

The italicized script provides direction for the presenter while the plain text script is the narrative for the presenter.

Slide 1: *Have Slide 1 on the screen as participants enter the room. Begin by introducing yourself and a bit of background on your job, role, and engagement with PA Common Core.*

This is one of five training modules designed to assist educators in understanding and transitioning to PA Common Core.

Slide 2: This is module one of five.

Slide 3: *Remind participants to sign on to SAS and complete and display their name tents.*

Slide 4: Today we are focusing on three essential questions related to a key piece of PA Common Core transition.

Read each question aloud.

Slide 5: ***Activity 1: Check for Understanding***

According to Understanding by Design (Wiggins and McTighe), which of the following are “Techniques to Check for Understanding?”

Provide one minute and have participants identify which of the following are techniques for checking for understanding.

Provide 4 minutes to discuss the question with a shoulder partner.

Generate the responses to this via group discussion. Post the responses on chart paper.

Answers: All except #10. Number 10 is a formative assessment technique; but it is not on Wiggins’ and McTighe’s list. So if you said all of the above, you have a high level of understanding but not perfect recall.

Ask participants to identify other ways, not identified on Wiggins and McTighe’s lists, that teachers check for understanding. Identify approaches that are effective and some that are not effective.

Discuss what differentiates an approach as effective or not.

Add participant's responses of effective techniques to the chart paper.

Have participants share their responses and discussions points.

Slide 6: Optional: These four sites provide information about techniques for evaluating understanding.

Slide 7: Misconceptions about Formative Assessment

Have participants discuss the differences between formative and summative assessment and when is each appropriate for use in the classroom. Close the discussion with formative assessment and its role in the classroom.

The role of formative assessment is to “. . . ferret out the apparent from genuine understandings. . . “Formative assessments are ongoing and informal. They allow teachers to gather information on student learning. They provide students with feedback on their progress towards specific learning goals.

Misconceptions about Formative Assessment
Students' correct answers indicate understanding
No questions means students understand
Large groups of learners make formative assessment impossible

Stated above are common misconceptions on the part of the teachers about formative assessment.

Confirming that a few students get it, which is often demonstrated as teachers question a few students at the end of the lesson, does not mean that EACH student gets it. While some formative assessment strategies may not be practical with a large group of learners, there are other strategies that can be used with this type of group. These strategies may include hand signals, personal white board, etc.

Slide 8: The intent of a formative assessment should always be to differentiate instruction and genuinely alter the course of learning.
If we move on, we have not differentiated for the students that did not give a thumb up, and we have not altered the course of learning.

Slide 9: Differentiating means that we provide the advanced students with meaningful learning experiences, and don't just use them to tutor other students, or give them 50 more problems to kill time while we work with the rest of the class.

Differentiating also means that students who have not yet mastered the learning will proactively receive material via a different instructional method suited to their learning needs.

Slide 10: Employing formative assessment strategies early as a pre-assessment before instruction will help us match the right learners with the right learning strategy and activity.

Employing formative assessment strategies during instruction helps us engage students and fine tune our differentiation.

Employing formative assessment strategies toward the end of instruction will help confirm that we have differentiated instruction.

Remember that differentiation means that we have proactively planned a variety of instruction methods so as to best facilitate effective learning experiences which are suited to the various learning needs within each student.

If we find that we are differentiating reactively the day, week or year AFTER the instruction has occurred, then we might need to get to know our students better. Formative assessment can help with that.

Slide 11: It's Formative Assessment Time!

Ask participants to put their thumbs up if response is true.

True—formative assessments are not graded. This is an important characteristic that serves to assure the desired long-term and short-term outcomes of formative assessment are achieved.

Slide 12: An ungraded assessment is a formative assessment.

Depending on the actual assessment, this may be true or false.

Ask someone who responded true to explain their rationale for his/her selection.

Ask someone who did not respond that it was true to explain their rationale for his/her selection.

The point of this statement is to foster discussion that the present or absence of a grade is not the sole determinant for determining whether an assessment is summative or formative. How the teacher uses the assessment is whether it is formative or summative.

Give an example of a formative assessment

Slide 13: ***Ask participants to share an example of a formative assessment that they use or have used in their teaching. Use random reporter to ask a person from each table to summarize the table discussion to the whole group.***

Slide 14: This is an example of a formative assessment that could be administered before delivering the lesson.
An assessment like this would probably be given as a short homework assignment a day or more prior to delivering the accompanying lesson, or as an end of period activity.

Ask the participants the following questions:

How might your lesson be affected if half of your students were already able to complete such a task?

How might your lesson be altered if more than half of your students were not able to complete this task?

Information to supplement discussion (if needed):

The purpose of this activity is to assess each student's work to identify the kinds of difficulties students experienced and the kind/level of instruction that each student might need. That information will help target your instruction more effectively in the following lesson and forewarn you that might arise during the lesson itself. The angle_theorems_complete_Four_Pentagons, PDF that contains this Assessment Task on page 13 also include a lesson outline, detailed steps to teaching, descriptions of alternate solution methods, and examples of student work. It is available in the handouts and at

<http://map.mathshell.org/materials/lessons.php?taskid=214&subpage=concept>

Slide 15: Here is another example of a formative assessment:

Click so the number 1 is displayed. In this particular example, the formative assessment is administered a day prior the lesson. It is important to note that formative assessments can and should also be interspersed within a lesson.

Click so the number 2 is displayed. Notice students complete the task individually so that each students' level of understanding may be assessed.

Click so the number 3 is displayed. Students are informed that they are not expected to understand everything. By providing a task that serves to challenge all learners, we are able to assess levels of understanding for EACH student.

Click so the number 4 is displayed. In addition, by students gaining an awareness of the information conveyed in this lesson, students are also provided the opportunity to form personal learning objectives.

Slide 16: This is an excerpt from the teacher guide to the same assessment. Please take a moment to read through the suggestions.

Insert wait time.

Let's highlight some important points.

Click so number 1 appears. Document and take note of what the student work reveals. Write notes to students (I like, I wonder, what would happen if).

Click so the number 2 appears. The teacher becomes aware of different approaches to the task and providing foresight into the potential issues that may arise during the lesson itself. This affects how the teacher plans and executes the lesson.

Click so the number 3 appears. Summarize student difficulties through a series of questions to the student.

Click so the number 4 appears. As the teacher, you may choose to write questions on each individual student's work; however, if that is too time consuming, you may select a few questions that may help the majority of the students. In doing so, reflection on the work is shared at the classroom level which sends the message to students that it is okay to have questions and there may be different ways to approach the work, and the group is responsible for each other's learning.

Slide 17: Delaware recently published its Formative Assessment Probes Math Investigations for second grade, which includes recording sheets for their teachers. While this

packs many items on one page, a teacher might prefer something that lends itself toward **quickly** recording observations of each child's strategies.

Slide 18: Another example of formative assessment is annotated student drawings. When using annotated student drawings, students are able to access prior knowledge and visual representation of thinking by making labeled illustrations. It encourages sense making and awareness of a student's own ideas. In addition, it appeals strongly to visual learners. This is a type of formative assessment that may be used during class, as a warm-up activity, or as an out of class assignment.

Slide 19: Here is an example of an annotated student drawing. In this drawing the student is demonstrating his/her ability to put events in sequential order and is representing landmarks in different ways as he/she describes the daily journey to school.

Slide 20: What Guidance does NTCM provide in the area of formative assessment?

Optional: Can click on image of chain to view "Key Strategies" web page at NTCM.

William and Thompson identified three central processes and five key strategies that support effective formative assessment.

The 5 Key Strategies are:

1. Clarifying, sharing, and understanding goals for learning and criteria for success with learners.
2. Engineering effective classroom discussion, questions, activities, and tasks that elicit evidence of students' learning.
3. Providing feedback that moves learning forward.
4. Activating students as owners of their own learning.
5. Activating students as learning resources for one another.

Slide 21: Let's think about the third strategy in the list of 5 Key Strategies... 3. Providing feedback that moves learning forward. There are many ways to provide feedback. This formalized rubric deliberately provides the learner with knowledge of what they have to do in order to achieve 'Expert' status.

In addition, the tool promotes fairness and consistency for each student because the teacher is looking for the same elements in each student's work.

It also demonstrates respect for the student's effort by providing a space for feedback under each performance criteria. This encourages specific and useful feedback about that performance criteria item, and guides us away from providing general holistic feedback, such as 'Good job – you are almost an expert!' that does not inform the student about how they can improve.

We don't usually hear much about rubrics within the context of Formative Assessments, but perhaps we should. A separate module in this training series, the Assessment Rubric Training Module is focused on rubrics.

If you would like to take a closer look, this rubric is provided in the handouts directory and has the file name;
Bar_Graph_Formative_Assessment_Rubric_4stu_land.docx

Slide 22: Before we bring our discussion of formative assessments to a close, let's use a formative assessment strategy--the directed paraphrasing technique and role play with your shoulder partner. While one of you is explaining the differences, and one of you is asking questions about the assessments, make mental notes about what you know and what want to learn about the differences between formative and summative assessments.

Provide participants with 3-5 minutes to do this activity.

Slide 23: Let's look at both formative and summative assessment through the lens of SAS. The assessment tab in SAS lists the four types of assessments: summative, formative, benchmark, and diagnostic. Each of these links expands to describe the assessments, provide background knowledge, and vocabulary.
<http://www.pdesas.org/module/assessment/About.aspx>

Note: The chain icon provides a link to the page in SAS.

Slide 24: While formative and summative assessments should have much in common, they are also be different in many ways.
When comparing differences of purpose between formative and summative assessments, formative occurs during the instruction and is an assessment for learning. A formative assessment INFORMS the instruction; whereas, summative assessments occur after instruction and are an assessment of a student's learning. Summative assessments are used to judge and evaluate the student's learning.

Slide 25: In addition, the purpose of feedback in both assessment types varies. In formative assessment, the feedback is descriptive and continuous so the learner can use the feedback to advance his or her learning. In summative assessments, the feedback is of an evaluative nature and occurs periodically in time.

Slide 26: Formative assessments are informal in nature and can have a high impact on student learning; however, summative assessments are formal and may have limited positive impact on student learning. Unfortunately, summative assessments may have a strong effect on learning for those who do not have a positive experience with these types of assessments. Are you familiar with test anxiety?

Fortunately, formative assessments can help learners guide their learning and prepare for a summative assessment.

Slide 27: The Council of Chief State School Officers (CCSSO) has produced a collection of publications about assessment.

The FORMATIVE ASSESSMENT: EXAMPLES OF PRACTICE document provides several example scenarios and explains which ones represent formative assessment strategies and which ones represent summative assessment strategies. You may want to reference this document during the next activity.

Note: Here are links to the publication...

<http://tinyurl.com/AssessmentExample/>

http://www.ccsso.org/Resources/Publications/Formative_Assessment_Examples_of_Practices.html

http://www.ccsso.org/Documents/2008/Formative_Assessment_Examples_2008.pdf

Slide 28: Activity 2: Categorize and Transform

Using one of your own assessment questions, determine if the question is formative or summative. Why or why not?

What changes could be made to the question to place it solidly into the formative or summative domain?

Then construct a new, similar question that would place that question into the opposite category. For example, if the question was identified as being summative

in nature, create a similar question that would be an example of a formative assessment.

When you are finished, share your work with a shoulder partner.

Provide 10-15 minutes.

Two minute warning. If you have not yet begun to share your work with a shoulder buddy describing why you feel the one question is formative in nature, and the other question is summative in nature, please start now using what you have accomplished so far.

Slide 29: Does everybody know the answer?

How many people say Nancy needs 110 square feet of carpet?

How many people got something other than 110 square feet? The people that came up with an answer other than 110 square feet might be right.

If someone has this alternate answer, ask them to explain how they arrived at their answer.

How much carpet do you think Nancy's parents need to purchase?

Carpet comes in widths of 12 ft., 13'6", and 15 ft. So it would be really foolish to piece together a 10 by 11 room from a 12 by 9' 2" piece of carpet. Most likely, Nancy's parents have half a clue, and they will buy a 12 by 11 piece of carpet, or 132 square feet.

This will allow them to install the carpet with approximately half a foot of 'extra' carpet to cut away along each wall to allow for doorways that extend beyond the walls and for corners that are not exactly square.

Armed with this knowledge, how do you feel about the real world connection in this question? If a student has actually been involved with carpeting his/her bedroom, how should he/she feel about the relevance of math class after they are told that 132 square feet is the wrong answer?

Real world connections can be great if WE do our homework and keep it real. In the process, the problem becomes more rich and rigorous.

Optional activity: How would you rewrite this question to make it real, relevant, and rigorous?

Slide 30: Let's have a discussion about this question.
How does this assessment question support student engagement as described by the mathematical practices?
How strong are the real-world connections?
What difficulties or misconceptions might students have?
Provide appropriate wait time and facilitate discussion, making notes on chart paper as appropriate?

Possible follow-up or discussion starter questions:

Is there any bias in this question against children that are or are not familiar with ceramic tiles?
How might we assist the student that wants to know "What size are those 'small' tiles" ?
How should we be prepared to handle questions about the unit of measure for the tile frame? Is the unit of measure tiles, inches, something else?
How do you feel about this question? Why?

Slide 31: For Activity 3, we will use the second assessment question that you brought along today.

Underline elements of the assessment that reflect student engagement as indicated through the mathematical practices.
Circle deliberate, real-world connections in the assessment questions.
If you find that these elements could be stronger, or find them to be absent, feel free to write or revise the question.
We will take 10 minutes to complete this individual work, and then we will share at our tables.

Allow 10-15 minutes.

Now take turns at your table and share the reasoning behind why you feel that the engagement and real-world connections in your assessment question were strong, or why you feel that they are stronger now that they have been revised.

Allow 10-15 minutes.

Bring everybody back together to discuss and share any remaining concerns. Thank everybody for their participation.

Slide 32: Questions?