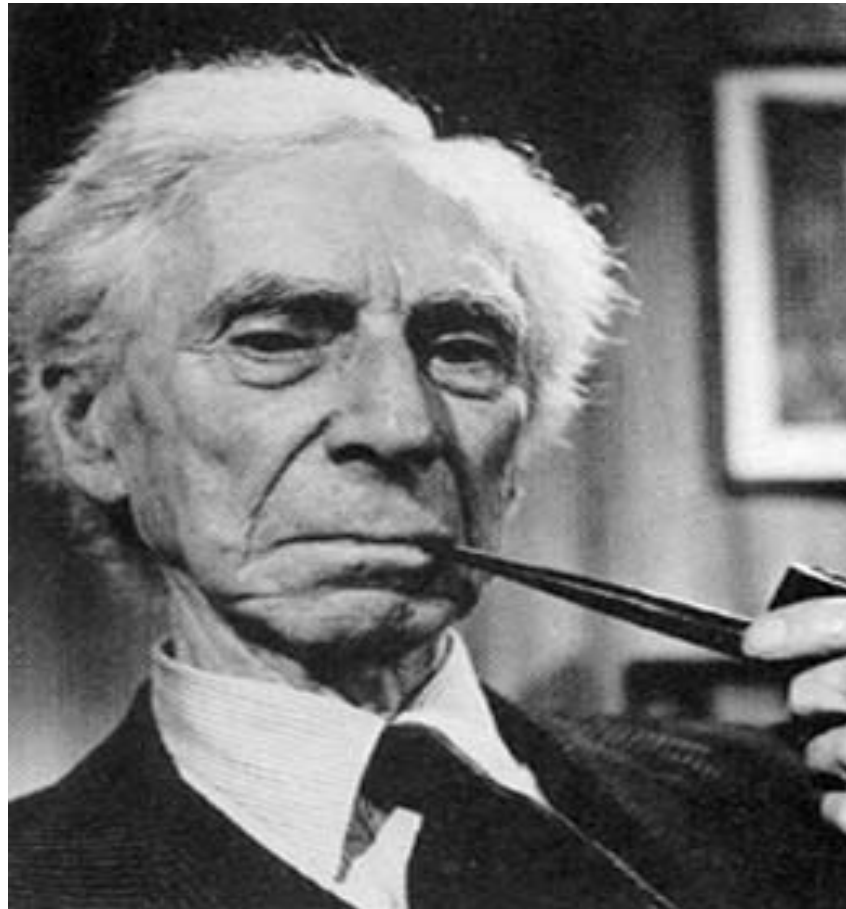
Assessment: Myths and Fallacies

- Fallacy of Compliance
- Fallacy of Smugness
- Fallacy of the System
- Fallacy of Complexity and Size
- Fallacy of Quantification
- Fallacy of Collection

Fallacy of Compliance

- The only reason to engage in assessment is to comply with external demands (chair, dean, provost, president, state, accrediting agency)

Fallacy of Smugness



Fallacy of the System

You know what will totally fix our assessment problem?

A big, honkin', expensive assessment thingamabob doohickey.

Fallacy of the System

Work from the ground up.

Make sure the system will be tailored to you.

The system will not fix the problems of assessment.

Fallacy of Complexity and Size

- You know what? We need a **gigantic** assessment system with complex calendars, tons of moving parts, lots and lots of people involved, loads of spreadsheets, and mountains of “data.”
- If we build it, they will assess.

Fallacy of Quantification

- **Everything** in our assessment system needs to be quantified – and that goes for **every major** and **every program** and **every type of assignment**.
- (Otherwise, our system will look wimpy and the proto-stat-heads and wannabe-stat-heads will make fun of us at recess.)

Fallacy of Collection

- Oh God, we're doomed. **Let's panic and collect everything....**and I mean **everything**, like back to 1986 kind of everything!!!!!!

Let's take a deep breath

- Compliance
 - Own the process – or someone else will own it for you

Let's take a deep breath

- Smugness
 - Get over yourself. Seriously.

Let's take a deep breath

- System
 - Only build (or buy) systems that reflect your institutional practices and culture

Let's take a deep breath

- Complexity and size:
 - Always start small and build from the ground up

Let's take a deep breath

- Quantification: To thine own self be true.
- (Sometimes you just have to tell the quant-nerds to "talk to the hand.")

Let's take a deep breath

- Collection
 - Don't collect what you don't need.
 - (Seriously...don't do it.)
 - (And don't go back to the '80s.)

Bonus Fallacy!!!

- Fallacy of Grading vs. Assessment
- Grading isn't (really) assessment (blah, blah, blah...)!

Bonus Fallacy!!!

- Grading is the “gateway drug” to assessment

Magic Bullets

Assessment isn't a magic bullet

- It is a *process* – and not an event – and you need to be committed to it for the long haul
- It is a *continuous improvement* process – and not one that will be perfect the first time around
- It *isn't easy* – and it does take time
- It doesn't *automatically* translate into markedly improved student learning

That being said...

- ...it will help you develop a deeper understanding of what (and how) your students learn
- ...it will help you make more informed decisions about your courses
- ...it will help contribute to more meaningful discussions about the curriculum

Effective Assessment and Continuously Improving Student Learning

Looky Here...Some Nice Examples

- NILOA Study (2012)
 - Conducted deep case studies of nine (9) institutions
 - Candidate Pool: NILOA Advisory Board Recommendations and Council for Higher Education Accreditation (CHEA) assessment award recipients
 - Two-year and Four-year institutions
 - Showcased common themes and practices

Looky Here...Some Nice Examples

- NILOA Study (2012)
 - It is no longer sufficient for institutions to have assessment *plans*. Instead, institutions need to strive to build a *culture of evidence* with examples of how assessment results are used to improve student learning

Looky Here...Some Nice Examples

- NILOA Study (2012)
 - Most assessment data are still typically used for accreditation, but more and more institutions are using the data for improvement (Kuh & Ickenberry, 2009)

Looky Here...Some Nice Examples

- NILOA Study (2012)
 - We have moved away from the initial challenge of getting institutions to “do assessment”
 - The new challenge: Helping institutions move from gathering assessment results to actually *using* assessment results – i.e., using assessment evidence to improve learning and inform curricular decisions (Blaich & Wise, 2011)

Looky Here...Some Nice Examples

- NILOA Study (2012) – Promising Practices
 - Institutional “framing” of assessment
 - Embedding assessment into institutional processes such as program review and governance structures
 - Incorporating assessment results into strategic planning, resource allocation, and institutional decision-making

Looky Here...Some Nice Examples

- NILOA Study (2012) – Promising Practices
 - Making assessment a meaningful and regular part of the institutional culture
 - PD resources, formal time for review
 - Awards programs

Looky Here...Some Nice Examples

- NILOA Study (2012) – Promising Practices
 - Faculty (departmental) ownership of the assessment process
 - Letting the assessment practices “reflect the disciplines”

Looky Here...Some Nice Examples

- NILOA Study (2012) – Promising Practices
 - Sharing information widely regarding assessment results of assessment to both internal and external audiences
 - Making it “front and center”

Looky Here...Some Nice Examples

- NILOA Study (2012) – Promising Practices
 - Building assessment programs around small, manageable pieces – and replicating success (a.k.a., “playing Vivaldi”)

Looky Here...Some Nice Examples

- NILOA Study (2012) – Next Steps
 - Engage more stakeholders (local and professional communities)
 - Build a more robust process for “assessing assessment”
 - Continuing to become more transparent

(INSERT PANIC HERE)



Oh no...we're just trying to get started.
Where do we begin?!!!

Crawl Before You Run: Some Thoughts on How to Move Forward with Assessment

Practical Steps

- Outcomes
- Processes

Practical Steps

- Some helpful reminders:
 - Start small
 - Maintain modest goals
 - Keep it manageable
 - Always reflect your own disciplinary culture and practice
 - Remind yourself that it is a process – and will continue to evolve over time

Developing Learning Outcomes

Background & Overview

- Goals, Objectives, and Outcomes:
What's the difference?
- What is a learning outcome?
- Why are learning outcomes important?
- What are the core elements of a learning outcome?

Workshop Outcomes

At the end of this session, participants will be able to...

...identify the core elements of learning outcomes

...explain how learning outcomes connect instruction and assessment

...classify the different types of learning outcomes using Bloom's Taxonomy

...analyze the core components of learning outcome statements

...design learning outcomes for their own courses

...evaluate the effectiveness and impact of learning outcomes

What is a Learning Outcome?

Clarifying the muddle of terms...

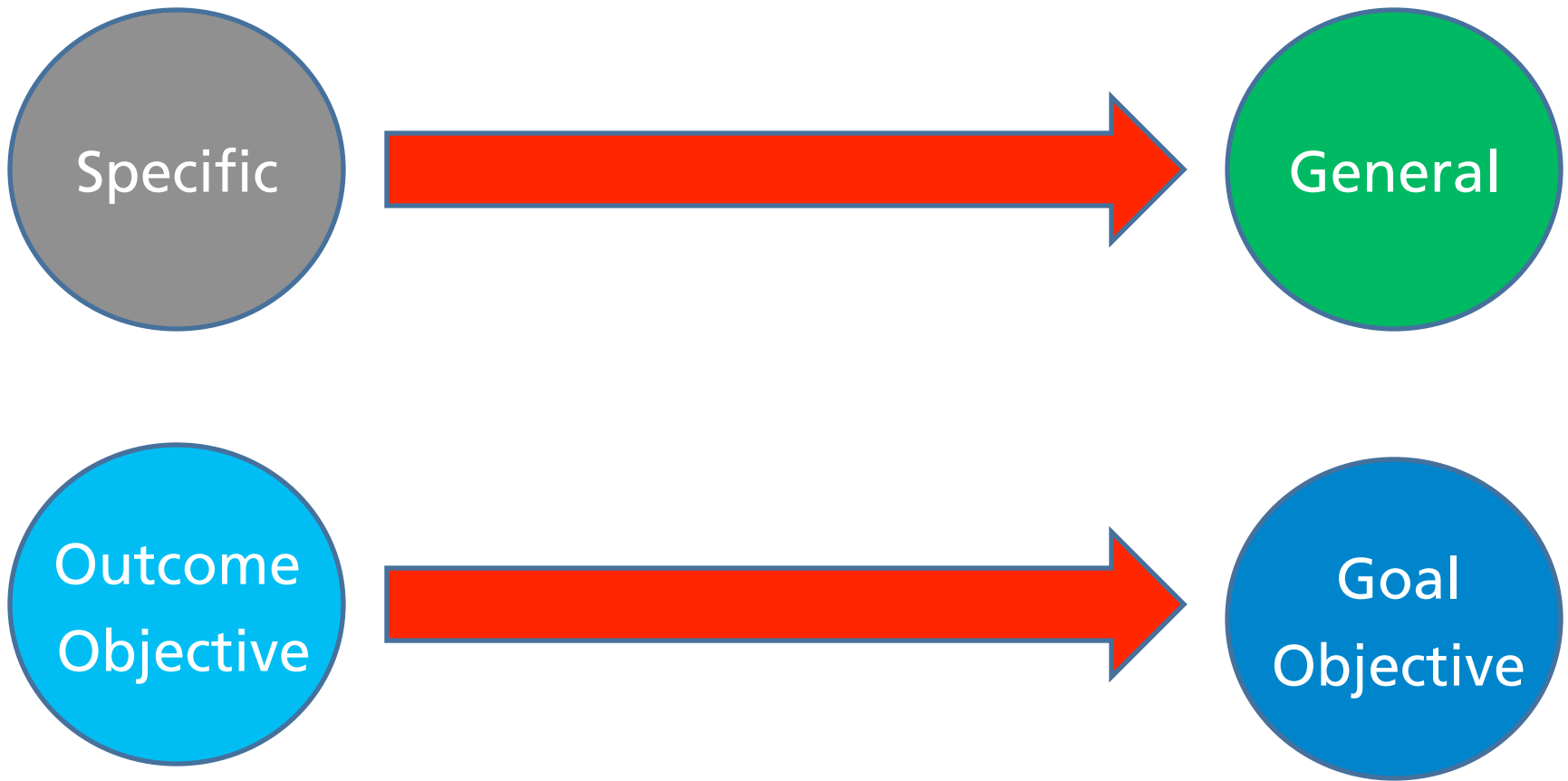
What is a learning objective?

- Goals
- Objectives
- Performance Criteria
- Benchmarks
- “Measurables”
- Etc., etc.

What is a learning objective?

- Goals
- Outcomes
- Objectives

What is a learning outcome?



What is a learning outcome?

Goal

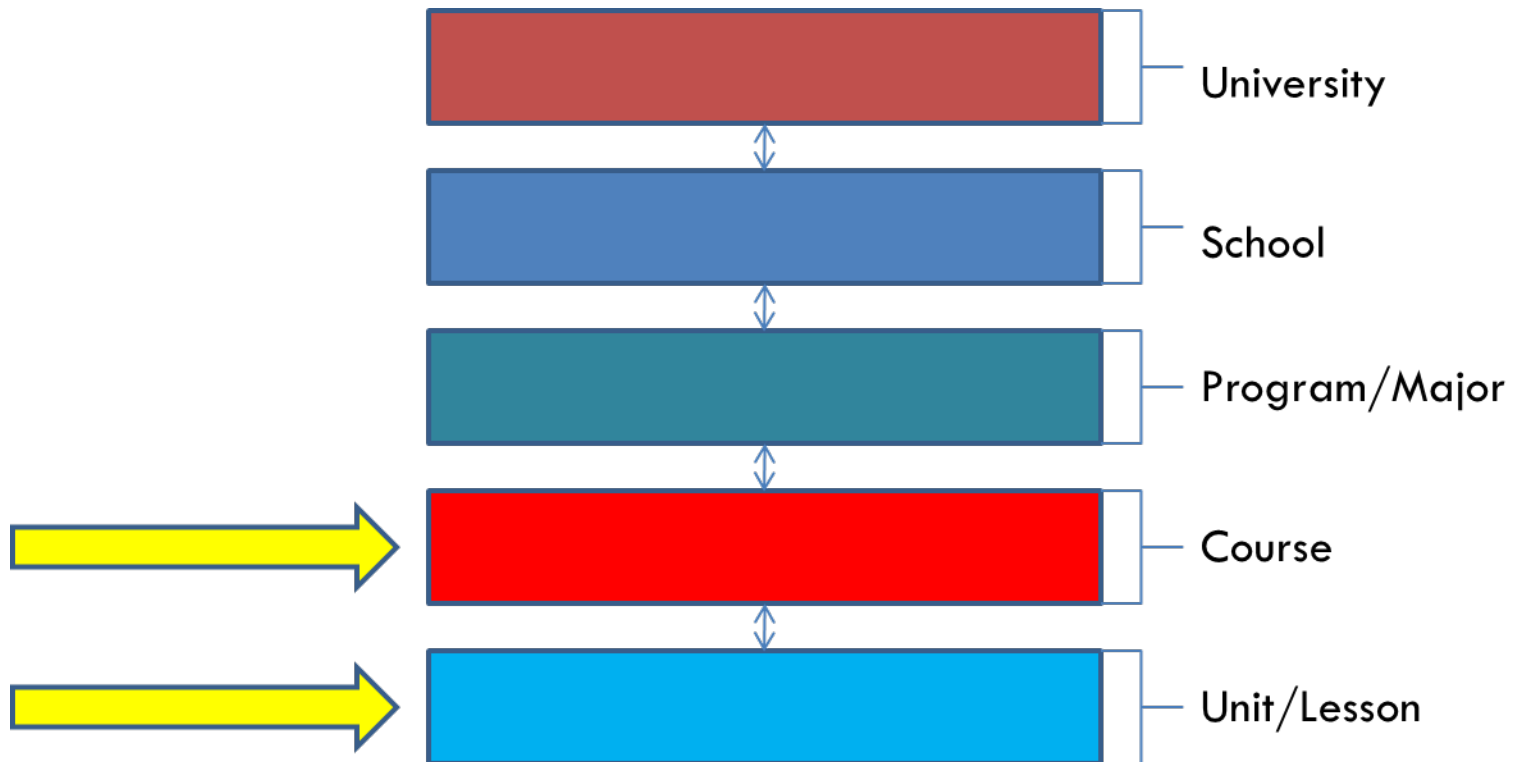
- A statement of the intended general aims of an instructional unit, course, or program
- Global, general
- Not necessarily measurable

Outcome

- A statement that describes what the learner is expected to know and be able to do as a result of instruction
- Specific, targeted
- Measurable

What is a learning outcome?

Clarifying the terminology:



The Importance of Learning Outcomes

Why are learning outcomes important?

- Help foster curricular coherence by connecting classroom activities and assessment
 - Guide instructional planning – content, delivery, and activities/assignments
 - Guide the learner – set priorities and performance expectations
 - Guide evaluation – establish a framework (and set of benchmarks) for assessing learning

Learning Outcomes: A Definition

Core elements of a learning outcome

- Learning outcome:
 - A statement (in specific and measurable terms) that describes what the learner will know and be able to do as a result of engaging in a learning activity

Core elements of a learning outcome

- Learning outcome:
 - A **statement** (in **specific and measurable terms**) that describes what the **learner** will **know and be able to do** as a result of engaging in a **learning activity**

Goals vs. Outcomes

Goal

- At the end of the workshop, participants will understand the role and importance of learning objectives

Outcome

- Given a list of ten (10) statements, participants will be able to identify how each statement corresponds to Bloom's taxonomy of cognitive behavior. Participants who correctly identify seven (7) or more statements will demonstrate mastery of the topic

Core elements of a learning outcome

- Learning outcome: A **statement** ...

Outcome = Conditions + Performance + Criteria	
Conditions	Given 'x' ... Without 'y' ...
Performance	...the learner will (verb)...
Criteria/Standards	Accuracy/Quality Quantity Time Constraints

Core elements of a learning outcome

- Learning outcome: A statement (in **specific and measurable terms**) ...
- Non-Measurable vs. Measurable Terms

Non-Measurable	Measurable
Appreciate	Identify
Be familiar with	Compare
Understand	Justify
Believe	Demonstrate

Core elements of a learning outcome

- **Learning outcome:** A statement (in specific and measurable terms) that describes what the learner will know and be able to do ...
- Come to think of it, what is it that we want the learner to know and be able to do?

Classifying Outcomes

- Learning outcome domains
 - “Knowledge, skills, and dispositions”
- Bloom (1956) – Taxonomy of Educational Objectives (“Bloom’s Taxonomy”)
 - Cognitive Domain – intellectual thinking or skills
 - Psychomotor Domain – physical skills or the performance of actions
 - Affective Domain – attitudes and values

Cognitive Domain (Bloom)

Level/Domain	Definition – X is the ability to...
Knowledge	recall of previously-learned material
Comprehension	grasp the meaning of the knowledge being learned
Application	use learning materials in a new way – or for new situations
Analysis	break material down into its parts so that its organizational structure may be understood
Synthesis	combine previous experiences with new material to form new structures
Evaluation	judge the value of material for a given purpose

Cognitive Domain (Bloom)

Level/Domain	Definition – X is the ability to...	Learning Outcome Verbs
Knowledge	recall of previously-learned material	
Comprehension	grasp the meaning of the knowledge being learned	
Application	use learning materials in a new way – or for new situations	
Analysis	break material down into its parts so that its organizational structure may be understood	
Synthesis	combine previous experiences with new material to form new structures	
Evaluation	judge the value of material for a given purpose	

Core elements of learning outcomes

- Example: At the end of this statistics lesson, students will know about the concepts of mean, median, and mode
- How would you turn this into a learning outcome?
- What changes might you make to the outcome to assess higher levels of learning (from Bloom's taxonomy)?

Core elements of learning outcomes

- Example: At the end of this class, students will understand and appreciate the role of the pharmacist in the community
- How would you turn this into a learning outcome?
- What changes might you make to the outcome to assess higher levels of learning (from Bloom's taxonomy)?

Core elements of learning outcomes

- Example: At the end of this unit, students will know about the causes of poverty in Africa
- How would you turn this into a learning outcome?
- What changes might you make to the outcome to assess higher levels of learning (from Bloom's taxonomy)?

Core elements of learning outcomes

- **Learning outcome:** A statement (in specific and measurable terms) that describes what the learner will know and be able to do as a result of engaging in a **learning activity**

Learning Activities

- Reverse-engineering your instruction:
 - Identify the learning outcomes
 - Identify the appropriate learning activities and tailor them to the outcomes
 - Identify the appropriate assessments of student learning

Program Outcomes

A question for you:

How do you move from unit/course outcomes to program outcomes?

Processes

...or how I learned
to love the bomb

Setting the Foundation (Course)

- Establish learning outcomes for key/core courses
- Identify strong assignments for assessment
 - Choose multiple types
 - Search for “juicy assignments”
- Establish a collection calendar
- Set aside time for reflection
- Make a list of possible tweaks/changes

Setting the Foundation (Program)

- Identify program-level learning outcomes
- Select key assignments and courses
- Establish a collection calendar
- Set aside time for reflection with department colleagues
- Make a list of possible tweaks/changes