Session 3 – Facilitator’s Guide

Classroom Assessment Design

Presenter: Marianne Perie, Measurement in Practice, LLC
Length of video with no breaks: 17 minutes

Goal
This video describes the process of developing classroom assessment, matching the purpose to the design. It is intended to be used with Session 4 on Analyzing Classroom Assessments.

Process
This video provides a listen and discuss approach to the topic of designing a classroom assessment. The first few slides provide an introduction to the purpose of classroom assessment then the presentation moves to specific information about selecting texts and developing test items. It concludes with an exercise to practice writing items to a specific text and provides time for a discussion of item development.

Exercise
Slide 14 introduces the exercise. A packet of three exercises, appended to this guide, provides attendees a chance to practice writing assessment items to a grade they teach. The attendees should be divided into teams, as appropriate as one exercise targets elementary school, one middle school, and one high school. They will need access to content standards and performance level descriptions for grades 4, 7, and 10 in ELA; online access will suffice. Begin by giving them only the passage for their grade and instruct them to write as many items as they wish. They should aim for at least one multiple-choice item, one multi-select item, and one open-response item.

Give them about 20-30 minutes for the exercise, then have them present their items to the rest of the people at their table. Discuss what they like about each item and what they would change. Then, give them the set of items that were developed operationally for that passage. Again, have them discuss the differences between the operational items and their items and any differences they observe. This exercise can take up to an hour to complete.

Definitions
Assessment: The process of observing learning; describing, collecting, recording, scoring, and interpreting information about courses/programs/services undertaken for the purpose of improving the institution, services, programs, and student learning and development.

Extended-response item: An essay question or performance task, which requires an elaborated or graphic response that expresses the student’s ideas and understanding.

Fairness: The validity of test score interpretations for intended use(s) for individuals from all relevant subgroups. A test that is fair minimizes the construct irrelevant variance associated with individual characteristics and testing contexts that otherwise would compromise the validity of scores for some individuals.

Item: A statement, question, exercise, or task on a test for which the test taker is to select or construct a response or perform a task.
Multiple-choice item: A question or incomplete statement followed by a list of choices from which students have to select the correct or best response.

Multi-select item: A question followed by 5 – 8 possible answer choices. Students will be prompted to select a number of correct answers (e.g., “Choose the two answers…”) and must select all of the correct answer choices and only the correct answer choices.

Text complexity: How easy or hard a passage is to read, based on quantitative and qualitative text features, including readability, familiarity with topic, text structure, and language.

Resources:


Exercises

Read the following passage:

Grade 4: Dances with Animals
Grade 7: A Capture of Father Time
Grade 10: Blue Crabs Provide Evidence of Oil Tainting Gulf Food Web

Consider

1. How complex is this passage?
2. What features increase or decrease the complexity?
3. Is it fair to all students? Why or why not?

Try to write at least five items to measure a student’s understanding of this passage.

1. Write at least one multiple-choice item, one multi-select item with at least 5 options and 2 correct responses, one open-response question (short answer or essay).
2. Evaluate your items to determine what you would learn from student responses, including incorrect responses.

Note: All passages and items are from the Smarter Balanced release item pool found at https://sampleitems.smarterbalanced.org/.
Passages

To be handed out at the start of the exercise
Dances with Animals

by Ellen R. Braaf

A honey bee returns to the hive. Sticky pollen clings to her body. Nectar fills her honey sac. She’s found apple blossoms in a distant orchard. How does she tell other worker bees about this new food source? She dances!

Unlike humans, animals don’t have words to help them communicate. They can’t say “Hey! Look what I found,” or “Keep away! This is my spot,” or “Want to go steady?” Yet, animals communicate all the time. They send out signals—messages others receive and understand using their senses of smell, taste, touch, hearing, and sight.

Animals with good vision “talk” to each other with their bodies. They use patterns of movements to share information, to defend themselves or their territories, and to attract mates. Nature designs their steps, and they dance as if their lives depended on it. Often, they do.

Language of Bees

Most communication takes place among members of the same species. In dark beehives, honeycombed walls become waxy dance floors. Like a rock star swarmed by adoring fans, a bee returning from the apple orchard begins her dance. Other workers follow her as she moves forward in a straight line. She vibrates her wings and wags her body side to side very quickly—13 to 15 times a second. Then she turns to one side, circles back, and begins the waggle run again.

When she finishes, she circles around—this time in the opposite direction—and repeats her steps. The dance may go on for hours.

As she traces a figure 8 on the dance floor, the follower bees touch her with their antennae. They sense the odors of apple blossom nectar and pollen clinging to her body. These workers also detect the scent she used to mark the distant flowers. A flight plan is coded in her movements. The length of the waggle run tells workers how far the flowers are from the hive. Its angle tells them how to get there. Because bees steer by the sun, the dancer links her directions to its position in the sky.

However, the position of the sun in the sky keeps changing. If the waggle dance lasts for hours, how do bees leaving the hive long after the dance has begun find their targets? Amazingly, they do. The wagging bee adjusts her dance to account for the sun’s movement.

Keep Away!

“This is my spot!” Not all animals cooperate the way honey bees do. Most compete for food, territory, and mates. Fights take time and energy. Rivals risk injury and death, weakening the group as a whole. So some animals dance instead, using movements to make themselves look larger, stronger, and quicker than their competition. “Don’t mess with me,” they say.

Red Fish, Blue Fish

Most fish settle conflicts over territory without fighting. But Siamese fighting fish, also known as bettas, are little fish with a big mean streak. Brightly colored bettas in pet stores have been specially bred for their beautiful veil-like fins. In the wild, they live in rice paddies in Southeast Asia.
If threatened, male Siamese fighting fish switch back and forth between face-to-face and side-to-side positions. Facing each other, they flare out flaps of skin on their necks and extend their fins. This makes them seem twice their size. Side-to-side, they flicker their fins and beat the water with their tails. Tail beating gets faster and faster until one male backs down. The loser lowers his fins and puts his tail down. His bright red, blue, or purple body color fades to a dull hue. Defeated, he swims away.

Whether it is to communicate where to find something or to tell someone to "steer clear," animal dances can tell us a lot!

"Dances with Animals" by Ellen R. Braaf, from Ask magazine. Copyright © 2009 by Carus Publishing. Reprinted by permission of the publisher.
Jim was the son of a cowboy, and lived on the broad plains of Arizona. His father had trained him to lasso a bronco or a young bull with perfect accuracy, and had Jim possessed the strength to back up his skill he would have been as good a cowboy as any in all Arizona.

When he was twelve years old he made his first visit to the east, where Uncle Charles, his father’s brother, lived. Of course Jim took his lasso with him, for he was proud of his skill in casting it, and wanted to show his cousins what a cowboy could do.

At first the city boys and girls were much interested in watching Jim lasso posts and fence pickets, but they soon tired of it, and even Jim decided it was not the right sort of sport for cities.

But one day the butcher asked Jim to ride one of his horses into the country, to a pasture that had been engaged, and Jim eagerly consented. He had been longing for a horseback ride, and to make it seem like old times he took his lasso with him.

He rode through the streets demurely enough, but on reaching the open country roads his spirits broke forth into wild jubilation, and, urging the butcher’s horse to full gallop, he dashed away in true cowboy fashion.

Then he wanted still more liberty, and letting down the bars that led into a big field he began riding over the meadow and throwing his lasso at imaginary cattle, while he yelled and whooped to his heart’s content.

Suddenly, on making a long cast with his lasso, the loop caught upon something and rested about three feet from the ground, while the rope drew taut and nearly pulled Jim from his horse.

This was unexpected. More than that, it was wonderful; for the field seemed bare of even a stump. Jim’s eyes grew big with amazement, but he knew he had caught something when a voice cried out:

"Here, let go! Let go, I say! Can't you see what you've done?"

No, Jim couldn’t see, nor did he intend to let go until he found out what was holding the loop of the lasso. So he resorted to an old trick his father had taught him and, putting the butcher's horse to a run, began riding in a circle around the spot where his lasso had caught.

As he thus drew nearer and nearer his quarry he saw the rope coil up, yet it looked to be coiling over nothing but air. One end of the lasso was made fast to a ring in the saddle, and when the rope was almost wound up and the horse began to pull away and snort with fear, Jim dismounted. Holding the reins of the bridle in one hand, he followed the rope, and an instant later saw a man caught fast in the coils of the lasso.

While Jim gazed wonderingly upon him, this venerable old man spoke in an angry voice:

"Now, then—get that rope off as fast as you can! You've brought everything on earth to a standstill by your foolishness! Well—what are you staring at? Don’t you know who I am?"

"No," said Jim.
"Well, I'm Time—Father Time! Now, make haste and set me free—if you want the world to run properly."

"How did I happen to catch you?" asked Jim, without making a move to release his captive.

"I don't know. I've never been caught before," growled Father Time. "But I suppose it was because you were foolishly throwing your lasso at nothing."

"I didn't see you," said Jim.

"Of course you didn't. I'm invisible to the eyes of human beings unless they get within three feet of me, and I take care to keep more than that distance away from them. That's why I was crossing this field, where I supposed no one would be. And I should have been perfectly safe had it not been for your beastly lasso. Now, then," he added, crossly, "are you going to get that rope off?"

"Why should I?" asked Jim.

"Because everything in the world stopped moving the moment you caught me. I don't suppose you want to make an end of all business and pleasure? Not a watch has ticked since you tied me up!"

Jim laughed. It really was funny to see the old man wound round and round with coils of rope from his knees up to his chin.

"It'll do you good to rest," said the boy. "From all I've heard you lead a rather busy life."

"Indeed I do," replied Father Time, with a sigh. "I'm due in Kamchatka this very minute. And to think one small boy is upsetting all my regular habits!"

"Too bad!" said Jim, with a grin. "But since the world has stopped anyhow, it won't matter if it takes a little longer recess. As soon as I let you go Time will fly again."

"The Capture of Father Time" by L. Frank Baum, from American Fairy Tales. Copyright © 2011 by The Floating Press.
Weeks ago, before engineers pumped in mud and cement to plug the gusher, scientists began finding specks of oil in crab larvae plucked from waters across the Gulf coast.

The government said last week that three-quarters of the spilled oil has been removed or naturally dissipated from the water. But the crab larvae discovery was an ominous sign that crude had already infiltrated the Gulf's vast food web—and could affect it for years to come.

"It would suggest the oil has reached a position where it can start moving up the food chain instead of just hanging in the water," said Bob Thomas, a biologist at Loyola University in New Orleans. "Something likely will eat those oiled larvae . . . and then that animal will be eaten by something bigger and so on."

Tiny creatures might take in such low amounts of oil that they could survive, Thomas said. But those at the top of the chain, such as dolphins and tuna, could get fatal "megadoses."

Marine biologists routinely gather shellfish for study. Since the spill began, many of the crab larvae collected have had the distinctive orange oil droplets, said Harriet Perry, a biologist with the University of Southern Mississippi's Gulf Coast Research Laboratory.

"In my 42 years of studying crabs I've never seen this," Perry said.

She wouldn't estimate how much of the crab larvae are contaminated overall, but said about 40 percent of the area they are known to inhabit has been affected by oil from the spill.

While fish can metabolize dispersant and oil, crabs may accumulate the hydrocarbons, which could harm their ability to reproduce, Perry said in an earlier interview with Science magazine.

She told the magazine there are two encouraging signs for the wild larvae—they are alive when collected and may lose oil droplets when they molt.

Tulane University researchers are investigating whether the splotches also contain toxic chemical dispersants that were spread to break up the oil but have reached no conclusions, biologist Caz Taylor said.

If large numbers of blue crab larvae are tainted, their population is virtually certain to take a hit over the next year and perhaps longer, scientists say. The spawning season occurs between April and October, but the peak months are in July and August.

How large the die-off would be is unclear, Perry said. An estimated 207 million gallons of oil have spewed into the Gulf since an April 20 drilling rig explosion triggered the spill, and thousands of gallons of dispersant chemicals have been dumped.

Scientists will be focusing on crabs because they're a "keystone species" that play a crucial role in the food web as both predator and prey, Perry said.

Richard Condrey, a Louisiana State University oceanographer, said the crabs are "a living repository of information on the health of the environment."
Named for the light-blue tint of their claws, the crabs have thick shells and 10 legs, allowing them to swim and scuttle across bottomlands. As adults, they live in the Gulf's bays and estuaries amid marshes that offer protection and abundant food, including snails, tiny shellfish, plants and even smaller crabs. In turn, they provide sustenance for a variety of wildlife, from redfish to raccoons and whooping cranes.

Adults could be harmed by direct contact with oil and from eating polluted food. But scientists are particularly worried about the vulnerable larvae.

That's because females don't lay their eggs in sheltered places, but in areas where estuaries meet the open sea. Condrey discovered several years ago that some even deposit offspring on shoals miles offshore in the Gulf.

The larvae grow as they drift with the currents back toward the estuaries for a month or longer. Many are eaten by predators, and only a handful of the 3 million or so eggs from a single female live to adulthood.

But their survival could drop even lower if the larvae run into oil and dispersants.

"Crabs are very abundant. I don't think we're looking at extinction or anything close to it," said Taylor, one of the researchers who discovered the orange spots.

Still, crabs and other estuary-dependent species such as shrimp and red snapper could feel the effects of remnants of the spill for years, Perry said.

"There could be some mortality, but how much is impossible to say at this point," said Vince Guillory, biologist manager with the Louisiana Department of Wildlife and Fisheries.

Perry, Taylor and Condrey will be among scientists monitoring crabs for negative effects such as population drop-offs and damage to reproductive capabilities and growth rates.

Crabs are big business in the region. In Louisiana alone, some 33 million pounds are harvested annually, generating nearly $300 million in economic activity, Guillory said.

Blue crabs are harvested year-round, but summer and early fall are peak months for harvesting, Guillory said.

Prices for live blue crab generally have gone up, partly because of the Louisiana catch scaling back due to fishing closures, said Steve Hedlund, editor of SeafoodSource.com, a website that covers the global seafood industry.

Fishers who can make a six-figure income off crabs in a good year now are now idled—and worried about the future.

"If they'd let us go out and fish today, we'd probably catch crabs," said Glen Despaux, 37, who sets his traps in Louisiana's Barataria Bay. "But what's going to happen next year, if this water is polluted and it's killing the eggs and the larvae? I think it's going to be a long-term problem."

Excerpt from "Blue Crabs Provide Evidence of Oil Tainting Gulf Food Web" by John Flesher. Copyright © 2010 by The Associated Press. Reprinted by permission of The Associated Press.
Sample Items

*To be handed out after participants have written their own items*
1. #182854

Read the summary of the “Red Fish, Blue Fish” section of the passage and the directions that follow.

The male betta fish would rather dance than fight. First, they turn toward each other and stretch out their skin and fins to look bigger. Then, they move side to side and quickly beat the water with their tails until one backs down. The loser lowers his fins and tail and swims away.

An important detail is missing from the summary. Click on the sentence from the passage below that includes the missing detail.

If threatened, male Siamese fighting fish switch back and forth between face-to-face and side-to-side positions. Facing each other, they flare out flaps of skin on their necks and extend their fins. This makes them seem twice their size. Side-to-side, they flicker their fins and beat the water with their tails. Tail beating gets faster and faster until one male backs down. The loser lowers his fins and puts his tail down. His bright red, blue, or purple body color fades to a dull hue. Defeated, he swims away.

2. #18252

Pick the two sentences that should be included in a summary of the passage.

A. A bee traces a figure 8 while other bees touch her antennae.
B. Bees are able to communicate with dance when the sun is in the sky.
C. It takes several hours for a bee to communicate with other worker bees.
D. Bees use patterns of movement to tell other worker bees how to find food.
E. Bees dance to show other worker bees the direction of food but not how far away it is.
F. Bees communicate by vibrating their wings, moving side to side, and turning in circles.

3. #43901

What is the most likely reason the author uses dialogue in the passage? Pick three choices.

A. to inform readers that animals communicate through movement
B. to inform readers that animals can talk to each other the same way humans can
C. to inform readers that different dance movements have different meanings to animals
D. to inform readers that animals have a spoken language that some humans can understand
E. to inform readers that an animal’s specific movements gives other animals important information
F. to inform readers that animals have secret codes that only the smartest animals in the species can understand

4. #182916

What does the information in the section “Keep Away!” show about the author’s point of view?

A. It shows that the author thinks that bees are the best animal.
B. It shows that the author thinks that all animal dances are frightening.
C. It shows that the author thinks that animal dances weaken animal groups.
D. It shows that the author thinks that animal dances are better than animal fights.

5. #182851

Click on the two sentences that best support the idea that dancing may be a better way for animals to communicate than fighting.

Not all animals cooperate the way honey bees do. Most compete for food, territory, and mates. Fights take time and energy. Rivals risk injury and death, weakening the group as a whole. So some animals dance instead, using movements to make themselves look larger, stronger, and quicker than their competition. “Don’t mess with me,” they say.
Items Written by Smarter Balanced Consortium for this passage: Grade 7

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**#1 - 183169**

Read this statement and the directions that follow.

When Jim was visiting his Uncle Charles in the east, he missed riding his horses on the broad plains of Arizona.

Which evidence from the text best supports this statement?

A. Jim’s eyes grew big with amazement, but he knew he had caught something when a voice cried out.

B. He had been longing for a horseback ride, and to make it seem like old times he took his lasso with him.

C. Suddenly, on making a long cast with his lasso, the loop caught upon something and rested about three feet from the ground, while the rope drew taut and nearly pulled Jim from his horse.

D. At first the city boys and girls were much interested in watching Jim lasso posts and fence pickets, but they soon tired of it, and even Jim decided it was not the right sort of sport for cities.
What is a theme of the text? Use details from the passage to support your answer.
What does the use of dialogue show about the relationship between Jim and Father Time? Select three options.

A. The dialogue shows that Jim and Father Time are old friends.
B. The dialogue signifies that they have a lot in common in their lives.
C. The dialogue indicates that Jim and Father Time have different opinions.
D. The dialogue demonstrates that Jim and Father Time reach a conclusion.
E. The dialogue tells the reader that they do not understand each other’s point of view.
F. The dialogue helps the reader picture the scene between Father Time and Jim.
Read the sentence from the text.

He rode through the streets demurely enough, but on reaching the open country roads his spirits broke forth into wild jubilation, and, urging the butcher’s horse to full gallop, he dashed away in true cowboy fashion.

How does the author’s use of the phrase, spirits broke forth, help the reader understand Jim’s experience in the country?

A. The phrase shows the reader that Jim feels late for his morning job.
B. The phrase lets the reader see that Jim can ride a horse very well.
C. The phrase indicates that Jim needed to move forward in his life.
D. The phrase emphasizes that Jim feels confined in the city.

Read the paragraph from the text.

What does the word resorted suggest about Jim? Select two options.

A. Jim liked catching things.
B. Jim was using his last choice.
C. Jim felt in danger on the horse.
D. Jim wanted someone to help him.
E. Jim was trying everything he knew.
F. Jim was lucky to get his rope stuck.
What effect does dialogue have on the reader’s understanding of the events surrounding Father Time being captured by Jim? Select two options.

B. It allows the reader to understand that Jim is skilled with a lasso and has captured someone.

D. It allows the reader to understand Jim has captured something that can speak, but doesn’t reveal who at first.

E. It allows the reader to understand that Father Time has been captured by humans many times before.

F. It allows the reader to understand that Father Time is quite upset with Jim and his lack of understanding of what he has done.

How does the author develop the relationship between Jim and Father Time?

A. through their own points of view

B. through their dialogue with each other

C. with description of each character

D. with details about the setting
What does the conflicting information about the effects of oil on blue crab larvae reveal about the author's point of view?

A. It reinforces the author's belief that scientists do not yet know how the oil will affect the blue crab population.

B. It suggests that the author disagrees with scientists who predict long-term damage to the blue crab population.

C. It reinforces the author's feeling that scientists may never know the true effects of oil on the blue crab population.

D. It suggests that the author feels scientists have not devoted enough attention to the effects of oil on blue crab larvae.

The following question has two parts. First, answer part A. Then, answer part B.

Part A

Read this section from the text and the directions that follow.

Weeks ago, before engineers pumped in mud and cement to plug the gusher, scientists began finding specks of oil in crab larvae plucked from waters across the Gulf coast.

The government said last week that three-quarters of the spilled oil has been removed or naturally dissipated from the water. But the crab larvae discovery was an ominous sign that crude had already infiltrated the Gulf's vast food web -- and could affect it for years to come.

"It would suggest the oil has reached a position where it can start moving up the food chain instead of just hanging in the water," said Bob Thomas, a biologist at Loyola University in New Orleans. "Something likely will eat those oiled larvae ... and then that animal will be eaten by something bigger and so on."
What is the central idea of the section?

A. Other organisms in the Gulf waters feed on the larvae of blue crabs.
B. Most of the spilled oil that contaminated the Gulf waters recently has been cleaned up.
C. Scientists recently discovered oil droplets on blue crab larvae in waters along the Gulf coast.
D. Scientists fear long-term negative effects on Gulf coast organisms from contaminated blue crab larvae.

Part B

Which sentence from the text best expresses the same central idea you chose in part A?

A. The government said last week that three-quarters of the spilled oil has been removed or naturally dissipated from the water.
B. "Something likely will eat those oiled larvae...and then that animal will be eaten by something bigger and so on."
C. She told the magazine there are two encouraging signs for the wild larvae—they are alive when collected and may lose oil droplets when they molt.
D. Adults could be harmed by direct contact with oil and from eating polluted food. But scientists are particularly worried about the vulnerable larvae.
E. “But what's going to happen next year, if this water is polluted and it's killing the eggs and larvae? I think it's going to be a long-term problem.”

#3 - 183103

How does the last paragraph affect the presentation of information? Select three options.

A. It illustrates the possible economic effects of the Gulf oil spill.
B. It makes the report more personal by showing its effects on one individual.
C. It provides a contrasting point of view to those expressed earlier in the text.
D. It reinforces the idea that the oil contamination in the Gulf will have long-lasting effects.
E. It summarizes the main types of damage scientists have identified in the Gulf ecosystem.
F. It provides predictions about the length of time scientists expect the effects of the oil spill to last.
What inference can be made about the evidence the author uses to support claims in the text? Support your answer with evidence from the text.

Select the two sentences from the text that best support the inference that blue crabs may be less impacted by the oil spill than some scientists predict.

A. Tiny creatures might take in such low amounts of oil that they could survive, Thomas said.

B. “In my 42 years of studying crabs I’ve never seen this,” Perry said.

C. She told the magazine there are two encouraging signs for the wild larvae—they are alive when collected and may lose oil droplets when they molt.

D. “Crabs are very abundant. I don’t think we’re looking at extinction or anything close to it,” said Taylor, one of the researchers who discovered the orange spots.

E. Still, crabs and other estuary-dependent species such as shrimp and red snapper could feel the effects of remnants of the spill for years, Perry said.
Scientists will be focusing on crabs because they’re a “keystone species” that play a crucial role in the food web as both predator and prey, Perry said.

Which statement best describes what the phrase **keystone species** adds to the meaning of the text?

A. It emphasizes the strength and durability of the blue crabs’ outer shells.
B. It emphasizes the mystery and uncertainty of blue crabs’ future in the Gulf.
C. It emphasizes the importance of the blue crabs’ role in the Gulf’s ecosystem.
D. It emphasizes the blue crabs’ ability to survive the threats to their environment.
The government said last week that three-quarters of the spilled oil has been removed or naturally **dissipated** from the water.

What does the use of the word **dissipated** suggest? Select two options.

A. Some of the spilled oil has left the Gulf waters.
B. Some of the spilled oil has been made non-toxic.
C. Some of the spilled oil has intensified in strength.
D. Some of the spilled oil has separated into smaller parts.
E. Some of the spilled oil has been consumed by ocean organisms.

Summarize the author's point about why scientists are monitoring the blue crab population so closely. Support your summary using key evidence from the text.