HELPING MICHIGAN TO BECOME THE STATE OF ASSESSMENT LITERACY

Sue Brookhart

May 9, 2017

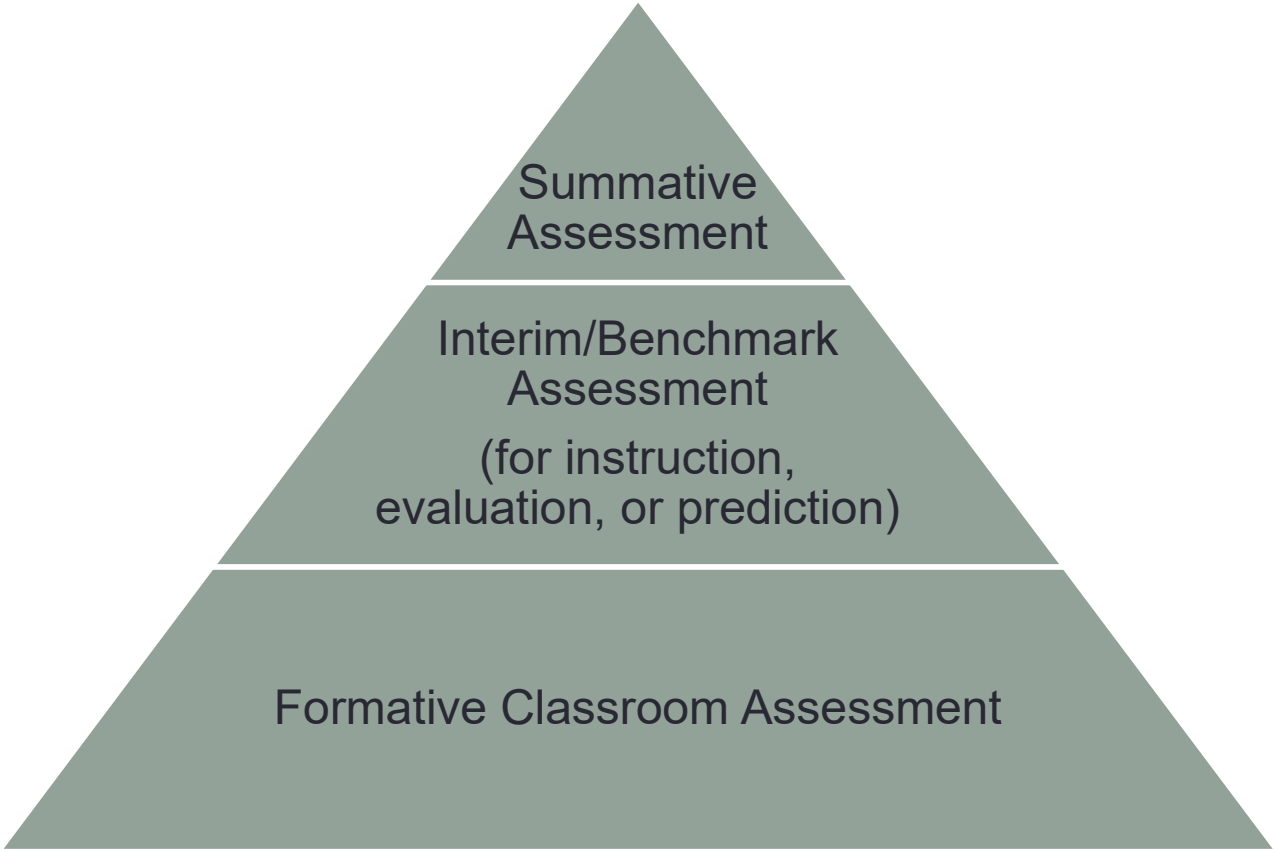
Overview

- Components of assessment systems
  - Key points from Jim Pellegrino, December 2016
  - Additional thoughts about balanced assessment systems
  - An example of how assessment literacy matters in assessment systems
- Formative assessment practices
  - Key points from Margaret Heritage, February 2017
  - Additional thoughts about formative assessment practices
  - An example of how assessment literacy matters in formative assessment
- Assessment literacy needs of key groups
  - The Michigan assessment literacy standards for different role groups
  - Some thoughts about prioritizing standards for different role groups
- Key assessment literacy resources that already exist
  - Overview of resources
  - For assessment literacy to increase in Michigan, what else is needed besides resources?

Key Points from Jim Pellegrino, December 2016

- The nature of educational assessment
  - A process of gathering information to make judgments about what students know
  - Curriculum, instruction, and assessment triangle, informed by theory and data on knowing and learning
  - Observation, interpretation and cognition triangle for knowing what students know: a process of reasoning from evidence
  - Defined/described formative, interim, and summative assessment: Different purposes and uses for each
- Federal law, college readiness standards, and high quality assessments
  - NCLB and ESSA
  - Gordon Commission report
  - Criteria for high-quality assessment: HOTS; high-fidelity; standards that are internationally benchmarked; instructionally sensitive and valuable; validity, reliability, and fairness
- A balanced and comprehensive assessment system
  - Need a theory of action so components of an assessment system are coherent
  - Three components of an assessment system: classroom assessment; monitoring (large-scale) assessments, and indicators of opportunity to learn
  - System uses tasks, tools, and technologies: Need professional development

Typical View of Assessment System



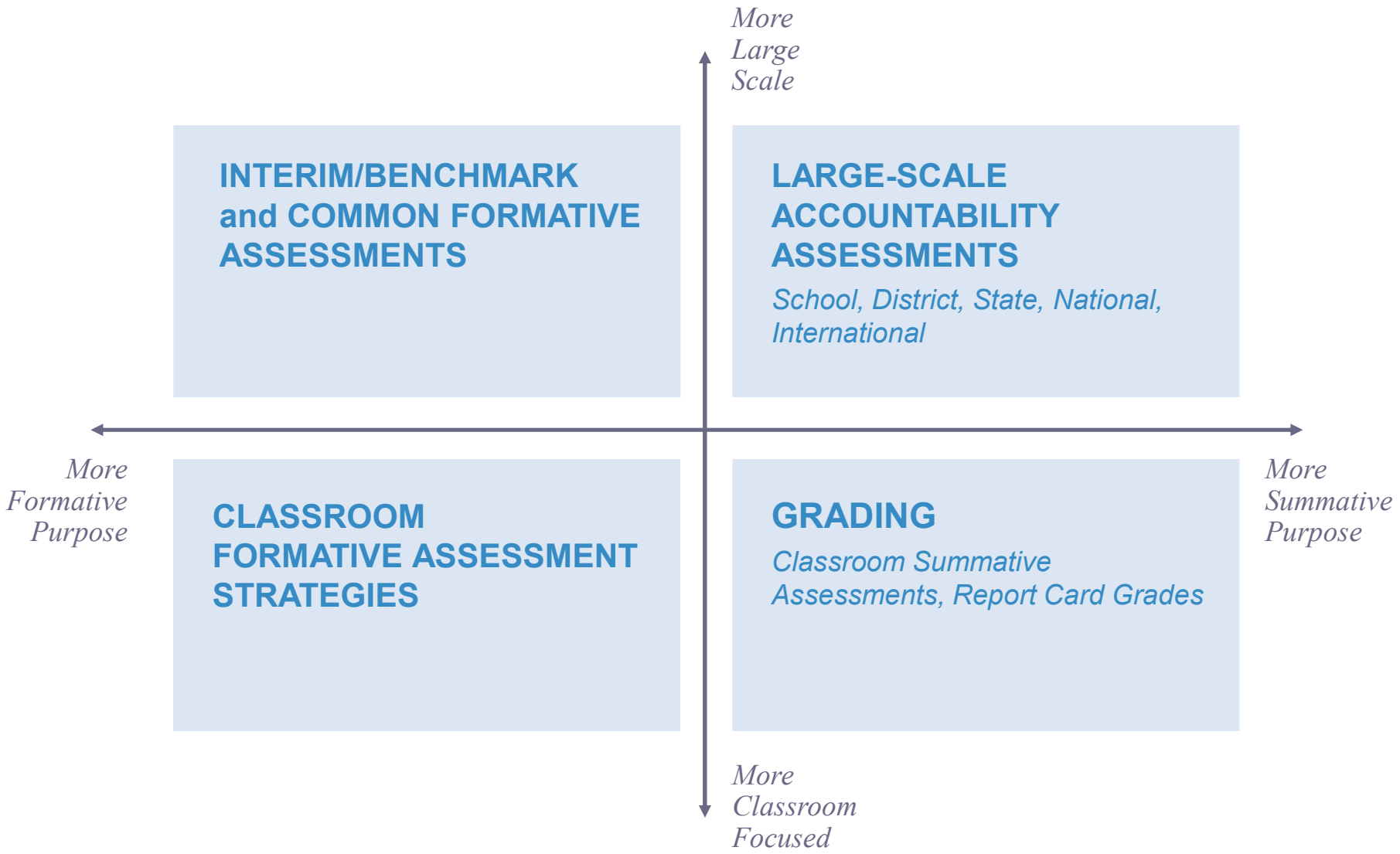
Problems to Solve

A balanced assessment system that supports student learning:

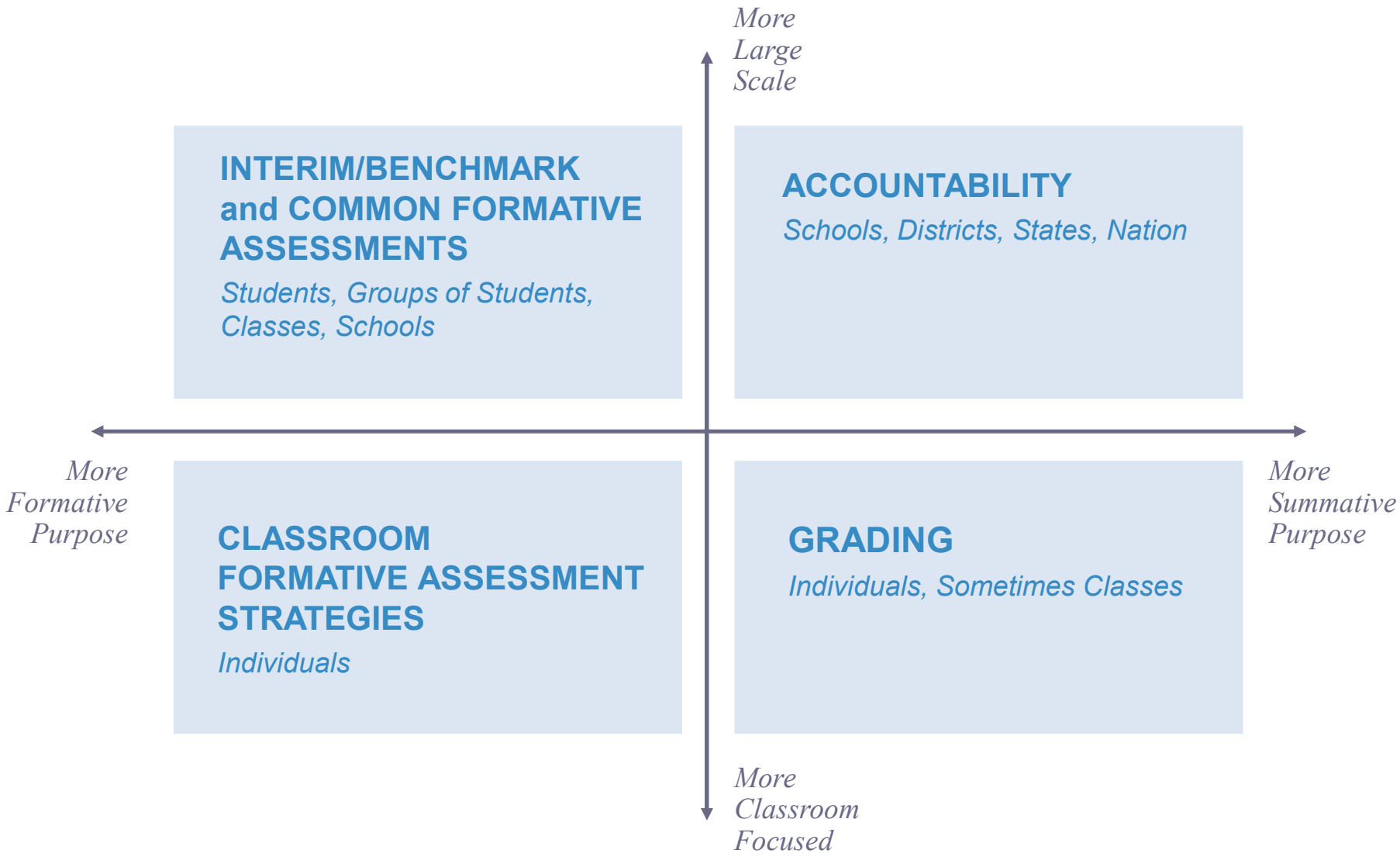
- Should not expect interim/benchmark assessments to serve both formative and summative purposes simultaneously
- Should not ignore classroom summative assessment (grading)

"It may be a report card to you, but in my house it's an environmental impact statement."

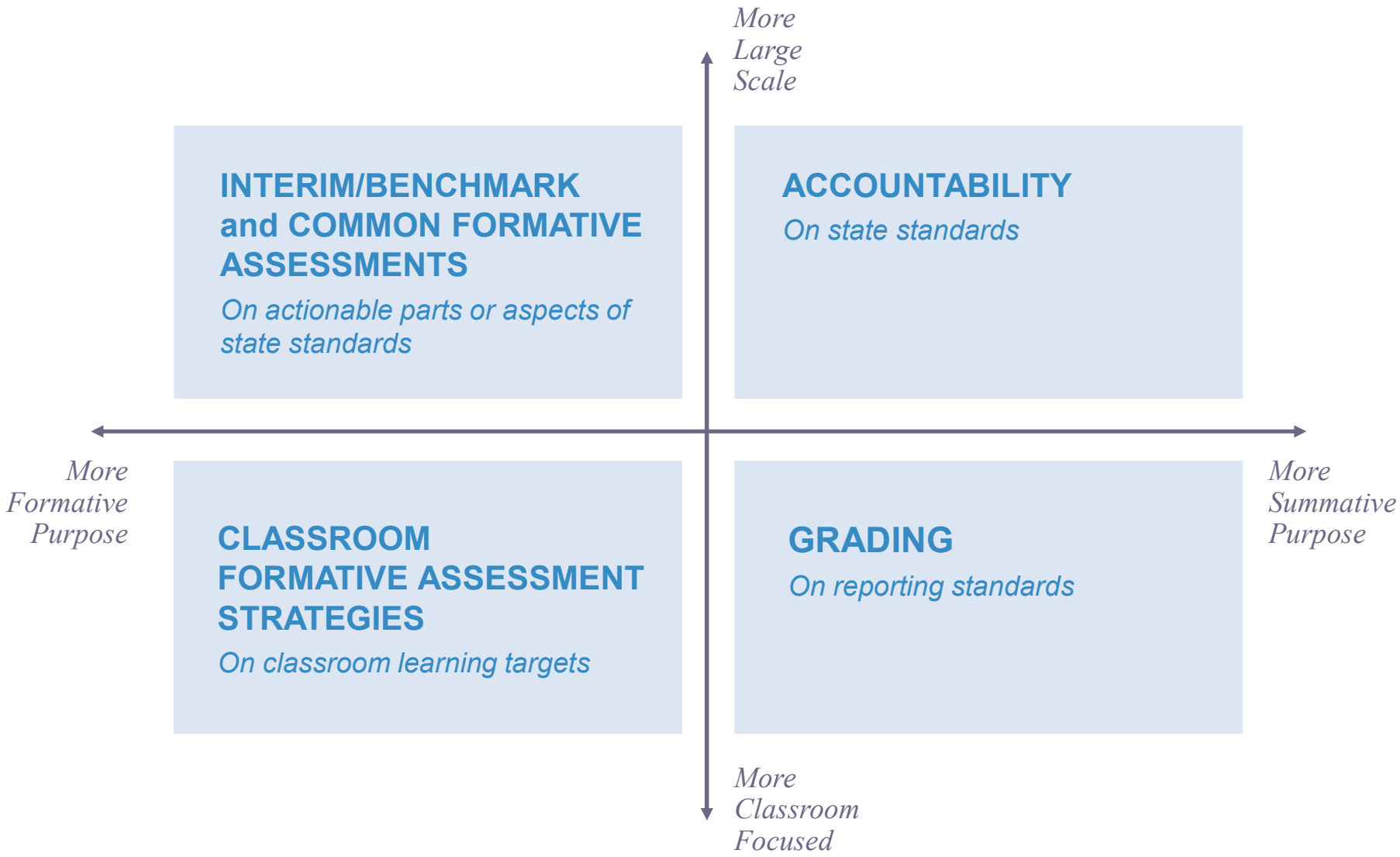
Assessment Relationships



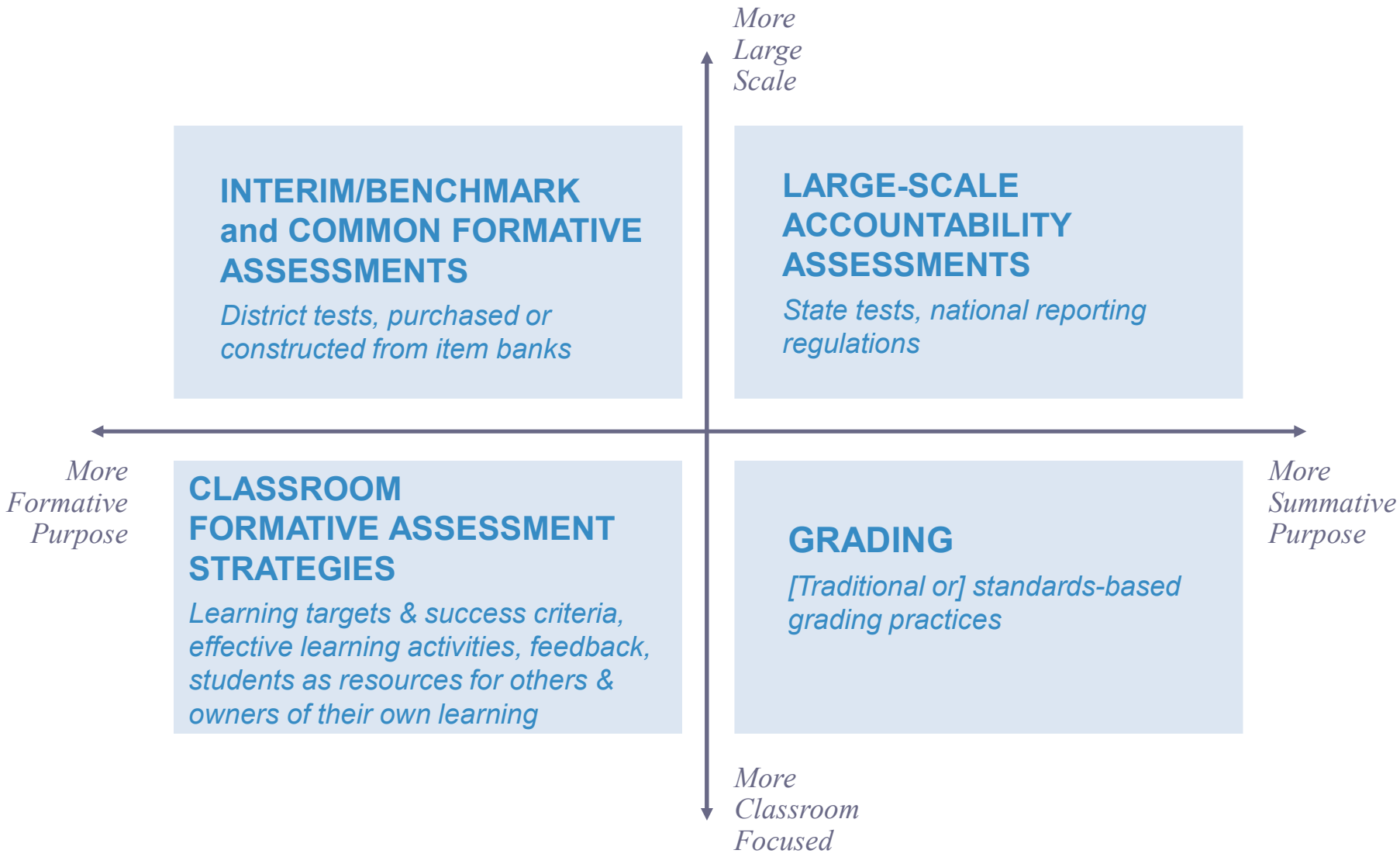
Who is Assessed? Aggregation?



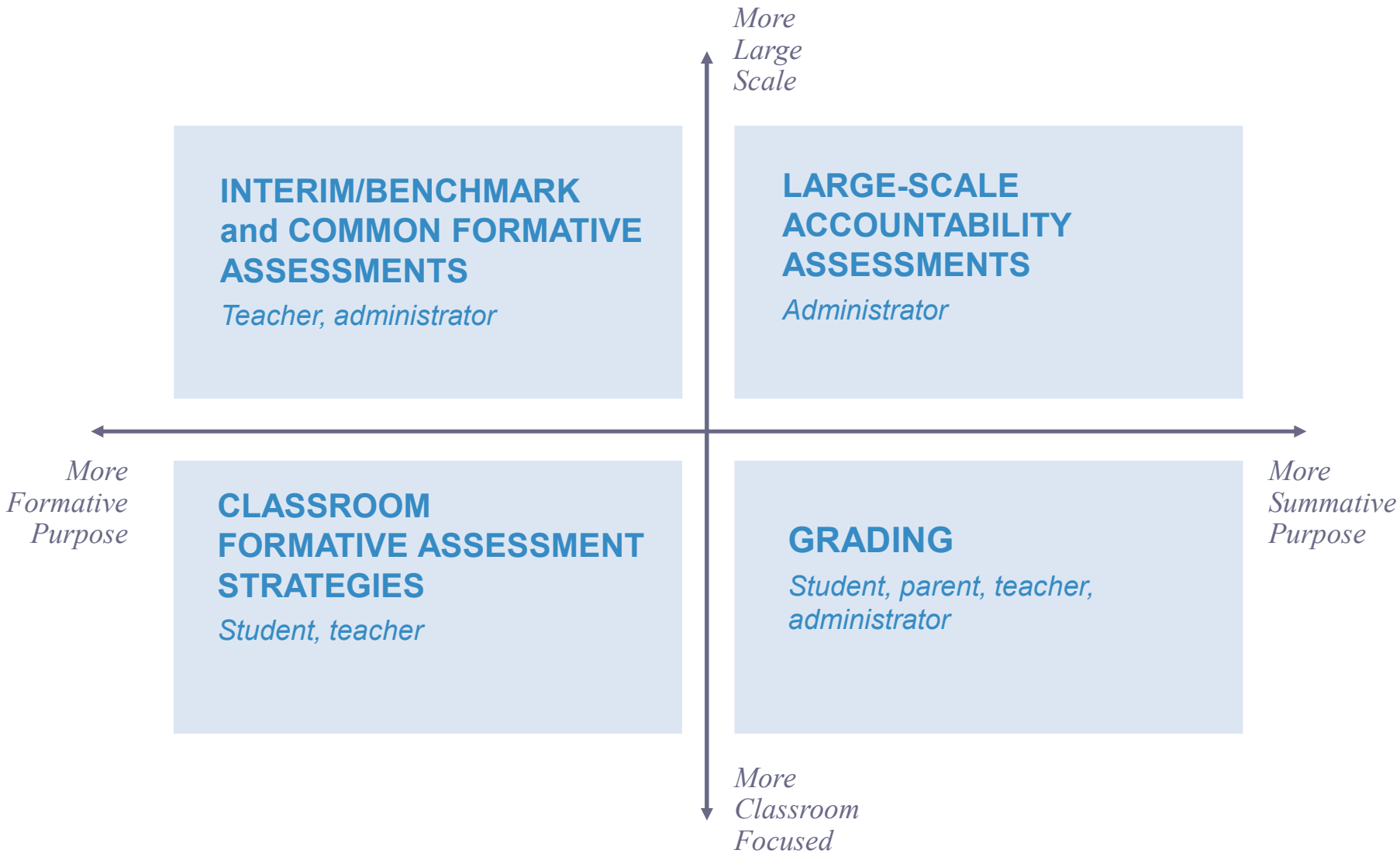
What is Assessed? Domain for generalization?



How Assessed?



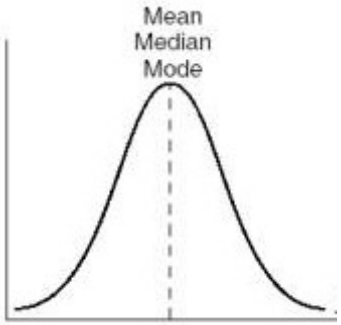
Who Uses the Information?



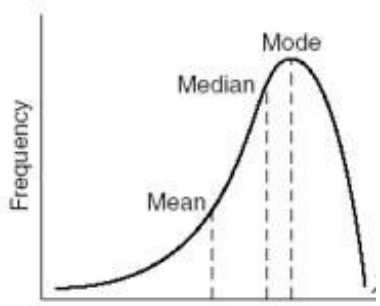
What Should Performance Data Look Like?

More Large Scale

INTERIM/BENCHMARK & COMMON FORM. ASSMNTS.



ACCOUNTABILITY



More Formative Purpose

More Summative Purpose

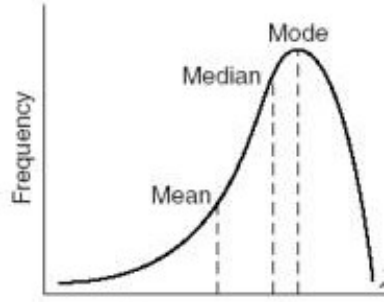
CLASSROOM FORMATIVE ASSESSMENT STRATEGIES

Feedback against criteria

Suggestions for next steps

Self-reflection against criteria

GRADING



More Classroom Focused

Better Balance

More Large Scale

INTERIM/BENCHMARK & COMMON FORMATIVE ASSESSMENTS

ACCOUNTABILITY

More Formative Purpose

CLASSROOM FORMATIVE ASSESSMENT STRATEGIES

GRADING

More Summative Purpose

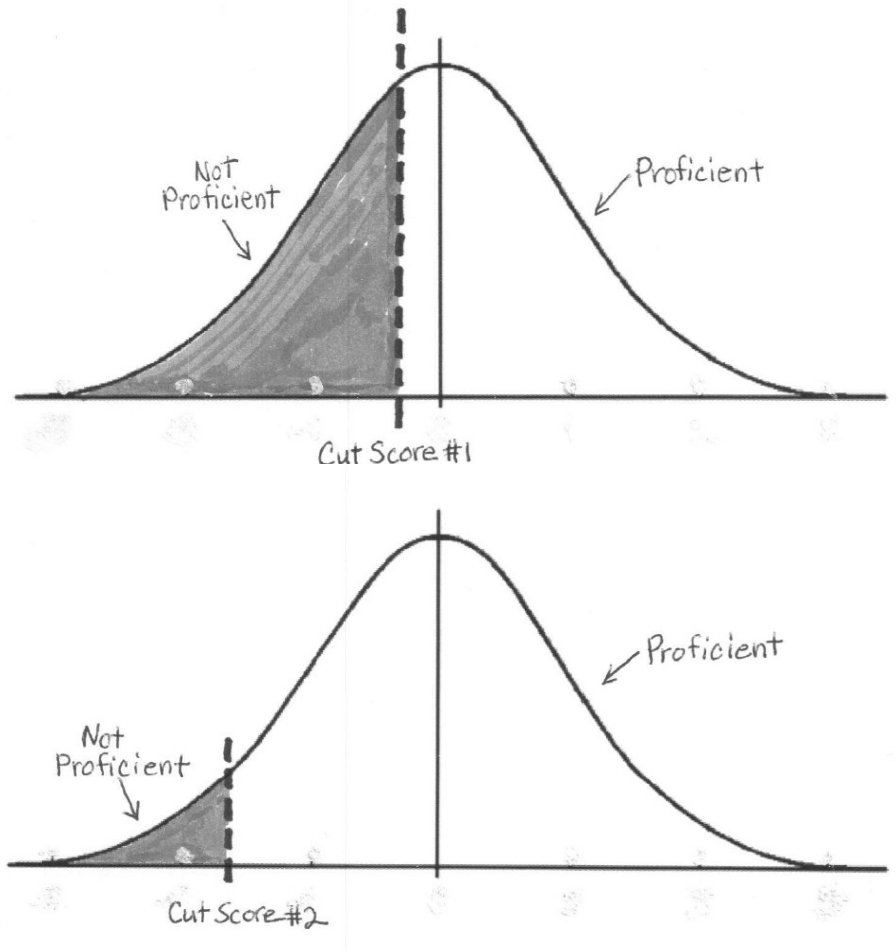
More Classroom Focused

Example – How Assessment Literacy Matters
One US School, State Test Results

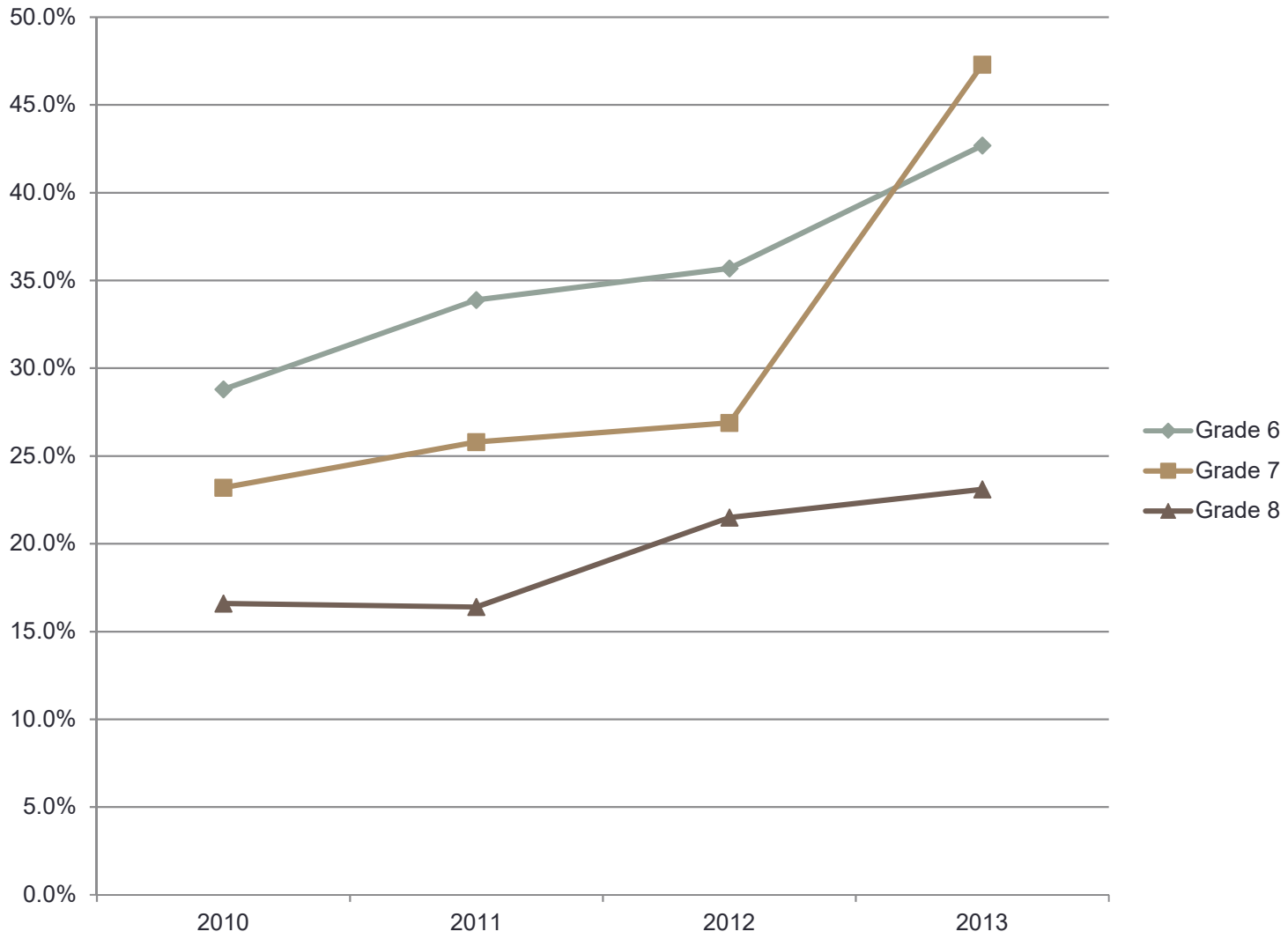
MEAP Math

Grade	Pro-ficient 2010	Mean Scale Score 2010	Pro-ficient 2011	Mean Scale Score 2011	Pro-ficient 2012	Mean Scale Score 2012	Pro-ficient 2013	Mean Scale Score 2013
6	28.8%	618.25	33.9%	621.15	35.7%	623.46	42.7%	626.11
7	23.2%	716.27	25.8%	719.66	26.9%	718.14	47.3%	728.40
8	16.6%	811.35	16.4%	810.76	21.5%	814.71	23.1%	812.19

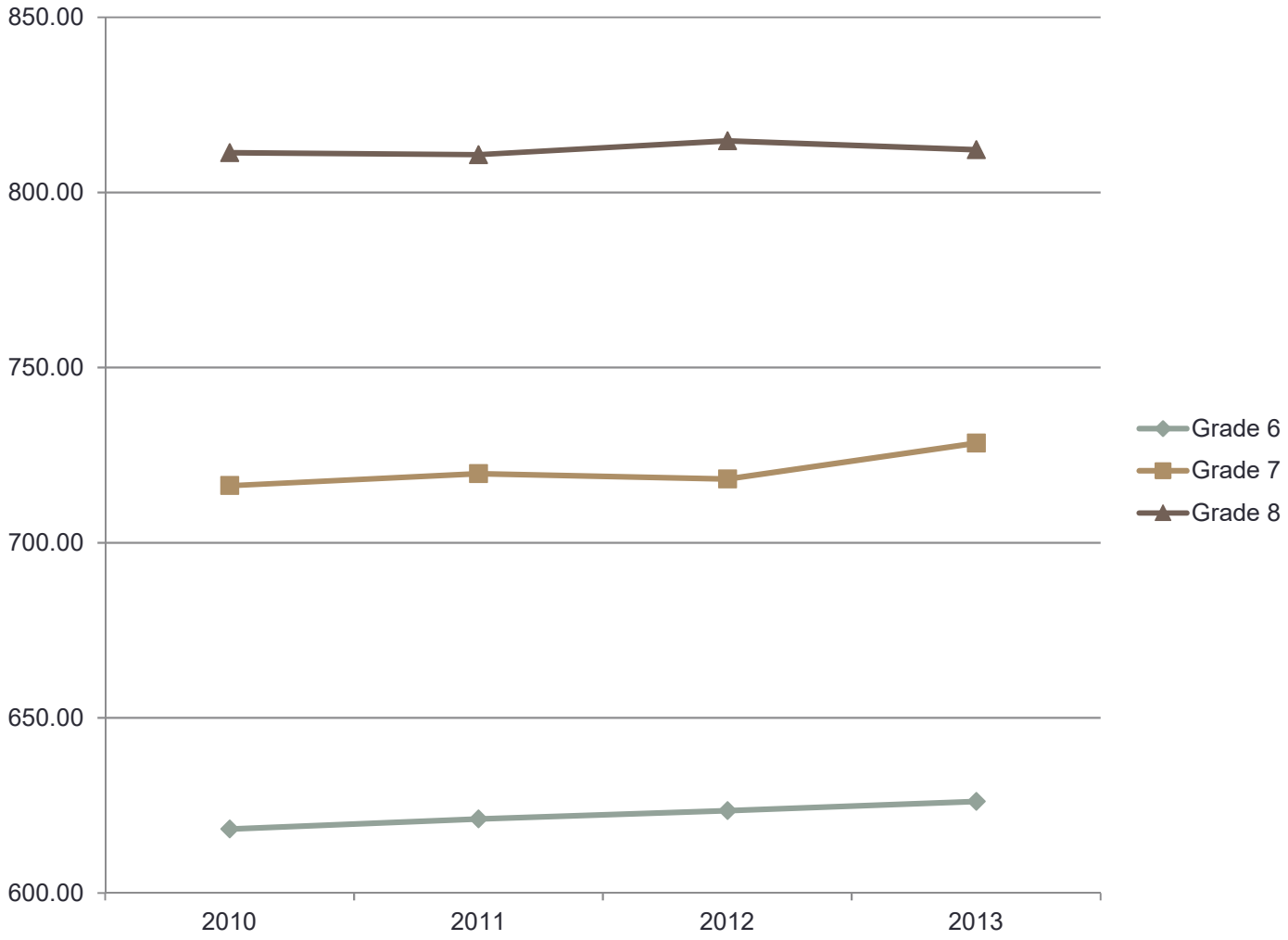
Assessment Literate Policymakers and Educators Know That Interpreting Change in Percentages in Categories is Misleading



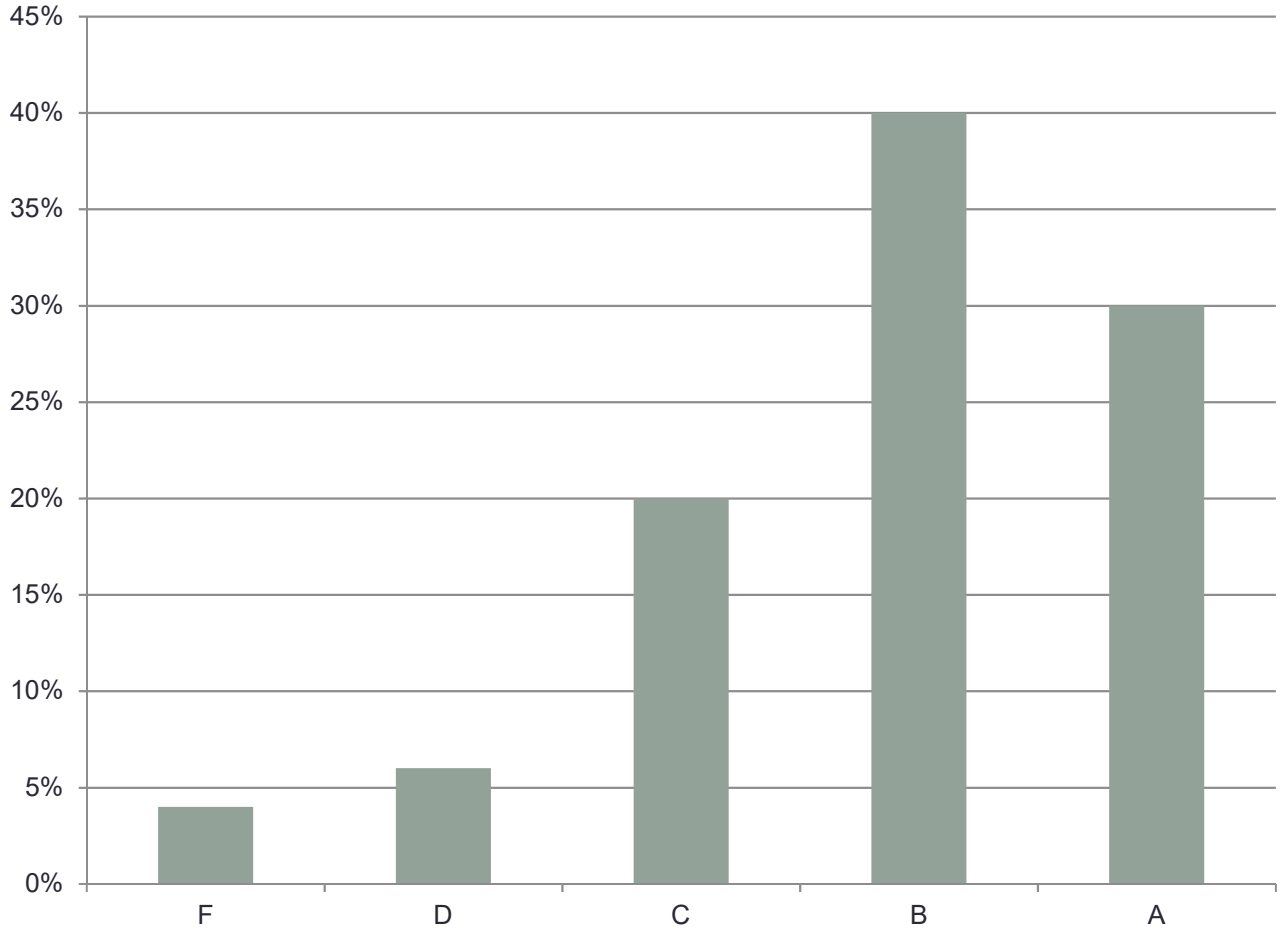
Interpreting Change in Percentage-in-Category



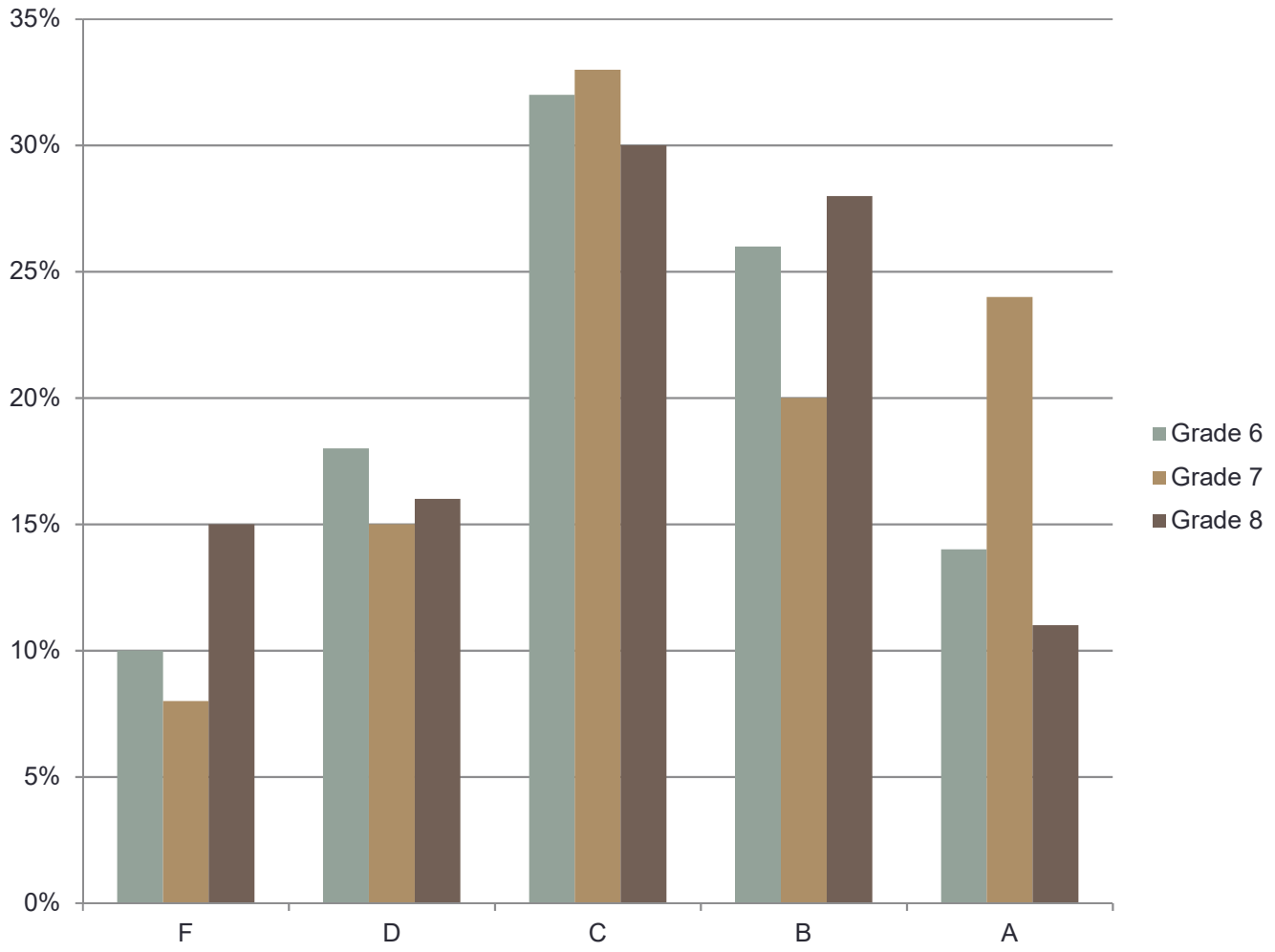
Interpreting Change in Scale Scores



Assessment Literate Educators Know That in a Typical U.S. Class Grade Distribution, C Is Not "Average"



Interpreting Grade Distributions



Assessment Literate Educators Know the Characteristics of Effective Feedback

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Characteristics of Effective Feedback

- Is it descriptive?
- Is it timely?
- Does it contain the right amount of information?
- Does it compare the work to criteria?
- Does it focus on the work?
- Does it focus on the process?
- Is it positive?
- Is it clear?
- Is it specific (but not too specific)?
- Does its tone imply the student is an active learner?

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Characteristics of Effective Feedback

- What did the student learn from the feedback?
- What did the teacher learn from the feedback?

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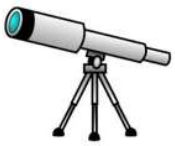
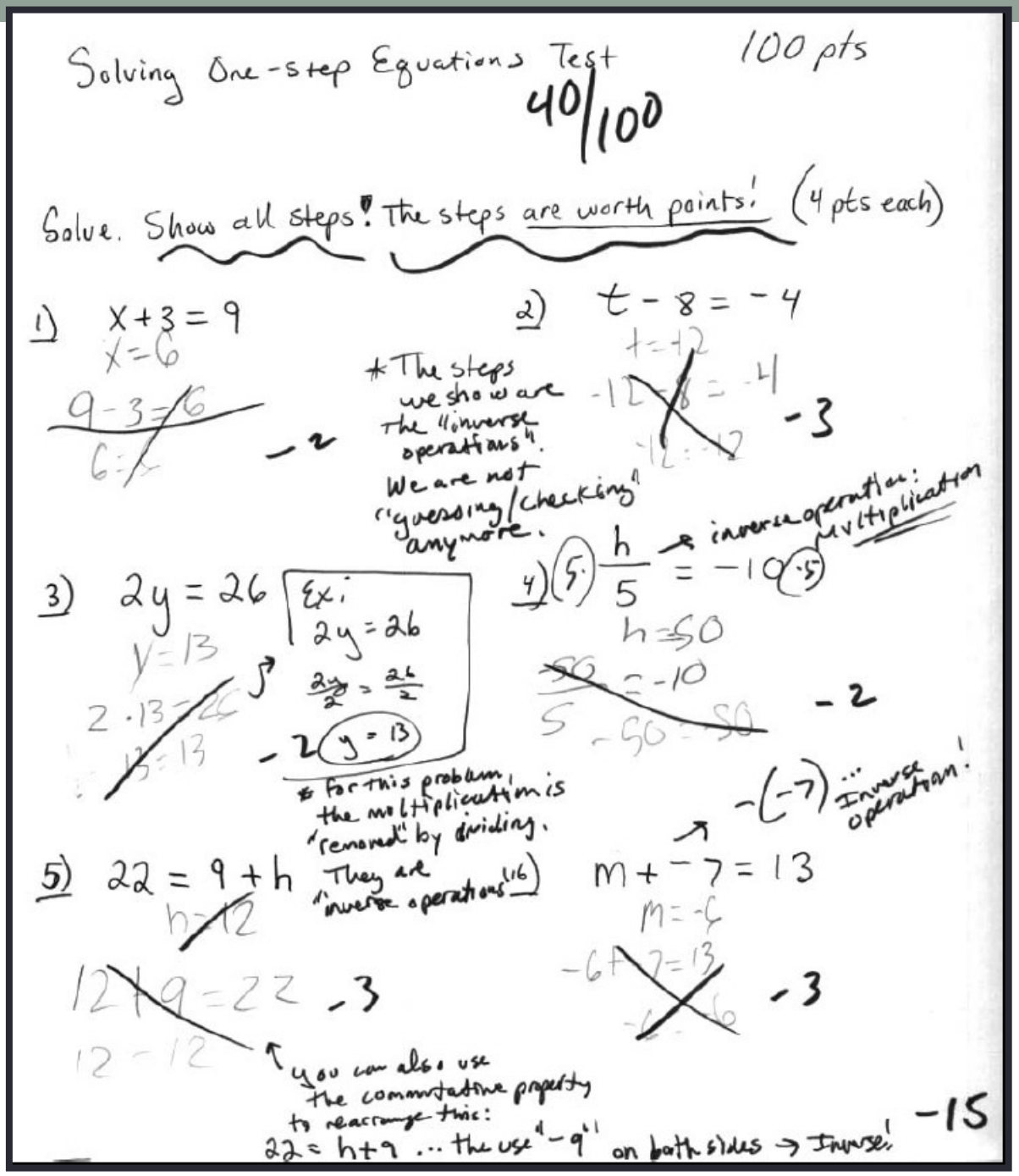
Characteristics of Effective Feedback



- What next step(s) should the teacher and student take to use this feedback for learning? Were those steps taken? Did learning improve?

Interpreting Classroom Work



Solving One-step Equations Test 100 pts

40/100

Solve. Show all steps! The steps are worth points! (4 pts each)

1) $x + 3 = 9$

$x = 6$

$9 - 3 = 6$

$6 = 6$ -2

* The steps we show are the "inverse operations". We are not "guessing/checking" anymore.

2) $t - 8 = -4$

$t = +12$

$-12 - 8 = -4$

$-12 = -12$ -3

3) $2y = 26$

$y = 13$

$2 \cdot 13 = 26$

$26 = 26$ -2

Ex: $2y = 26$

$\frac{2y}{2} = \frac{26}{2}$

$y = 13$

* For this problem, the multiplication is "removed" by dividing. They are "inverse operations" (16)

4) (5) $\frac{h}{5} = -10$ (·5) inverse operation: multiplication

$h = -50$

$\frac{-50}{5} = -10$

$-10 = -10$ -2

5) $22 = 9 + h$

$h = 12$

$12 + 9 = 22$

$21 = 21$ -3

↑ you can also use the commutative property to rearrange this: $22 = h + 9$ ... the use "-9" on both sides → Inverse!

$m + -7 = 13$

$m = 6$

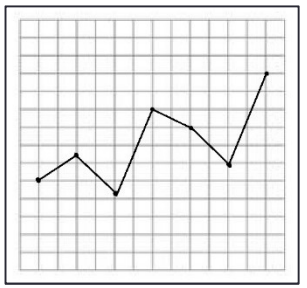
$-6 + 7 = 13$

$13 = 13$ -3

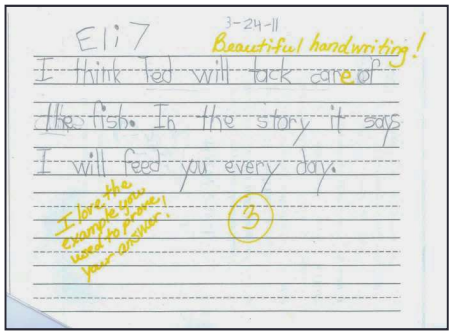
$-(-7)$ ... Inverse operation!

-15

Therefore, in General…



- Use **large-scale** data to
  - POSE QUESTIONS
  - About instruction, professional development, and resource allocation
- Use **classroom-level** data to
  - SUGGEST TENTATIVE ANSWERS
  - Plan and trial next steps



- Then evaluate the results of the next steps to see how effective your solutions were

Key Points from Margaret Heritage, February 2017

- What is formative assessment, and why should we care?
  - Define FA by its purpose, informing learning as it is taking place, moving learning forward
  - Panic zone, learning zone (where most FA lives), comfort zone
  - Contrast FA with other assessment types and purposes
- Formative assessment in a balanced assessment system
  - Short, medium, and long term goals and assessment cycles
- A feedback loop for teachers and students
  - Where am I going? Where am I now? Where to next?
  - Learning targets/success criteria and learning progressions
  - Unpacked each of these points in the loop in terms of formative assessment and learning: Gave examples at each stage along the way
- Classroom culture for formative assessment
  - Learner-centered, shared responsibility, respect and trust, expectations/rigor
- Formative assessment around the world
  - Examples from New Zealand, Australia, the United Kingdom, Chile, and the U.S.

Teachers who are…

Expert in Formative Assessment	Not expert in Formative Assessment
• Collect evidence of student thinking (quality of thinking) • Interpret student responses in terms of what students were thinking • Consider what feedback or immediate next step in instruction will address the specific needs	• Collect evidence of student performance (quantity of thinking) • Evaluate the correctness of responses • Re-teach topics based on percent correct [Minstrell, Anderson, & Li (2009); Hattie (2009); Hattie & Timperley (2007); Kroog, Ruiz-Primo, & Sands (2014)]

The Role of the Student

Where am I going?

What am I trying to learn?

Where am I now?

How does my work compare to the success criteria for what I am trying to learn?

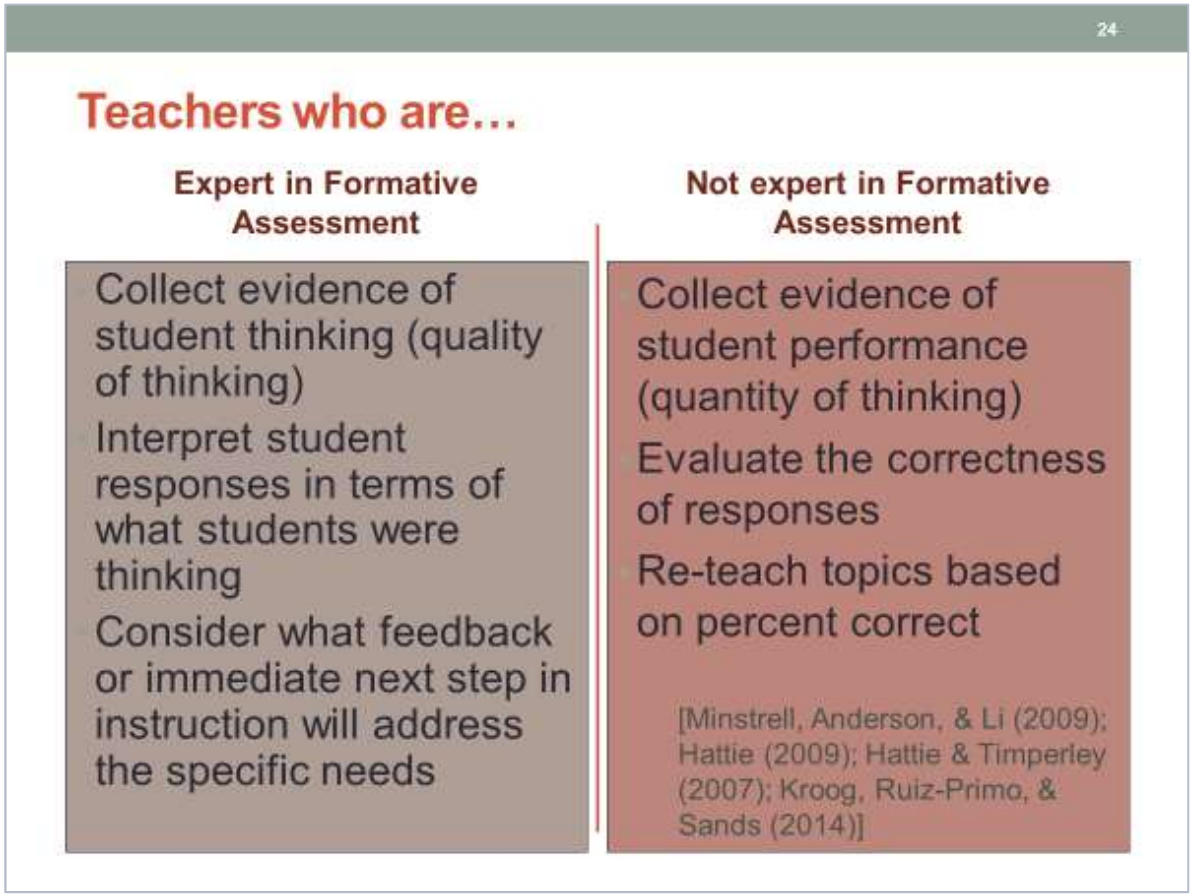
Where to next?

What next steps do I need to take in my learning?

Phases	Cognition	Motivation/Affect	Behavior	Context
Forethought, planning, and activation	Target goal setting Prior content knowledge activation Metacognitive knowledge activation	Goal orientation adoption Efficacy judgments Ease of learning judgments (EOLs), perceptions of task difficulty Task value activation Interest activation	Time and effort planning Planning for self-observations of behavior	Perceptions of task Perceptions of context
Monitoring	Metacognitive awareness and monitoring of cognition, judgments of learning (JOLs)	Awareness and monitoring of motivation and affect	Awareness and monitoring of effort, time use, need for help Self-observation of behavior	Monitoring, changing task and context conditions
Control	Selection and adaptation of cognitive strategies for learning, thinking	Selection and adaptation of strategies for managing motivation and affect	Increase/decrease effort Persist, give up Help-seeking behavior	Change or renegotiate task Change or leave context
Reaction and reflection	Cognitive judgments Attributions	Affective reactions Attributions	Choice behavior	Evaluation of task Evaluation of context

(Pintrich & Zusho, 2002)

Assessment Literate Teachers Know That Formative Feedback Should Aim to Describe and Interpret Student Thinking



Answer the following questions by using complete sentences.

1. Why are some animals at risk of dying out? Animals are dying because people are cutting down trees polutting, and hunting.

2. What can people do to help animals that are at risk? People can stop hunting, cutting down trees, and polutting so animals wont die.

3. Why might some baby orangutans need to be cared for by humans? They have to because their homes can be distroyed and thier parents could have died.

THINKING QUESTIONS
How can you stop pollution?

What would happen if we stopped hunting completely?

MORE THINKING QUESTIONS
Why do humans cut down trees?
How are we polluting?
Should we stop hunting?

A read- Complete thoughts in your sentences.

Excellent Work!
You used complete Sentences with a subject and predicate. You also used Correct punctuation and Capital letters to start your sentence.

TM252K

Answer the following questions by using complete sentences.

J - * Use a capital letter at the beginning of a sentence.

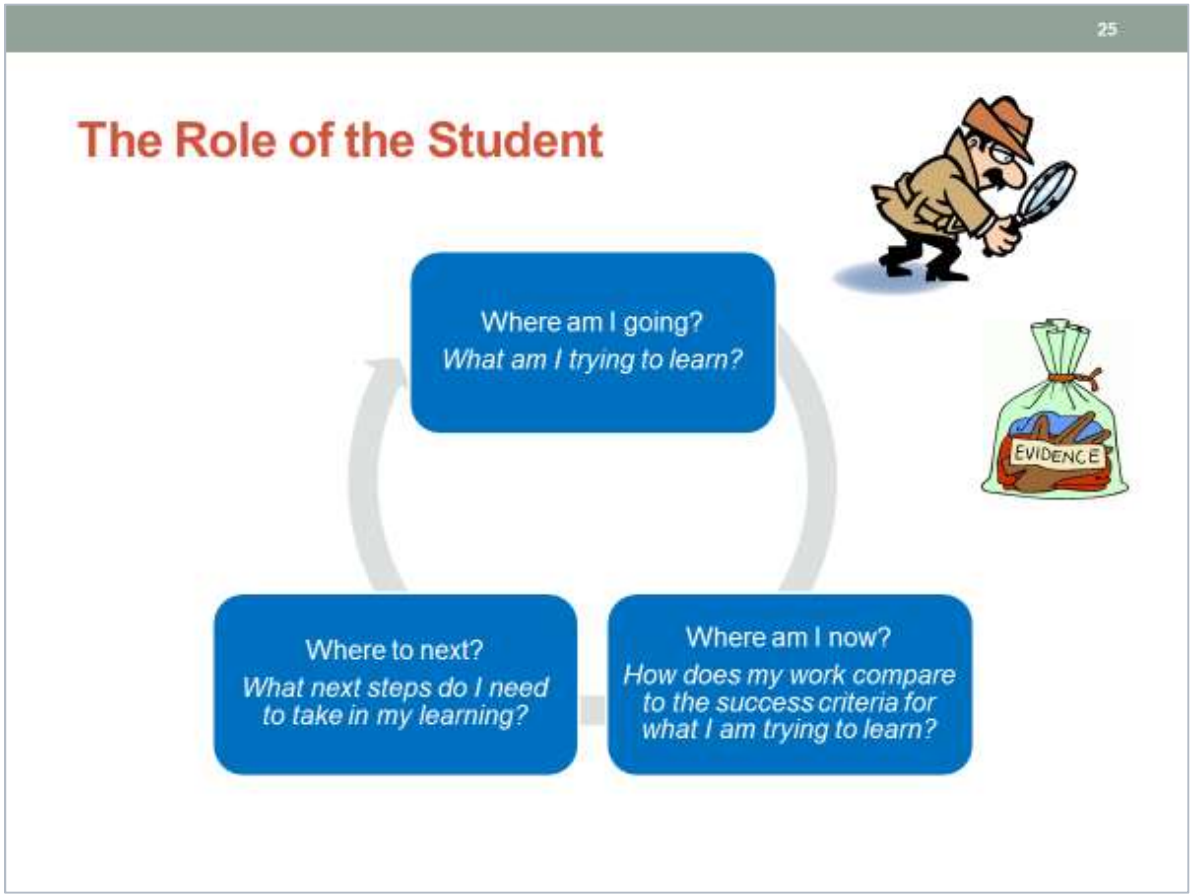
1. Why are some animals at risk of dying out? There habitats are being cut down more and more. * Use punctuation at the end of a sentence

Good complete thought.

2. What can people do to help animals that are at risk? Plant more trees or make more homes for fish or animals. (a) - Yes! :)

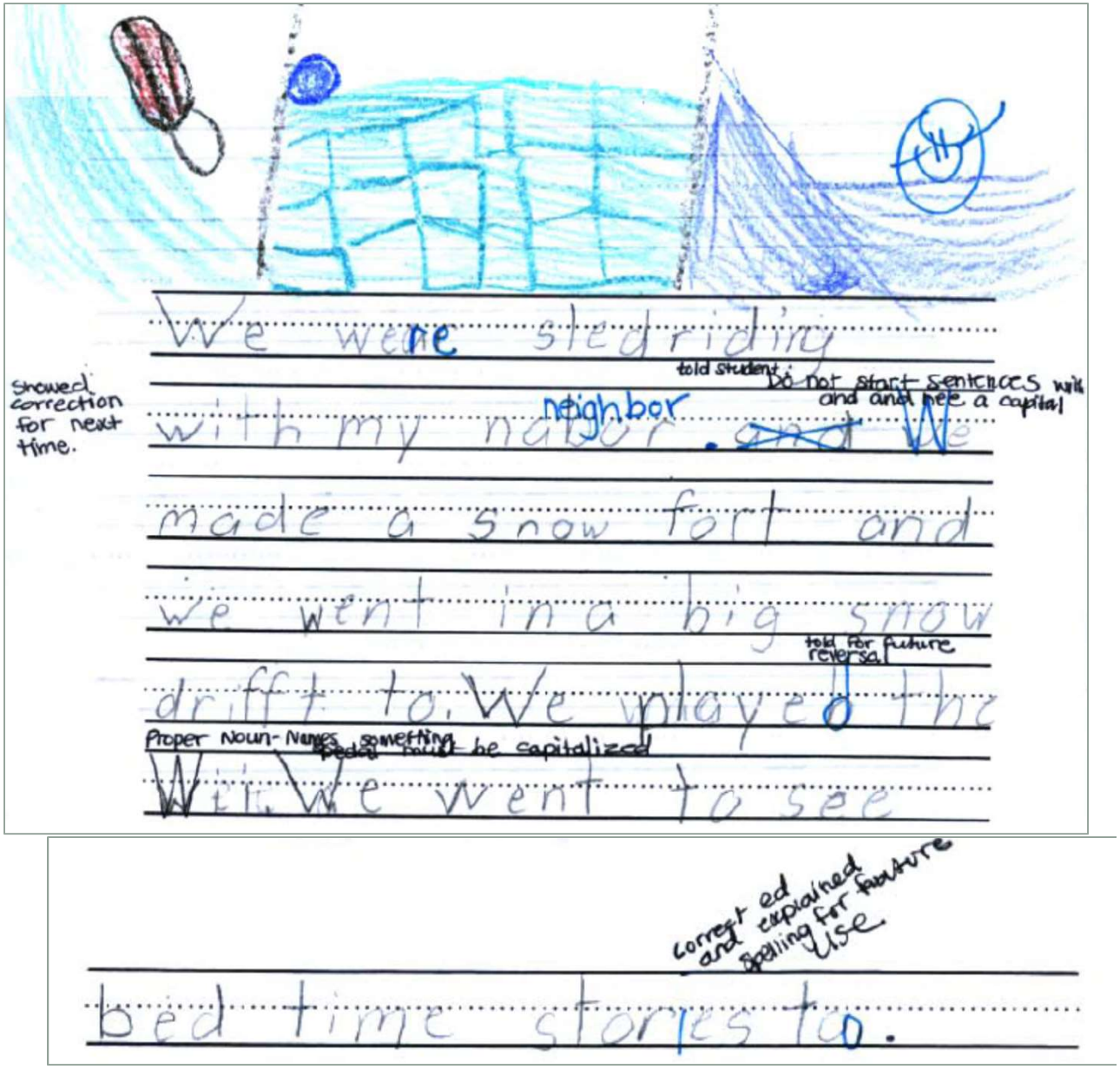
3. Why might some baby orangutans need to be cared for by humans? There parents were killed or left there alone.

Assessment Literate Teachers Know That Formative Assessment Must Be Based on Student Learning Intentions



Example

Grade 2 Language Arts
Small print feedback was oral, written feedback is blue.



Assessment Literacy Needs of Key Groups

- Local and state policymakers
- District administrators
- Building administrators
- Teachers
- Students and parents

Local and State Policymakers

DISPOSITIONS – *Policymakers should believe that*:

C. Assessments closer to the classroom usually have a greater impact on improving student achievement.

KNOWLEDGE – *Policymakers should know*:

I. There is little evidence to suggest that local, state, national and international summative assessments, in themselves, improve education or student learning.

J. Users of assessments require time to learn to administer assessments and use the results appropriately, and resources may be needed to carry out these activities.

PERFORMANCE – *Policymakers should*:

C. Strive to learn more about how assessment can be used to improve student achievement.

District Administrators

DISPOSITIONS – *District Administrators should believe that*:

C. Clear learning targets, understood by students, are necessary for learning and assessment.

KNOWLEDGE – *District Administrators should know*:

A. A balanced assessment system consists of both (different users, different purposes).

PERFORMANCE – *District Administrators should promote a culture of assessment practice by*:

B. Promoting assessment literacy with staff (through several means).

District Administrators should promote the use of assessment data by:

A. Developing learning progressions to implement the district-wide standards.

Building Administrators

DISPOSITIONS – *Building Administrators should believe that*:

G. Clear learning targets, understood by students, are necessary for learning and assessment.

KNOWLEDGE – *Building Administrators should know*:

C. The definitions and uses for different types of assessments.

E. The different types of assessment methods and when teachers should use each.

PERFORMANCE – *Building Administrators should promote a culture of assessment practice by*:

B. Providing time and support for staff to implement a balanced assessment system and opportunities to develop assessment skills.

Building Administrators should promote the use of assessment data by:

D. Leading dialogues with staff in interpreting results and creating goals for improvement.

Teachers

DISPOSITIONS – *Teachers should believe that*:

A. Clear learning targets, understood by students, are necessary for learning and assessment.

C. Effective feedback is critical to support learning.

KNOWLEDGE – *Teachers should know*:

E. The different types of assessment methods best matched to learning targets.

G. How to translate standards into clear learning targets that are written in student-friendly language and used as the basis for the everyday curriculum.

PERFORMANCE – *Teachers should be able to*:

D. Use learning progressions to guide instruction and assessment.

K. Support student use of assessment feedback to improve attitudes, aspirations, mindsets and achievement.

L. Use grading practices that result in grades that are accurate, consistent, meaningful and supportive of learning.

Students and Parents

DISPOSITIONS – *Students should believe that they*:

A. Learn best when they know the targets for their learning.

D. Are responsible for their own learning.

KNOWLEDGE – *Students should know*:

C. That different types of assessments provide different types of information about what they know and can do.

PERFORMANCE – *Students should know how to*:

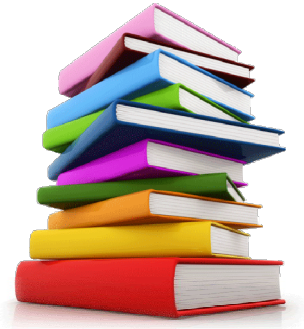
B. Use feedback to improve their learning.

E. Interpret and explain their assessment results to their teachers and their parents/guardians. (Secondary)

Many Key Assessment Learning Resources Exist

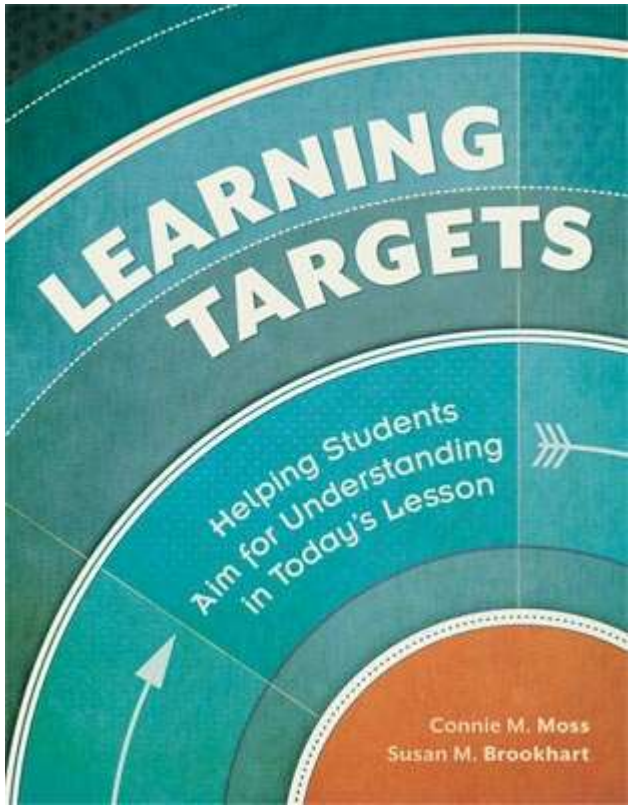
"Assessment Literacy Resources" (Brookhart, Dewsbury-White, & Roeber, 2016)

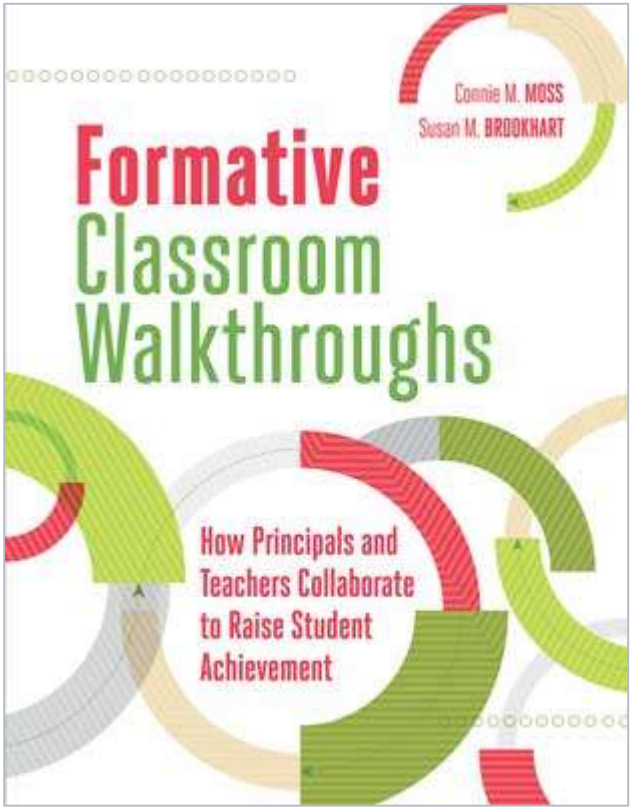
- Books
- Journal Articles
- Videos
- Websites



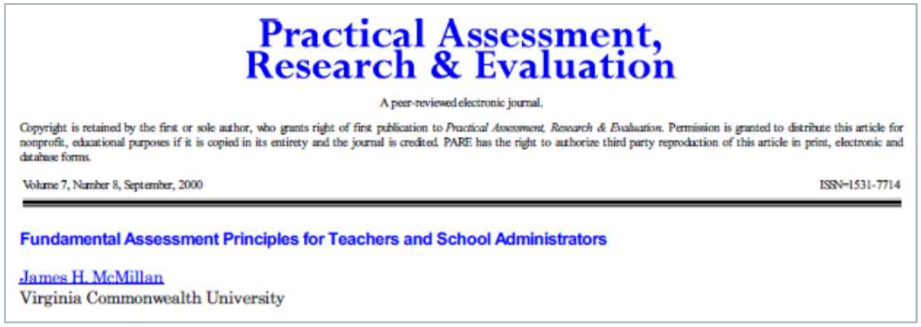
I'm going to highlight something in each category, and then we'll play a game called "Stump Sue." The purpose is to demonstrate that most of the resources required to develop assessment literacy exist. But they are not going to read or view themselves! What is needed is the will and skill to use these resources to improve assessment literacy.

Books


LEARNING TARGETS
Helping Students Aim for Understanding in Today's Lesson
Connie M. Moss
Susan M. Brookhart


Connie M. MOSS
Susan M. BROOKHART
Formative Classroom Walkthroughs
How Principals and Teachers Collaborate to Raise Student Achievement

Journal Articles



Practical Assessment, Research & Evaluation

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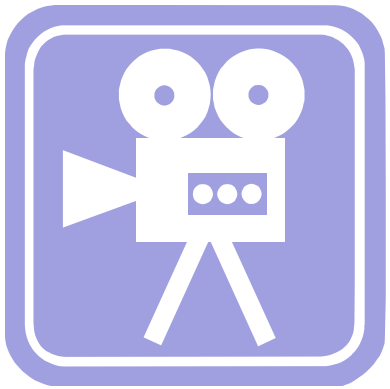
Fundamental Assessment Principles for Teachers and School Administrators

James H. McMillan
Virginia Commonwealth University

Fundamental Assessment Principles for Teachers and School Administrators

- Assessment is inherently a process of professional judgment.
- Assessment is based on separate but related principles of measurement evidence and evaluation.
- Assessment decision-making is influenced by a series of tensions.
- Assessment influences student motivation and learning.
- Assessment contains error.
- Good assessment enhances instruction.
- Good assessment is valid.
- Good assessment is fair and ethical.
- Good assessments use multiple methods.
- Good assessment is efficient and feasible.
- Good assessment appropriately incorporates technology.

Videos



- From the Expeditionary Learning channel on Vimeo
- Shows a 6th grade lesson on similes
- Illustrates how keeping a learning target alive in a lesson, and on students' minds, facilitates formative assessment

Websites

michiganassessmentconsortium.org

Stump Sue

On a sticky note or small piece of paper, write a question about assessment that a policymaker, administrator, teacher, student or parent might have (or that you have).

Sue will try to match the question with a resource in which the asker could find an answer.

Sue bets that at least 90% of the questions will be addressable with existing resources. That means we really can't blame lack of resources unless you can

Stump Sue!

Helping Michigan to Become the State of Assessment Literacy

- If it's really about **will** and **skill** to use available resources to improve assessment literacy…

- What are the next steps, to start now,
  - In your own role/role group in education?
  - As part of your school, district, or university?
  - As part of the MAC and/or ALN?
  - Other?