Evidence-centered Classroom Assessment Design

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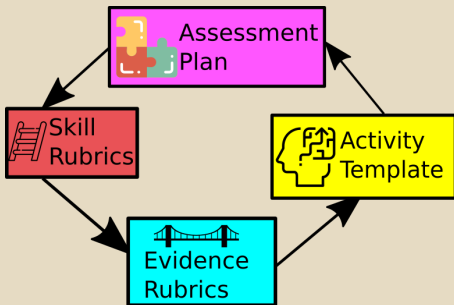NCME Conference on Classroom Assessment, 2018

Four Questions

- What are we measuring? — Skills
- How are we measuring? — Evidence
- Where are we measuring? — Activities
- How much are we measuring? — Assessment Plan
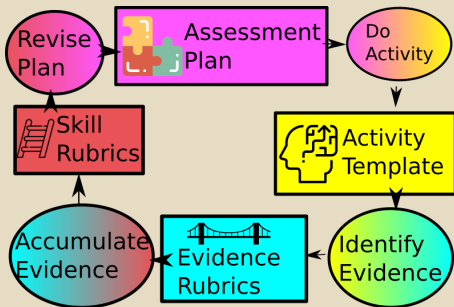
Four Elements of Assessment Design

1. Define a *skill map* for the skills to be assessed
2. Describe *evidence* that a student has the skill(s)
3. Create templates for *activities* where the evidence can be observed
4. Create a (Assessment/Lesson) *plan* for those activities.

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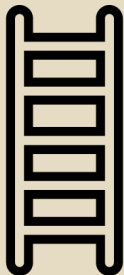
Four Processes of Assessment Delivery

1. *Carry out* the activity
   - Make adjustments as you go
2. *Identify evidence* in student work
   - Within single activity
3. *Accumulate Activities* across activities
   - Locate students on the skill map.
4. *Revise the plan* based on updated assessment
   - Adjust based on new knowledge

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The Skill Ladder

- Standards and goals are combined or split to make skills *skill*
- *Each rung on the ladder should represent a difference of at least one claim.*
- Claims (and standards) are placed in various places in the ladder
- Establish a scale by looking at High, Medium and Low points
- Skill Map is a collection of Skill Ladders.

Skill Ladder Example

Evidence-Centered Classroom Assessment – Skill Rubric

Skill Name:
Figurative language
Description:
CCSS.ELA-LITERACY.RL.5.4
Determine the meaning of words and phrases as they are used in a text, including figurative language such as metaphors and similes.

Height Levels of Performance	Description of Skill *What will students be able to do if they are demonstrating the skill?*	Assignment Characteristics *What will show you that students have the skills you are looking for?*	Activity Characteristics *What do students need to do in order to generate the required evidence?*
Advanced	**Compare** different meanings of figurative language & **create** your own examples of figurative language.	Compare examples of figurative language & create examples of figurative language. *Created examples are novel and creative.*	Read and analyze a text AND **create** their own examples with at least 80% accuracy.
Proficient	**Interpret** each example of figurative language in the text.	Interpret examples of figurative language *Created examples are appropriate and different from examples supplied in material.*	Read & analyze a text by **interpreting** the multiple examples of figurative language with at least 80% accuracy.
Approaching	**Identify** examples of figurative language in the text.	Identify examples of figurative language. *Created examples are minor variations on examples supplied by instructors.*	Read & analyze a text by properly **identifying** multiple examples of figurative language with at least 80% accuracy.

Links to other skills:

Evidence: Data linked to a Ladder

- *Observations become evidence when they are placed on the ladder.*
- Raw work products from tasks are categorized
- Each category is placed on the ladder.
- *Rules of evidence* (Rubrics) describe categories.
- *Weights of evidence* describe how far up or down ladder to move the estimate.

Rubrics: Rules of Evidence

- Start with work product
  - Selection on multiple choice test
  - Numeric answer on math problem
  - Essay
  - Oral presentation
  - Observations made during group work
- Sort work products into piles (categories)
- Write down features which separate work in different piles
- Associate categories with rungs on the ladder.
  - Evidence is positioned between the rungs!
  - If two categories map to the same step, they can be merged

Weights of Evidence

- Assign point values to categories, more points for being higher on the ladder
  - If there is more than one ladder, may be multiple weights
- Ideally, based on psychometric difficulty (depth), not game difficulty.
  - Common practice of assigning weight on amount of effort is not ideal.

Evidence Rubric

Evidence-Centered Classroom Assessment – Activity Rubric

Activity Name: *Figurative language Finder*
Description: *Students receive a set of 3 1-page passages embedded with examples of figurative language.*
Target Competencies/Objectives/Standards: *CCSS.ELA-LITERACY.RL.5.4 Determine the meaning of words and phrases as they are used in a text, including figurative language such as metaphors and similes.*

Skills Rubric

Strength	Transition	Points *Can be used in as a grade*	Specific Task	Observations *Similar to Assignment Characteristics in the Skill Rubric*
Very Strong	*Proficient* ⚓ *Advanced*	10	Create examples	Created examples of figurative language are novel and creative.
Strong	*Basic* ⚓ *Proficient*	8	Interpret examples	Interpretations uses the proper terms and are on target. *Created examples are appropriate and different from examples supplied in material.*
Moderate	*Below* ⚓ *Basic*	5	Identify Examples	Interpretations uses the proper terms related to figurative language, but are generic and do not correspond to the example. *Created examples are minor variations on examples supplied by instructors.*
Weak	*Below*	3	Define Types	Interpretations use terms related to figurative language, but not necessarily correct to the task.

Activity Templates

- Homework, In-class Activity, or Formal Assessment
- Should be centered around having students produce evidence
- Templates allow for varying features of the activity
- *Incidental* features allow for variants without changing evidences
  - For example, names of characters in a story.
- *Radicals* features change the evidence
  - *Depth of knowledge* required for activity
  - *Discrimination* affects difficulty unrelated to skill
  - *Evidentiary Focus* affects which skills are required

Activity Features

- Features related to source material
  - Difficulty and length of source texts
  - Number of digits in math problems
  - Number of steps required for solution
  - Working memory load — irrelevant details
- Features related to available tools
  - Calculators
  - Dictionaries
  - Open Book/Internet
  - Individual or Team work
- Features related to possible answers
  - Expected answer form
  - Plausibility of distractors for selected-answer tasks
  - Scaffolding of answer style

Activity Worksheet

Evidence-Centered Classroom Assessment – Activity Scope

Activity Name: *Figurative language Finder*
Description: *Students receive a set of 3 1-page passages embedded with examples of figurative language.*
Target Competencies/Objectives/Standards: *CCSS.ELA-LITERACY.RL.5.4 Determine the meaning of words and phrases as they are used in a text, including figurative language such as metaphors and similes.*
Prompt: *"Can you find the examples of figurative language in this passage?"*
Other Stimulus Material: *A passage with at least 5 examples of figurative language.*
Expected Work Product: *All three passages with the figurative language examples highlighted and properly categorized. On an additional page completed interpretations of the figurative language examples and students' own figurative language examples.*
Relevant Evidence Rules: *Complete activity with 80% accuracy as assessed by* Activity Rubric

Task Features:

Manipulable Feature *Time of lesson, challenge of items*	Possible Values *Grade level, # of digits*	Affects Height/Depth of Competency *DOK 1-4*	Affects Which Competencies *Comprehension, reasoning*	Affects Discrimination *Challenges unrelated to skill*	Affects Difficulty *Easier, moderate, challenging*
Accelerated Reading Level of each passage.	4th grade, 5th grade or 6th grade comprehension level.	The higher the reading level the deeper the student should be able to go on the DOK.	Comprehension	Passage topic should be something familiar to the students.	The lower the reading level the easier it should be to interpret the figurative language in the passage.
Types of figurative language examples	Similes, metaphors and/or hyperbole.	Students may be able to go to level 4 on the DOK with some types of figurative language than others.	Understanding, recall	Examples should be types of figurative language already seen in class.	One type of figurative language may be easier to interpret than others.
Order of Activity	After modeled lesson on figurative language, or as an assessment at the end of the week.	The earlier in the lesson the students may only able to get to level 1 in the DOK and identify the figurative language examples.	Self-Efficacy	Activity should be in format familiar to students.	The later in the lesson the easier the activity should be for the students.
Groups size	Individually, 3 student small group, whole class.	Doing the activity in whole group can allow the students to get to DOK level 4.	Independence	The peers that students work with should be cooperative	Doing the activity with more students should make it easier.

Assessment Plans

- Take a lesson plan and add additional rows for evidence
  - In class activities
  - Homework activities
  - Formal Assessments
- Can link to skills defined in a skill map
- Can link to evidence defined in an evidence rubric
- Can link to activities defined in an activity template

Implicit variable definitions

- Skill variables (ladders) are defined by what activites are used to measure them.
- Mismatch between claims and tasks $\Rightarrow$ Incorrect interpretation
- Consider a ladder labeled "Understands tables and graphs"
  - But a test with only graph tasks
- This is key for validity of assessment

Spanning activities

- Need to make sure all skills are covered.
- Might need to sample from activities if there is too much to cover.
- Need to plan across multiple activities
- Need to make sure there are adequate activities in the pool to cover what is needed.

Plan Worksheet

Evidence-Centered Classroom Assessment – **Lesson Plan**

Teacher: Grade: 5th   Subject: Reading   Date:

Day 1 Monday	Day 2 Tuesday	Day 3 Wednesday	Day 4 Thursday	Day 5 Friday
Standards				
CCSS.ELA-LITERACY.RL.5.4 Determine the meaning of words and phrases as they are used in a text, including figurative language such as metaphors and similes.			**Resources Used**	
			Aesop – "The North Wind and the Sun", Figurative Language Finder Flocabulary.com	
Bell work	**Bell work**	**Bell work**	**Bell work**	**Bell work**
Figurative language Flocabulary song.	Hyperbole Flocabulary Song.	Similes and Metaphors Flocabulary Song.	Personification Flocabulary Song.	Allusion Flocabulary Song.
Essential Question	**Essential Question**	**Essential Question**	**Essential Question**	**Essential Question**
What is figurative language?	What are literal and figurative meanings of figurative language?	Can we create our own figurative language?	Do we need some assistance on figurative language?	Have we mastered figurative language?
Guided Reading Group 1	**Guided Reading Group 2**		**Guided Reading Group 3**	**Guided Reading Group 4**
Below reading level story.	On grade level story		Above grade level story	Tier 3 individualized story
Whole Group	**Whole Group**	**Whole Group**	**Whole Group**	**Whole Group**
Figurative Language Introduction	"The North Wind and the Sun"	Figurative Language Finder	Figurative Language Finder	Figurative Language Kahoot Quiz
Skills Rubric	**Skills Rubric**	**Skills Rubric**	**Skills Rubric**	**Skills Rubric**
DOK Level 1-4 **Identify** examples of figurative language in the text. **Interpret** each example of figurative language in the text. **Compare** the different meanings of the figurative language examples (I.e. literal and figurative definitions). **Create** your own examples of figurative language.	DOK Level 1-4 **Identify** examples of figurative language in the text. **Interpret** each example of figurative language in the text. **Compare** the different meanings of the figurative language examples (I.e. literal and figurative definitions). **Create** your own examples of figurative language.	DOK Level 1-4 **Identify** examples of figurative language in the text. **Interpret** each example of figurative language in the text. **Compare** the different meanings of the figurative language examples (I.e. literal and figurative definitions). **Create** your own examples of figurative language.	DOK Level 1-4 **Identify** examples of figurative language in the text. **Interpret** each example of figurative language in the text. **Compare** the different meanings of the figurative language examples (I.e. literal and figurative definitions). **Create** your own examples of figurative language.	DOK Level 1-4 **Identify** examples of figurative language in the text. **Interpret** each example of figurative language in the text. **Compare** the different meanings of the figurative language examples (I.e. literal and figurative definitions). **Create** your own examples of figurative language.
Activities	**Activities**	**Activities**	**Activities**	**Activities**
Figurative Language diagnostic test. Model lesson, Turn and Talk.	Read the story in a small group and complete compare activity. Each member in the group creates a figurative language example.	Complete Figurative Language Finder individually.	Review Figurative Language Finder activity groups students where each group has a student who has mastered the activity and students who need additional help.	Figurative Language test is reflective of the Figurative Language Finder activity with a little more emphasis on creating examples.
Activity Rubric	**Activity Rubric**	**Activity Rubric**	**Activity Rubric**	**Activity Rubric**
Interpretations uses the proper terms and are on target.	10/10 Created examples of figurative language are novel and creative.	10/10 Created examples of figurative language are novel and creative.	10/10 Student actively participates with peer.	10/10 Answers all questions effectively.
Homework	**Homework**	**Homework**	**Homework**	**Homework**
Practice identifying and interpreting figurative language examples.	Create 2 examples of each type of figurative language.	Interpret partners figurative language examples.	Review Figurative Language Finder activity.	None
Homework Rubric	**Homework Rubric**	**Homework Rubric**	**Homework Rubric**	**Homework Rubric**

ESOL Strategies: S1-Simplified Directions, S-7 Compare/Contrast, S15-Identify Main Ideas, Vocabulary Concepts, S-16 Illustrations, S-20 Labeling: Classroom and Equipment, S-27 Predict, S28 Classroom Equipment, S-28 Predict, S-32, Provide Visual of Classroom names, S-40 Schema/prior knowledge, S41- Semantic Webbing, S-43 Small Group Share, S-46 Summarize, S-54 "WH" Questions to Assist Comprehension, S-52 Use Overhead and Pictorial Presentations, S-53 Venn Diagrams

ESE Strategies: Extended time to complete assignments/assessments. Small group testing, check for comprehension. Simplified, repeating, clarifying, rewording of directions. Monitor work in

Everybody's doing it.

- The following elements are in any assessment design
  - Skills (or Competencies or Constructs)
  - Evidence (or other scoring rubrics)
  - Activities (or other Assessment Contexts)
  - Assessment/Learning Plan
- They may have different names
- Explicitly naming the pieces supports reasoning about assessments

Help us pilot test these worksheets

- Download blank worksheets at
  `https://pluto.coe.fsu.edu/ECCA`.
- Try on your own projects
- Give us feedback at: `https://pluto.coe.fsu.edu/ECCA`.
- Send questions to `mailto:ralmond@fsu.edu`.

Hurricane Warning: Pluto is down due to Hurricane. I hope to get the web site back up next week.