

NCTM Annual Meeting 2016  
**Session #287 - The Power of Quick Formative Assessments in Action**  
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Electronic versions of handouts can be found at:

<http://tinyurl.com/formassess287>



**Goals:**


- Define formative assessments
- Recognize how formative assessments inform and impact instruction
- Leave with a clear understanding of what formative assessments could look like in action and several examples to use immediately

**What is a formative assessment?**

(You may use up to 10 words in your definition, at this point.)

- write on 11 x 14 paper and post on wall
- OR
- type it at <https://todaysmeet.com/formativeassess>

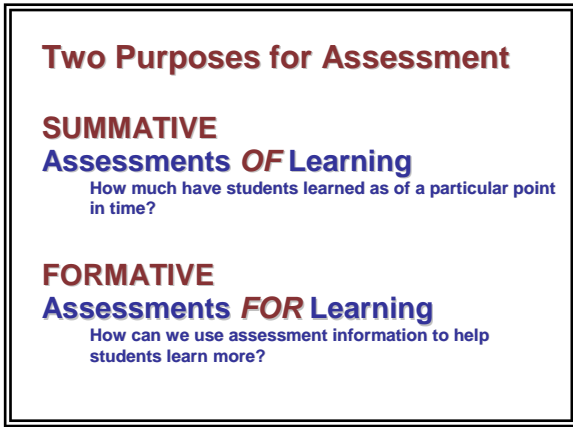
**Read excerpt from *Focus: Elevating the Essentials To Radically Improve Student Learning* by Schomaker. **Underline 1 quote or phrase** that resonates with your thinking about formative assessments.**

 Why did you choose your specific quote?

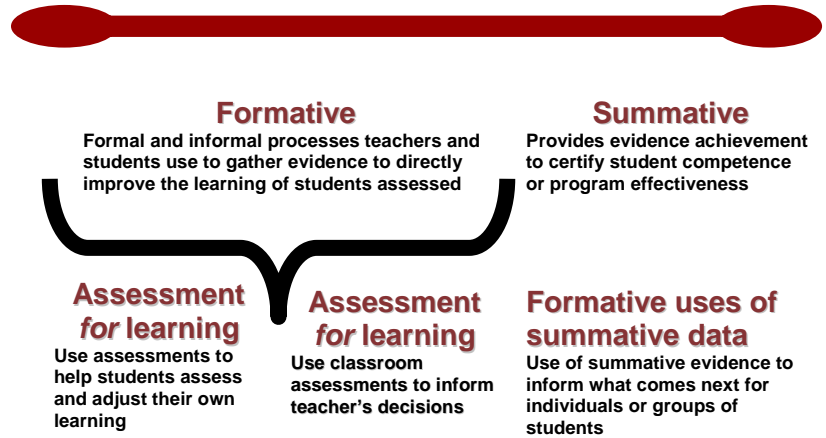
Revise your definition  
of formative assessment,  
if needed.

**Read the montage of quotes on the next page, what is one new idea to you?**

Revise your definition  
of formative assessment,  
if needed.



# Balanced Assessment



## ASSESSMENT

- Assessment in education is the process of *gathering, interpreting, recording* and *using* information about pupils' responses to an educational task.  
 Harlen, Gipps, Broadfoot, Nuttal (1992)
- Helps us distinguish between teaching and learning.
- The focus must be on the *quality* of feedback and feed-forward rather than the *quantity* of information gathered by the teacher.


## FORMATIVE ASSESSMENT

- Assessment is primarily concerned with providing teachers and/or students feedback information.
- It is not the instrument that is formative or summative, it is the timing of the interpretation and thus the distinction between them is not that helpful.  
 John Hattie, University of Auckland (1999)
- Formative assessment takes place during the course of teaching and is used essentially to feed back into the teaching and learning process.
- Formative and summative assessment are interactive. They seldom stand alone in construction or effect.  
 Gipps, McCallum & Hargreaves (2000)
- The vast majority of genuine formative assessment is informal, where feedback and response is interactive and timely.
- It is widely and empirically argued that formative assessment has the greatest impact on learning and achievement.

**Research indicates that improving learning through assessment depends on five, deceptively simple, key factors:**

1. The provision of effective feedback to the students.
2. The active involvement of students in their own learning.
3. Adjusting teaching to take account of the results of assessment.
4. A recognition of the profound influence assessment has on the motivation and self esteem of the students, both of which are crucial influences in learning.
5. The need for students to be able to assess themselves and understand how to improve.

**Read excerpt from** *Checking for Understanding: Formative assessment techniques for your classroom* by Fisher and Frey (2007)

 Write down 2 ideas that resonated with you from the reading?

Revise your definition of formative assessment, if needed.

My current definition of formative assessment is

Formative Assessment Examples from *Checking for Understanding: Formative assessment techniques for your classroom* by Fisher & Frey (2007)

### Whip Around p.34

- 1) Teacher poses a question or task related to current material. Typically students are asked to make a list of at least 3 items.
- 2) Students respond individually to the question on a piece of paper.
- 3) Students stand up when they are done answering the question.
- 4) Teacher randomly calls on a student to read one item from their list.
- 5) All students check the item off their list if they have it.
- 6) Teacher continues to call on students to share one item until all students are seated.
- 7) When all the items on their list have been checked off the student sits down.
- 8) Teacher listens to the ideas or information shared by students so he or she can determine if there is a general level of understanding or if there are gaps in student's thinking.

### Response Cards p.46

Teacher uses index cards, signs, dry-erase boards, or other items to check all students' understanding at once. Response cards allow for participation of the entire class not only the students who raise their hands. There are basically two types of Response Cards: preprinted and write-on cards.

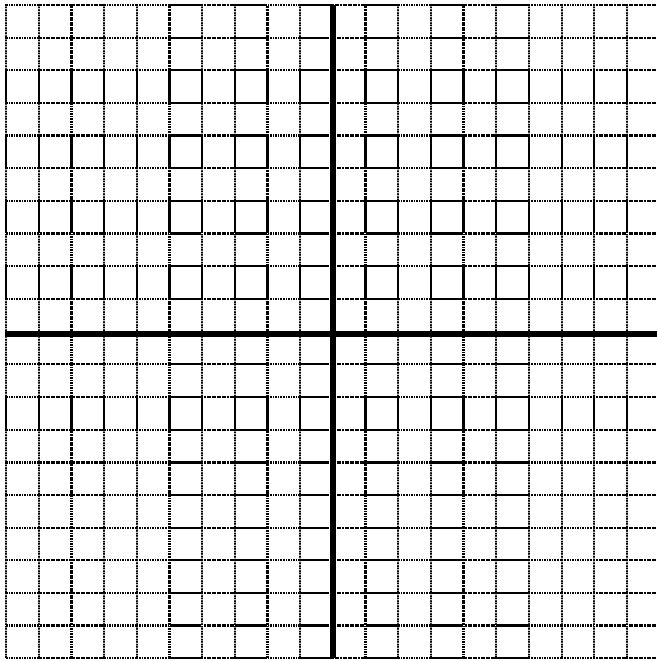
1. Teacher asks students to respond to a question or to solve a problem.
2. Students simultaneously show their individual responses.
3. Teacher observes students responses to identify areas of weakness or misconceptions.

### Value Lineups p.25

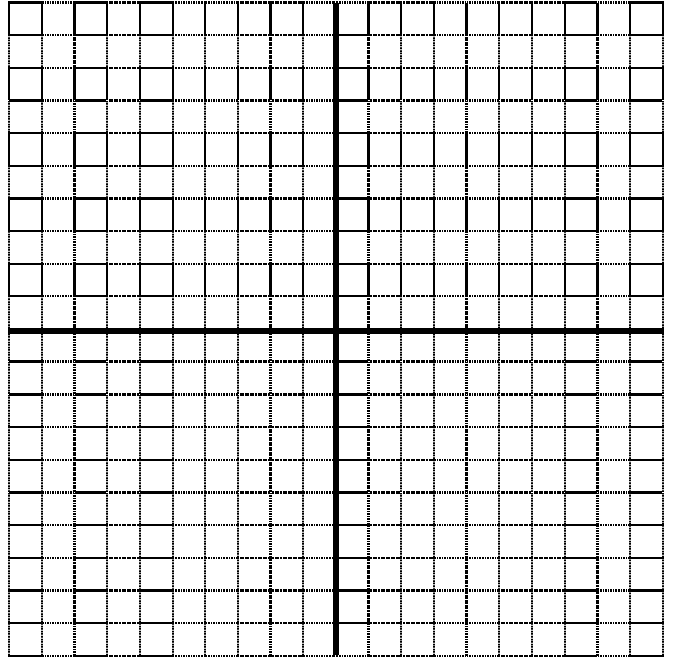
- 1) Teacher poses a statement related to current material.
- 2) Students are asked to evaluate a statement
- 3) Students are instructed to line up according to their degree of agreement or disagreement (5-strongly agree, 4-agree, 3-unsure, 2-disagree, 1-strongly disagree)
- 4) After students form a single line, the queue is then folded in half so that the student who most strongly agreed and disagreed with one another are now face to face.
- 5) Students then discuss their reasons for their position and listen to the perspectives of their partners
- 6) This cultivates a broader understanding of the distractions of understanding on a topic.

1) Write at least 3 things you know about slopes of lines.

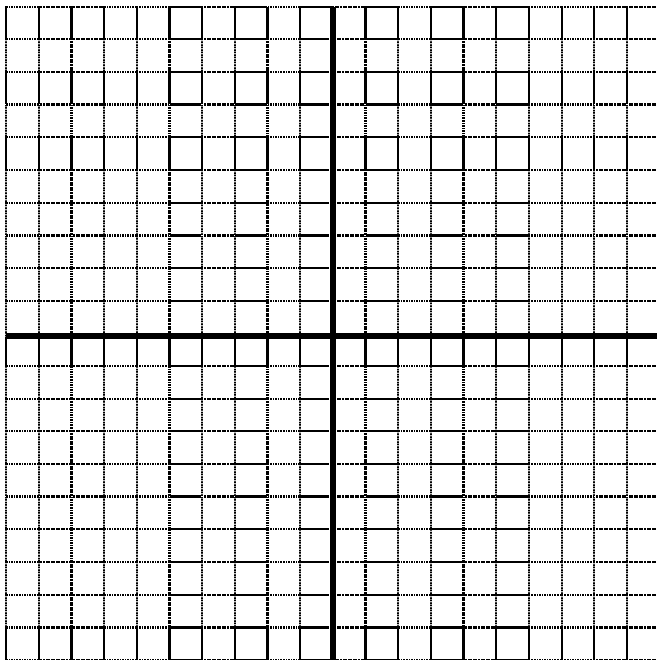
2a)



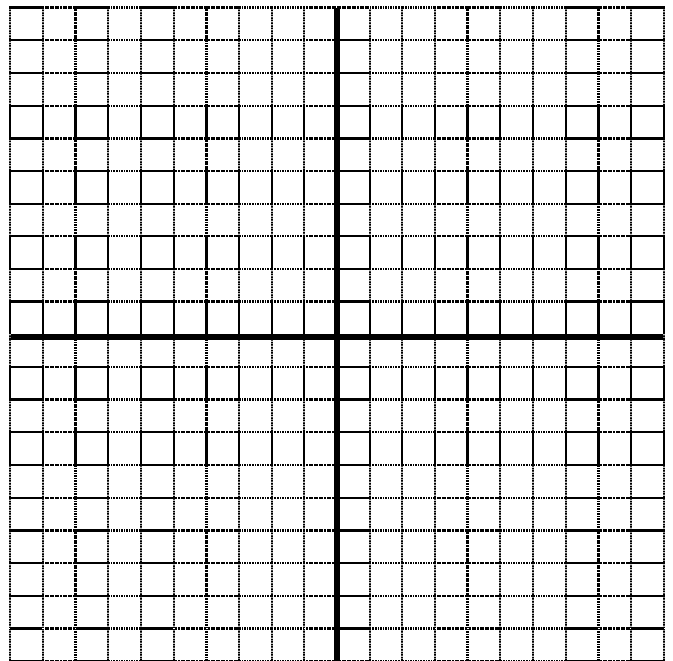
2b)



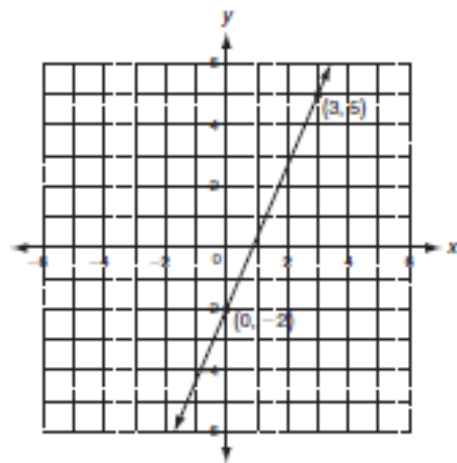
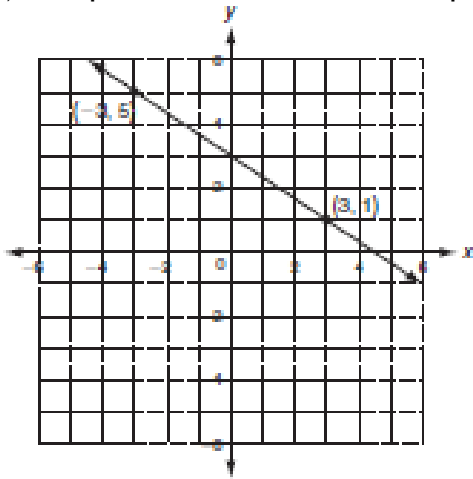
2c)



2d)



3) Compare and contrast the slopes of the two lines below.



4) Compare and contrast the slopes for table.

$x$	$y$
0	82
3	76
6	70
9	64
12	58

$x$	$y$
10	-28
20	-24
30	-20
40	-16
50	-12

4) Compare and contrast the slopes for each set of points.

$(3, 8)$  and  $(1, -2)$

$(4, 0)$  and  $(8, -2)$

# Debriefing

## Checking for Understanding Techniques:

During this session a number of techniques to check for understanding were used. List the techniques that you can remember.

# Planning:

1. Choose a class to focus your planning on: \_\_\_\_\_
2. List 1-3 objectives or learning targets you have for your students in this class this week.
3. Choose 1 of the checking for understanding techniques to use with you class. Describe what this would look like and sound like with your students. What question(s) and/or prompt(s) will you give them?
4. What responses might they have (correct and incorrect)? How you will respond to each response (piece of data)?

Student Response	Your Teaching/Instructional Response

5. Practice this technique with your partner. What revisions might you make based on their reaction and/or feedback?
6. Be prepared to share an outline of your plan with your colleagues

# Formative Assessment Ideas

Formative assessments are not just about assessing student's learning, but using the results/data to influence and change your instruction. You will begin to see increased student learning as you allow the information that students give you on a moment to moment basis to change what you teach and how you teach.

According to Rick Stiggins, assessment for learning is entirely about delivering confidence. Formative assessments benefit students' learning – promote student success.

These periodic interim assessments reflect student mastery AND continue to guide instruction. Teachers make learning targets clear and then check progress. Students also track their learning. Some of these assessments include writing samples, exit slips, thumbs up or thumbs down, small white boards, and maybe interactive technology. All of these should tap student confidence not offer evidence of failure.

## GENERAL FORMATIVE ASSESSMENTS IDEAS—

1. Think, Pair, Share: Teacher engages students with a question; students pair up and tell each other their “answers” and then they report to the group and share one answer. (This creates group knowledge and allows the teacher to gauge the level of understanding)
2. Five Question Whip: Ask some or all five (5) questions about a particular subject. The questions always come from five (5) categories: **Knowledge Comprehension, Application, Analysis and Synthesis**. Examples: (Knowledge) How many right angles in a 90° triangle? (Comprehension) – maybe not used in math, (Application) How might you use this knowledge of triangle and hypotenuses length if you wanted to figure out how to square the building of a deck? Other examples: (Knowledge) What were four events that lead to Caesar's death? (Comprehension) How did Brutus feel after the death of Caesar? (Synthesis) Who might be Caesar and Brutus in today's political world?
3. Gather five to ten words from the text we just read and create a summary of the reading.
4. Stop sign – give three students a red card, a small stop sign, a scrap of paper that says “stop!” Have them hold up said sign when they do not understand what has happened or when they want to be re-taught.
5. Teacher: “Repeat the directions I just gave you using stick-figure drawings and talk bubbles on the whiteboard in front of the room.”
6. Prepare a progress report of the unit we have been studying – Use one sentence or one picture for each large step toward the following goal:\_\_\_\_\_.
7. Student sheet: “This is what I want, hope to learn today \_\_\_\_\_” “This is what I know now \_\_\_\_\_.”
8. Student exit sheet (to be returned the next day): “To write this effectively I must remember to \_\_\_\_\_ & to \_\_\_\_\_.”
9. My emotional reaction to the reading was \_\_\_\_\_.” “The teacher probably wants me to think about \_\_\_\_\_.”
10. According to the lesson all parts of the CELL are valuable except \_\_\_\_\_.”
11. Teacher: List two (2) things that you can attribute to the book about ecosystems. List two (2) that you know because of the lab.
12. Draw a tablespoon and a teaspoon so I can see which one is bigger. Then label both using the abbreviations.
13. Choose the information that has been meaningful and write the BEGINNING of a lecture about this subject using no more than ten (10) sentences.
14. Student sheet: “Mom, these are the three most important things to know about the Vietnam conflict \_\_\_\_\_.”
15. Develop a film script about one world religion (Buddhism, or \_\_\_). You are only responsible for the first step of this script writing – create a story board using at least twenty (20) boxes – one box for each scene the viewer will see.
16. Student in charge of accountable talk today: At four appropriate moments during the lesson this student will ask questions OF THE TEACHER OR OTHER STUDENTS, already printed for them – “Could you please describe what you mean?” - “Could you give me an example?” - “ Could you give me more details?” – “If I disagreed with you and said \_\_\_\_\_ what would you say?”



## LITERACY –

1. **Response cards:** These are index cards, scraps of recycle-bound paper, small whiteboards, or permanent signs that students hold up to answer questions and allow for responses in real time. For example: “Did Caesar deserve to die? - students use prewritten card with “Yes” on one side and “No” on the other. (the students might then use a written 3X5 card to write a very short essay on why or why not...)”
2. **Front Load the Unknown:** Have students make cards or write on the front board the words they do not know from a selection you are about to read. Read the selection aloud. AND because of context ask students to remove the words they now understand by taking the card down or erasing the word as they define it. The words remaining must be taught.
3. **ReQuest or reciprocal questioning** (designed to teach students to ask questions as they read): All the students read a portion of a text and as they read the post questions on an overhead, whiteboard etc. First students attempt answer the posted questions then the remainder become homework or are answered by the teacher. The teacher can pose questions that lead to understanding of a standard that the students may have missed. Physics class example: From the text, “Wooden v. Steel Coasters” \* What role does the construction material play in the ride? \*What are the advantages and disadvantages of each? \* Which is safer?
4. **Before you read (Or study a topic):** Students list what they know about the Three branches of government or Cells or Heredity, or medieval times. They read the selection and then (most often publicly) they list the new information they received from the reading.
5. **Bring a Metaphor:** (Sometimes used as a ticket to get in) The student brings a common object from home that represents the text as a whole or a portion of the text.
6. **Summary, Why, Life:** Divide your into six equal groups – two #1 groups two #2’s two #3s. The number (#1) groups summarize the text. #2s speculate as to why the author wrote the text – meaning of the text - and the #3s list the ways this is about their lives. They post, read aloud, or distribute their answers. This can be used as a post reading and/or a prewriting assessment.
7. **Rewrite the beginning, the middle or the end:** Rewrite the first three sentences of this text about cell structure, about the implications of Global warming, about the \_\_\_\_\_. Do the same for the middle or the end – Use text message writing form, Use common student slang, Use college professor type language, etc.

## MATH –

1. Rewrite two problems from the work today. Six of your rewritten problems will be used for the opening quiz today.
2. Ticket into class: Four (4) possible answers to a unit goal problem for example: (Sample problem: What do you add to get  $-20$ ? Answers  $100 + -120$ ,  $-5 + -15$  etc.)
3. Ticket to get into to class: Teacher posts a right triangle. The vertices labeled A,B, C. She points to an acute angle and asks for the adjacent side – Just like Caribou Coffee and you get a dime off – only in this case you get in to class!
4. The apple in front of you has been divided into pieces – your pieces might look different than your neighbors. Eat one or two pieces of your apple and then, using fractions, tell us how much of the apple you ate and how much you have left. Use scrap paper, small white boards, or the space provided for you on the large whiteboard in front of the room for your answer.
5. I NEED  $30^\circ$  ANGLES! I want to know how many  $30^\circ$  angles exist on a protractor (Several right answers available here) Post your answers and be ready to explain your answer(s).
6. RAP SHEET -- Paraphrase the following word problem using a rap beat – solve the problem and write your answer on the back of your rap sheet so when you read it aloud the answer is visible to the class. Use the Sharpie pens available.
7. Using tile dividers (available at Home Depot etc.) add and subtract positive integers on the overhead. (The teacher must cut half the dividers so they represent minus signs -- the original dividers are in the form of a plus signs. Instant formative assessment!
8. Two parallel lines cut by a transversal. Tell me as many true statements about the angle and lines that you can first one to six (6) gets a cheap calculator from Ikea. Ten points for all correct answers.
9. Create a game that includes the skills of rounding, estimating, order of operations etc.

## Possible Aligned Assessment System to Inform Instructional Practice

- smallest bar represents quick "checks for understanding"
- medium bar represents unit common formative assessments
- large bar represents benchmark assessments like MAP or OLPA
- extra large bar represents state assessment like MCA

