

Assessment 101: Measures & Methods

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December 4, 2012

Today's participant outcomes...

1. Explain the purpose of assessment, including your own unique purposes
2. Create a measurable learning outcome
3. Define the six criteria of effective assessment
4. Design assessment methods suitable to your field/discipline
5. Develop a measure suitable to your field/discipline
6. Recall who to contact for expertise and support

Definitions

- Learning Outcomes – what you want students to learn (specific and measurable)
- Methods – techniques and tools you use to investigate a question
- Measures – intended performance targets expressed in specific terms

Types of Assessment

- Institutional
- **Program**
- **Course**
 - Class
- Student

What is assessment?

- Explores fundamental questions about learning and the conditions for learning
- Organized and systematic
- Serves many purposes, internal and external
- Course-level and program-level assessment are **collaborative**

Impression of Student Learning



Impression of Student Learning



Impression of Student Learning



Chris Jordan's *Cans Seurat 2007* depicts 106,000 aluminum cans arranged as *Sunday Afternoon on the Island of La Grande Jatte* (Georges Seurat)

Assessment is...

*“...much more about **the conversations one can stimulate** around whatever data or evidence are collected than about the precise nature of the evidence gathered.”*

*(Bill Moore, “Introduction,” *Journal of Applied Research in the Community College*, vol. 9, # 2, Spring 2002.)*

Why assess? There are many reasons...

- Discover what's working well and what's not
- Make data-informed decisions about curriculum
- Strengthen requests for institutional resources
- Support accreditation
- Increase awareness of learning
- Improve advising
- Create common language
- Spark conversations
- And more...

Assessment is **NOT** evaluation of faculty performance.

Assessment should **NOT** compare faculty with one another.

Getting started:

What do you want to find out?

- Start with Learning Outcomes:
 - What do you want your students to learn?
 - Can they demonstrate that they learned what you want them to learn?
- Are there differences among groups of students?
- What are the gaps in learning? What are the strengths?
- What else are you curious about?

What makes a good Learning Outcome?

- Measurable
 - Use simple and specific action verbs (calculate, describe, classify, define, diagnose, etc.)
- Focused on student learning (not faculty performance)
- May pertain to what students:
 - Know
 - Think or appreciate
 - Do or perform

Good outcomes make assessment easy!

Not so good: Students will understand metric measurement of length.

Better: Given a metric ruler, students will be able to measure the length of a common linear object to the nearest millimeter.

Not so good: Students will know how the digestive system works.

Better: Students will be able to explain how food is processed through the digestive system.

Source: “Writing Effective Course Outcomes: No ‘Understanding,’ ‘Appreciating,’ or ‘Learning’ Allowed!”, Whatcom Community College

Create your own example

- Come up with an example of a not-so-good outcome
- Come up with an example of a better outcome
- (Your examples can be real, or not)
- Remember: **measurable** and **student-centered**

Planning your assessment methods

- How will you use the results?
- How are other faculty across the nation measuring similar learning outcomes?
- Who needs to be involved?
- What resources do you have?

Assessment Methods:

- **Who** (which students) will you measure and who will do the measuring?
- **What** are you measuring?
- **What** instrument will you use and how will you analyze them?
- **Where** and **when** will you conduct the assessment?

Example:

*Test (what) students (who) at the end (when) of
ENGL 999 (where) for their level of knowledge in
XYZ (why/what).*

Direct and Indirect

- **Direct Assessment** – Students demonstrate their level of learning
- **Indirect Assessment** – Students report their own perceptions of their level of learning, or they report their attitudes

Assessment is successful when...

... the results are meaningful.

...the results are trustworthy.

... the results are utilized to improve student learning.

Six Criteria of Effective Assessment

1. Validity
2. Reliability
3. Actionable
4. Efficient and cost-effective
5. Interest to participate
6. Triangulation

Validity

- Is it measuring what it's supposed to measure?
- First you have to ask, what do you we want to measure?
 - Specific content-related knowledge or abilities
 - Future behaviors or outcomes
 - Opportunities for improvement

Evaluate your instrument line by line...

Student Learning Outcomes : Students will be able to...

	...list the fifty states.	...recall each state's founding date	...hypothesize about the significance of each state's founding date in relation to historical events.
Question 6. List the fifty states and their founding dates.	4	4	1
Question 10. Summarize separately how Virginia and Hawaii were founded, and then compare the historical contexts of each.	2	3	4

1	No Match
2	Minimal
3	Moderate
4	High Match

Reliability

- Is it repeatable?
- Does it yield the same results even if it is administered in different settings or by different people?

Actionable

- What can be done with the results?

Efficient and cost-effective

- Is it compatible with the amount of resources and time available to faculty?

Interest to participate

- A successful assessment project requires that everyone involved is motivated and interested to participate
- The assessment method should be...
 - Engaging
 - Respectful
 - Meaningful
 - Practical
 - Authentic

Triangulation

- Study something from more than one standpoint
- Multiple assessment strategies support the same conclusion

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Choosing an instrument

- What type of student work will you examine?
 - Research paper
 - Quiz
 - Skill demonstration
 - Oral presentation
 - Survey

Local instrument

- Advantages
 - High alignment with learning outcome
 - More flexible
- Disadvantages
 - Validity and reliability have not been tested
 - Long process to develop and ensure the instrument is valid and reliable

Developing the instrument

- Keep in the forefront the six criteria of effective assessment
- Explore best practices in assessment of your specific learning outcome
- Consider your resources
 - Colleagues
 - Institutional support
 - Financial

Off-the-Shelf Instrument

- Advantages
 - Easy to use
 - Validity is already tested
 - Start from something – it is a lot easier to revise than develop
- Disadvantages
 - Less than perfect alignment with learning outcome
 - Validity and reliability have not been tested for the local scope and type of students
 - Often expensive

Choosing a sample

- How will you select a sample of student work that is representative of all the students enrolled?
 - Census
 - Representative sample / random
 - Convenience

Testing conditions

- Elicit typical performance and attitude
- Proctoring is key

Developing a measure

- For each individual student, what is the threshold for success?
 - Example: An individual student should receive a score of $3/5$ on the rubric.
- Of all the students in the sample, what proportion of students should achieve the threshold defined above?
 - Example: 70% of students in the sample should achieve the threshold defined above.

70% of students in the sample should achieve a score of 3/5 on the rubric.

Closing the loop

- Communicate the findings
- Reflect together with your colleagues
- Plan for changes (if any)
- Implement changes
- Assess again

Get in touch!

- Your Department's **Faculty Lead**
- **Ann Fillmore**, Assessment Liaison (CTE)
 - afillmore@clark.edu / 992-2365
- **Toby Peterson**, Assessment Liaison (Transfer)
 - tpeterson@clark.edu / 992-2084
- **Kanna Hudson**, Planning and Effectiveness
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