Spring 2-2019

Working Session to Align Learning Outcomes, Class Assignments, and Final Assessments

Wendi Flynn

Aaron Haberman

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Think-Pair-Share!
* 1 - 2 minutes *

Turn to your neighbor, and:

1) Introduce yourself – include your number of years at UNC!

2) Share the name of the course you’re focusing on
Pre-Session Survey Questions:

1/3. How confident are you in identifying **what is working well with** your formative/summative assessments, particularly with regard to alignment of assessment to student learning outcomes?

2/4. How confident are you in identifying **areas for improvement** in your formative/summative assessments?

5. What do you hope to gain from your participation in this working session?

Survey Results:

- Not at all confident
- Slightly confident
- Moderately confident
- Very confident
- Not sure

Identifying what is working well with your formative assessments, particularly with regard to alignment of assessment to student learning outcomes.

Identifying areas for improvement in your formative/summative assessments.
Survey Results:

**Q8 - What do you hope to gain from your participation in this workshop?**

- Improving the assessment experience

For a foreign language teacher, I hope to learn the ways to make a formative assessment of learners' outcomes.

I want to gain the ability of the formative assessments to students.

I'd like to develop more non-traditional forms of assessment for my courses, especially formative assessment.

I'm looking to get information/ideas that can be applied to engaged teaching initiatives and projects in classes.

Editing already developed assessments for a non-major Biology course I'll begin instructing this Friday due to an professor going on medical leave.

I'm working on some assessments in my ENST 100 and ENST 405 class. These are required classes for the program and serve as the bookends for the beginning and end. I'd like to set them up so they can be used for program assessment.
**Session Outcomes**

- **Increase your confidence** in identifying **positive aspects** of your assessments (what you do well, or effectively, strengths)

- **Increase your confidence** in identifying **areas of improvement** in their current assessments; **Find ways to improve**

- **Take-away**: **Revised summative and formative assessments that are better aligned with respect to learning outcomes**

**Session Outline**

- **Introduction and Background**
  - Definitions: Summative vs. Formative
  - What does it mean to for your assessments to be “aligned?”
  - Look at characteristics of good assessments
  - Work on your own assessments: 1) Summative, 2) Formative
  - Check-ins, group sharing

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**Finke’s Model: Integrated Course Design**

1. **Learning Outcomes**
   - What are the learning outcomes?

2. **Feedback and Assessment**
   - What kinds of feedback and assessment will be provided?

3. **Teaching and Learning Activities**
   - What kinds of teaching and learning activities will help achieve the learning outcomes?

**Integration**
- Are all of the components connected and consistent with and supportive of each other?

**Situational/Contextual Factors**
- What are the relevant characteristics of the teaching environment, instructor, and learner?

*based on Fink (2013)*
Assessment Types

Formative vs. Summative Assessments

Formative – evaluates students’ abilities while they are still learning in the course
Summative – evaluates students’ abilities as they are about to complete the course

Formative

Summative

improvement vs. accountability
learning vs. demonstration

“Aligned” Formative and Summative Assessments

What does it mean to be “aligned?”

Scaffolding: teaching method that enables a student to solve a problem, carry out a task, or achieve a goal through a gradual shedding of outside assistance

What are Characteristics of an Effective Assignment or Assessment?

Built upon important learning outcomes
Has a well-defined rubric to use in evaluation (e.g. what is poor, limited, proficient, advanced)
Has clear, brief prompts written in a way that directs students to demonstrate skills (i.e. ensure the appropriate skills are being targeted)
Has been allocated an appropriate amount of time for students to complete, commensurate with task
Has challenging, but realistic, attainable goals
Can include more than one technique (e.g. multiple choice test, short answer/paragraph)

(This is included in your handout)

Guiding Questions to Evaluate Summative Assessments

• What is the main purpose of the assignment?
• How well does it provide a means for students to exhibit or demonstrate the proficiency you want them to have mastered?
• How is the assignment related to course goals? Could that connection be made stronger or more explicit?
• Does the assignment as written provide sufficient information for students to be able to generate a successful (and scorable) response?


Summative Assessment Example:

History

Example: Exam Question-IDs.
Outcome: Acquire a basic understanding of historical changes in the United States from the end of the Civil War to the present.

“Early” assessment: Please identify (indicating the who or what, when, and why) and explain the significance of three (3) of the four possible choices: 1. Carl Schurz 2. The Knights of Labor 3. “The New South” 4. Ellen Richards

“Revised” assessment: Write answers for TWO (2) of the four sets. For each of the sets you answer, follow these instructions: Identify and explain which of the following CONNECTIONS (a. cause-effect; b. similar; c. opposite; d. idea-example) exists between the two term. You will be assessed on how accurately you identify the connection and how well you provide supporting evidence and analysis justifying your choice of the connection. Your answer must include relevant information or ideas (who, what, where, when, why) about the two terms, an explanation justifying the connection you identified, and a description of the ways in which the connection between the two terms changed or defined America history at the time the two terms existed.

1. Social Darwinism and Herbert Spencer
2. Sand Creek Massacre and The Long Walk
3. Women’s Christian Temperance Union and Hull House
4. Woodrow Wilson and Henry Cabot Lodge
Summative Assessment Example: Meteorology

Example: Final Exam Question – Plotting Data and Interpreting

Outcome: Plot basic meteorological variables on a Skew-T Log-P chart and determine basic meteorological derived parameters, metrics, and stability.

“Early” assessment: Given a dataset and a Skew-T Log-P chart,
1) Plot the meteorological data
2) Draw the “parcel line.” (The vertical path a surface-based parcel would take).
   Determine metrics: LCL, LFC, EL, CCL, Tc.
3) For multiple levels: determine a selection of $w$, $w_s$, RH, $e$, $e_s$, $T_w$, $\theta$, $\theta_e$, $T_v$.
4) Shade in regions of CAPE & CIN on diagram
5) Determine the lapse rates (in C/km) for the following levels
6) Determine the stability of each of these levels.

“Revised” assessment: Reasonable data that allows them to demonstrate their knowledge and skills, added question on interpretation

Summative Assessment Example: Meteorology

“Revised” assessment:
It’s your turn!

1) Look at your own assessment and use guiding questions to identify [10-15 minutes]
   • what you do well, or effectively, strengths of the assessment
   • Areas for improvement
   • Based on your critique, modify your assessment

2) Brainstorm with others [10 minutes]

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Formative Assessment Types

Classroom Assessment Techniques

- One Sentence Summary
- Misconception/Preconception Check
- Defining Features Matrix
- Minute Paper
- Directed Paraphrasing

Active Learning:
“students participate in the process and students participate when they are doing something besides passively listening” (Bonwell 1991)
- Subset of CATs
- Concept Mapping
- Discussion
- Think-Pair-Share
- Game-ified Activities

Communication through Technology:
- Clickers
- Cell Phones

→ Browse your “CAT Kit!”
Formative Assessment Example: History

Example: Exam Question–IDs.
Outcome: Acquire a basic understanding of historical changes in the United States from the end of the Civil War to the present.

“Early” assessment: Modeled effective example of identification in review session right before the exam.

“Revised” assessment: Built in specific practice time in a majority of class sessions where students would individually, or in groups, work on sample paired identification questions based on the course material and/or assigned reading for that day. Developed clickers/plicker questions that asked students to identify the connection between the paired terms, as well as how those terms reflected larger developments or changes in American history. The clicker/plicker questions provided me and the students quick formative data on how well they understood the particular historical concepts. This worked particularly well as a warm up question to activate their schemata for larger concepts covered in the rest of the lesson. By doing this repeatedly over the course of the semester students became much more comfortable with the type of question and ultimately performed better on that part of the exams.

Formative Assessment Example: Meteorology

Example: Exam Question – Plotting Data and Interpreting

Outcome: Plot basic meteorological variables on a Skew-T Log-P chart and determine basic meteorological derived parameters, metrics, and stability.

“Early” assessment: Given a dataset and a Skew-T Log-P chart,
    1) Draw the “parcel line.” (The vertical path a surface-based parcel would take).
       Determine: LCL, LFC, EL, CCL, Tc.
    2) For the 800 mb level: determine T, T_d, w, w_s, RH, e, e_s, T_v, θ, θ_e, T_v
    3) Determine the lapse rates (in C/km) for the following levels: Also determine the stability of each of these levels.

“Revised” assessment: Broken up into more parts, improved structure, more inquiry-led, provided some of the data already plotted to facilitate interpretation, include more in-class examples of "normal" data and extremes, have additional cases assigned as homework
Formative Assessment Example: Meteorology

“Early” assessment:

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<th>u(m/s)</th>
<th>T (°C)</th>
<th>P (hPa)</th>
<th>q (g/kg)</th>
<th>V (m/s)</th>
<th>H (m)</th>
<th>T (°C)</th>
<th>P (hPa)</th>
<th>q (g/kg)</th>
<th>V (m/s)</th>
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Formative Assessment Example: Meteorology

“Revised” assessment:

1. Estimate these parameters at the surface:
   Mixing ratio: _______  $T_w$ _______  $T_e$ _______  $*T_e = 0.34 \, ^\circ C$

2. Draw the “parcel line.” (The vertical path a surface-based parcel would take if forced upwards to the stratosphere). Determine the following:
   \[ LCLS = _______  LFC = _______  EL = _______ \]
   \[ CCL = _______  T_i = _______ \]
   Shade in areas of CAPE as “cross-hatched” (or red); CIN with diagonal lines (or blue).

3. Where are stable, neutral, and unstable layers on the sounding with respect to displacement of a dry parcel? Use pressure levels for lower/upper bounds on each layer.

4. Do you see any isothermal layers? If so, between what levels? (Defined by pressure at bottom & top of layer)

5. If the Virtual Temperature were used at the surface instead of dry-bulb temperature to draw the parcel line, would CAPE or the EL change? If so, estimate changes in each (% for CAPE and pressure level for EL).

6. Using the Skew-T log p chart, determine the potential temperature of air at 700 mb _______
It’s your turn!

1) Look at your own assessment and use provided resources to identify how assessment aligns with your summative assessment, and learning outcome
   • what you do well, or effectively, strengths of the formative assessment
   • Areas for improvement
   • Based on your critique, modify your formative assessment

2) Brainstorm with others [10 minutes]

Large Group Discussion:
Big Picture
[~20 minutes]
Resources:

Upcoming Workshops: https://www.unco.edu/cetl
- Inclusive Classroom Series: Practical Strategies for Creating Inclusive & Equitable Classrooms Community-Engaged Learning

UNC – CETL: https://www.unco.edu/cetl
- Teaching Toolbox → CAT Kit
UNC – Office of Assessment: https://www.unco.edu/assessment
- Assessment Kit → Developing Student Learning Outcomes

Books:
- Assessing student learning: A common sense guide. (Suskie, 2018)
- Classroom Assessment Techniques: A Handbook for College Teachers (Angelo and Cross, 1993)
- McKeachie’s Teaching Tips (McKeachie and Svinicki, 2006)
  – Chapter 7: Assessing, Testing, and Evaluating: Grading is Not the Most Important Function

THANK YOU!

Please share your comments with us on the “Minute” Exit Survey.

Wendi Flynn, Aaron Haberman
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