"Using Classroom Formative Assessment and Tasks to Improve Student Learning".

KSDE Pre-Conference
November 4, 2013

Presented by:
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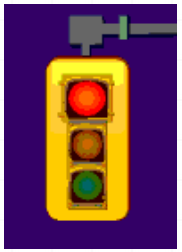
Melissa Fast

Traffic Light



Read the Formative Assessment Target Goals posted on the charts throughout the room.

- Place a **green** dot on the **left** side of the chart for any goals that you feel you have already mastered.
- Place a **yellow** dot on the **left** side of the chart for any goals that you know something about but have not yet mastered.
- Place a **red** dot on the **left** side of the chart for any goals that you have either never heard of or that you know virtually nothing about.

Session Target Goals

Participants will:

- ✓ articulate the differences between formative & summative assessment
- ✓ recognize the impact of effective formative assessment
- ✓ describe and provide examples of how to effectively use the five key strategies to quality assessment
- ✓ use three guiding questions to ensure that students are informed and involved in the assessment process

Affinity Diagram

Individually and Silently

- Consider the meaning of "assessment"
- Write one thought that comes to mind per sticky note *(You can have as many stick notes as you want)*

At your table

- Sort similar ideas into groups
- Record top five on chart paper
- Be prepared to share with the group

Why Do Teachers Assess?

- To set education goals and standards
- To evaluate teaching
- To provide instructional feedback to students
- To evaluate curriculum
- To identify student education needs
- To gather evidence of student learning
- To inform instruction
- To motivate students and increase student achievement


TIGER
I TAUGHT STRIPE HOW TO WHISTLE
I DON'T HEAR HIM WHISTLING
I SAID I TAUGHT HIM. I DIDN'T SAY HE LEARNED IT
BUD BLAKE

How We Assess Students:

1) **Formative:**

Assessment **for** Learning

2) **Summative:**

Assessment **of** Learning

Summative vs. Formative Assessment

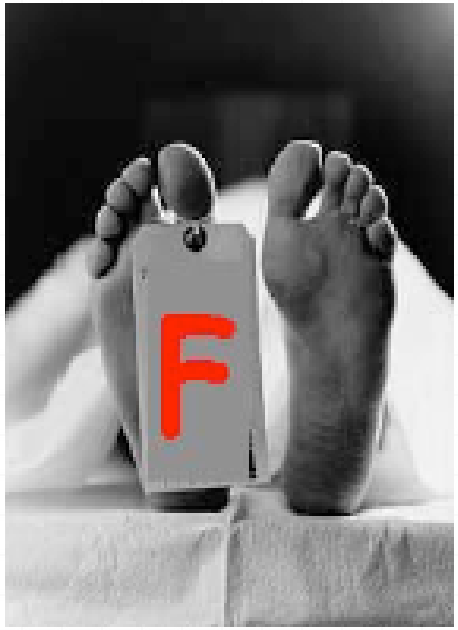
THE GARDEN ANALOGY

If we think of our children as plants …

Summative assessment of the plants is the process of simply measuring them. It might be interesting to compare and analyze measurements but, in themselves, these do not affect the growth of the plants.

Formative assessment on the other hand, is the equivalent of feeding and watering the plants appropriate to their needs - directly affecting their growth.

Autopsy vs. Physical Analogy



To often, our tests, grades, and report cards are treated as autopsies when we should view them as physicals.

Summative: Autopsy

Formative: Physical

Task: Assessment Sort

- Use the larger index cards to create the headings for two columns - one for “Formative Assessment” and one for “Summative Assessment”

- Sort the cards and place each one under the most appropriate heading in your chart

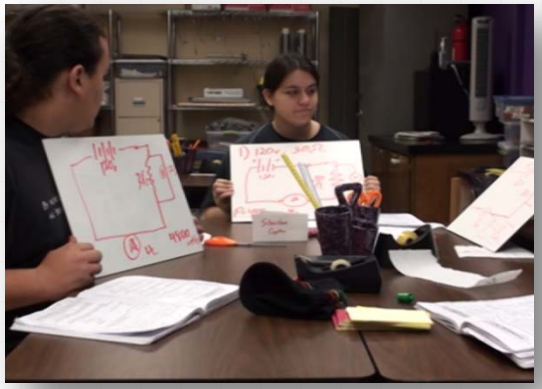
- Be prepared to share whole-group

Definitions

Summative Assessments:

Given periodically to determine at a particular point in time what students know and do not know.

Examples- State assessment, District benchmark assessments, End-of-unit/chapter tests, End-of-term/semester tests.



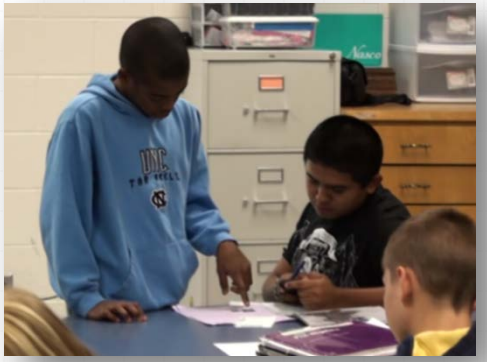
Formative Assessment:

Part of the instruction process. Informs both teachers and students about student understanding at a point when timely adjustments can be made.

Examples- Criteria and goal setting, Observations, Questioning Strategies, Self and peer assessment, Student record keeping. More to Come!

Some More Definitions

Formative Assessment



"… often means no more than that the assessment is carried out frequently and is planned at the same time as teaching."

(Black and William, 1999)

"… provides feedback which leads to students recognizing the (learning) gap and closing it … it is forward looking …"

(Harlen, 1998)

" … includes both feedback and self-monitoring." (Sadler, 1989)

"… is used essentially to circle back into the teaching and learning process." (Tunstall and Gipps, 1996)

Some More Definitions

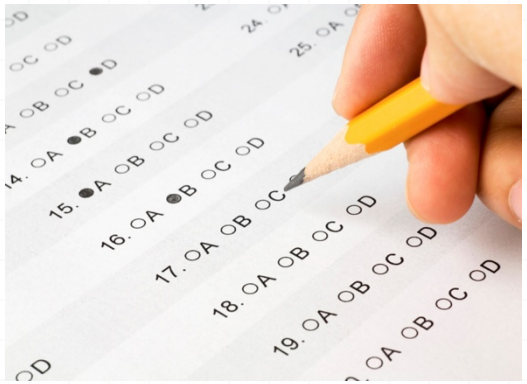
Summative Assessment

"… has increasingly been used to sum up learning" (Black and Wiliam,1999)

"… looks at past achievements"

"… adds procedures or tests to existing work"

"... involves only marking and feedback grades to student"



"… is separated from teaching"

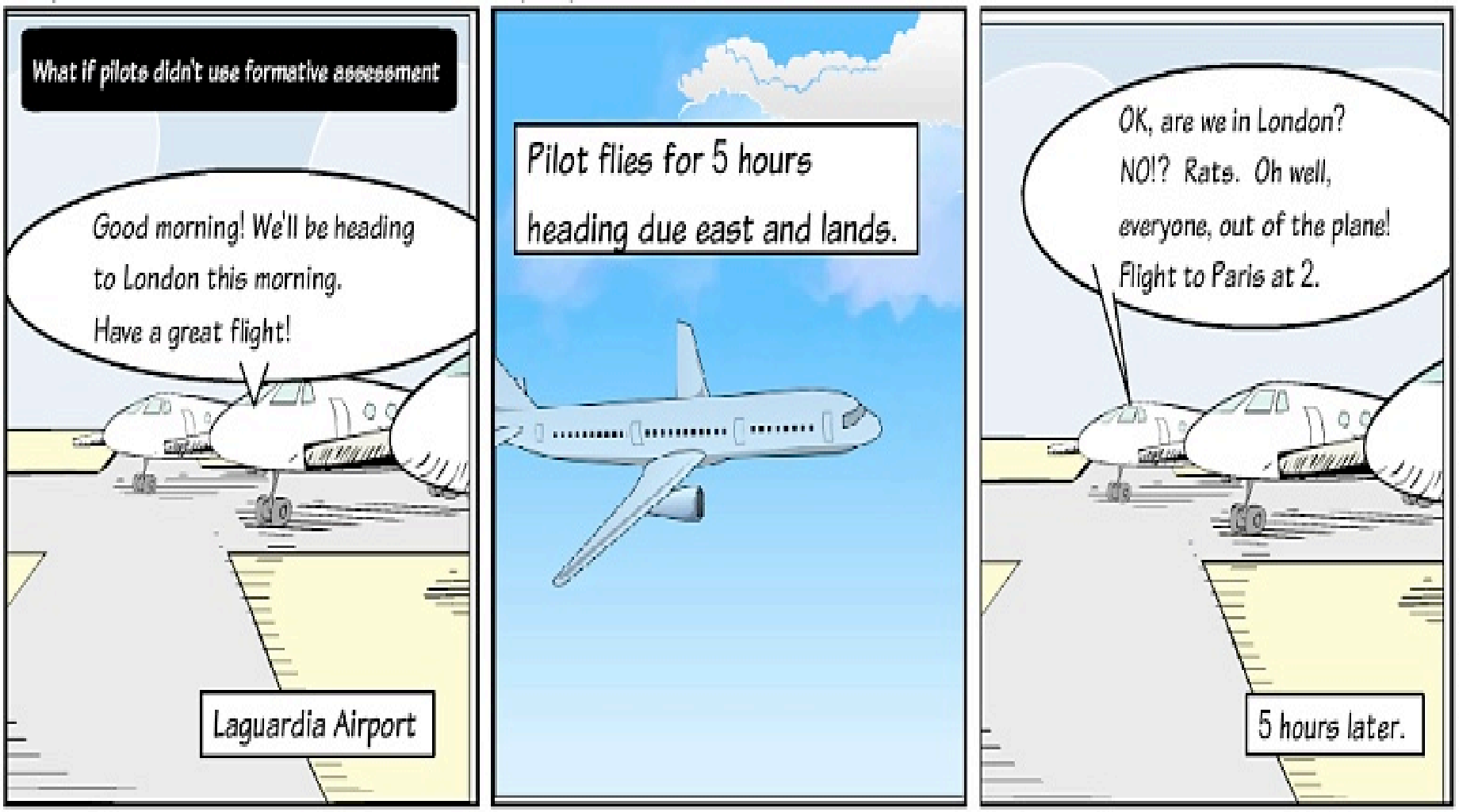
"… is carried out at intervals when achievement has to be summarized and reported." (Harlen,1998)

Assessment for Learning	Assessment of Learning
Teachers, students and parents are the primary users	Teachers, principals, supervisors, program planners, and policy makers are the primary users
During learning (Minute-by-Minute, Day-by-Day)	After learning
Used to provide information on what and how to improve achievement	Used to certify student competence
Used by teachers to identify and respond to student needs	Used to rank and sort students and by districts to analyze programs, curriculum, etc.
Purpose: improve learning	Purpose: document achievement of standards
Primary motivator: belief that success is achievable	Primary motivator: threat of punishment, promise of reward
Continuous	Periodic
Examples: peer assessment, using rubrics with students, descriptive feedback	Examples: final exams, placement tests, state assessments, unit tests

Why should we CONSIDER formative assessment? What is the research base?

FORMATIVE ASSESSMENT - BY LDUBERNARD

WWW.TOONDOO.COM



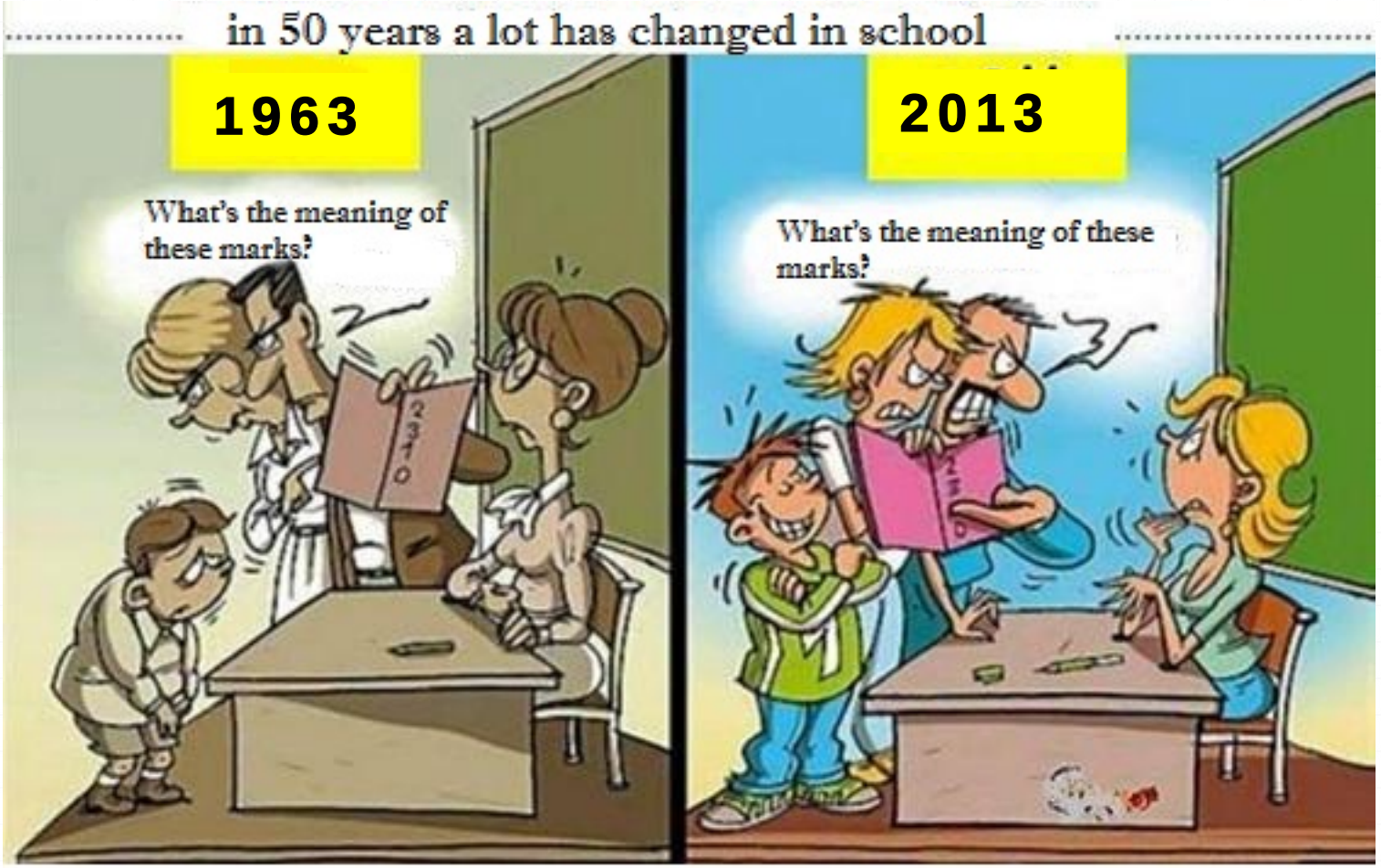
What the Research Says . . .

The National Mathematics Advisory Panel (2008) cited research that confirms effective formative assessment's positive impact on students' achievement :

"Formative assessment has been found to add the equivalence of two grades to students' achievement if done very well".

Assessments to guide what we do tomorrow……requires Shifts in our Thinking

-Black and William


in 50 years a lot has changed in school
1963
What's the meaning of these marks?
2013
What's the meaning of these marks?

Why These Shifts in Assessment?

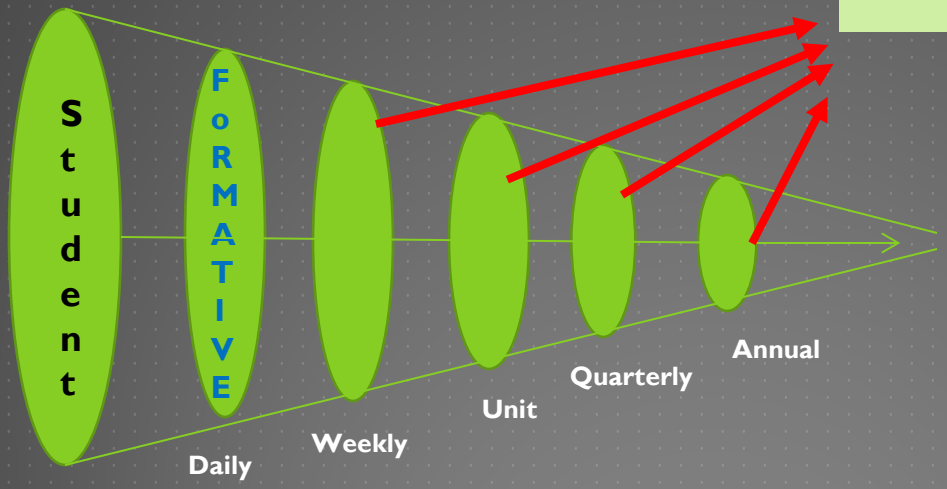
A change in the mission of schools:

- **A shift from a focus on sorting and ranking students to a focus on preparing students for college and career.** **(Kansas College and Career Ready Standards)**

A strong research base:

- **Evidence of the substantial impact on student achievement**

How Various Assessments Affect Students

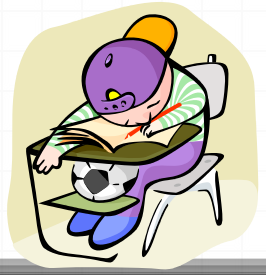


These do very little to influence students' learning because they do little to influence teachers' practice.

Margaret Heritage, Assessment and Accountability Comprehensive Center

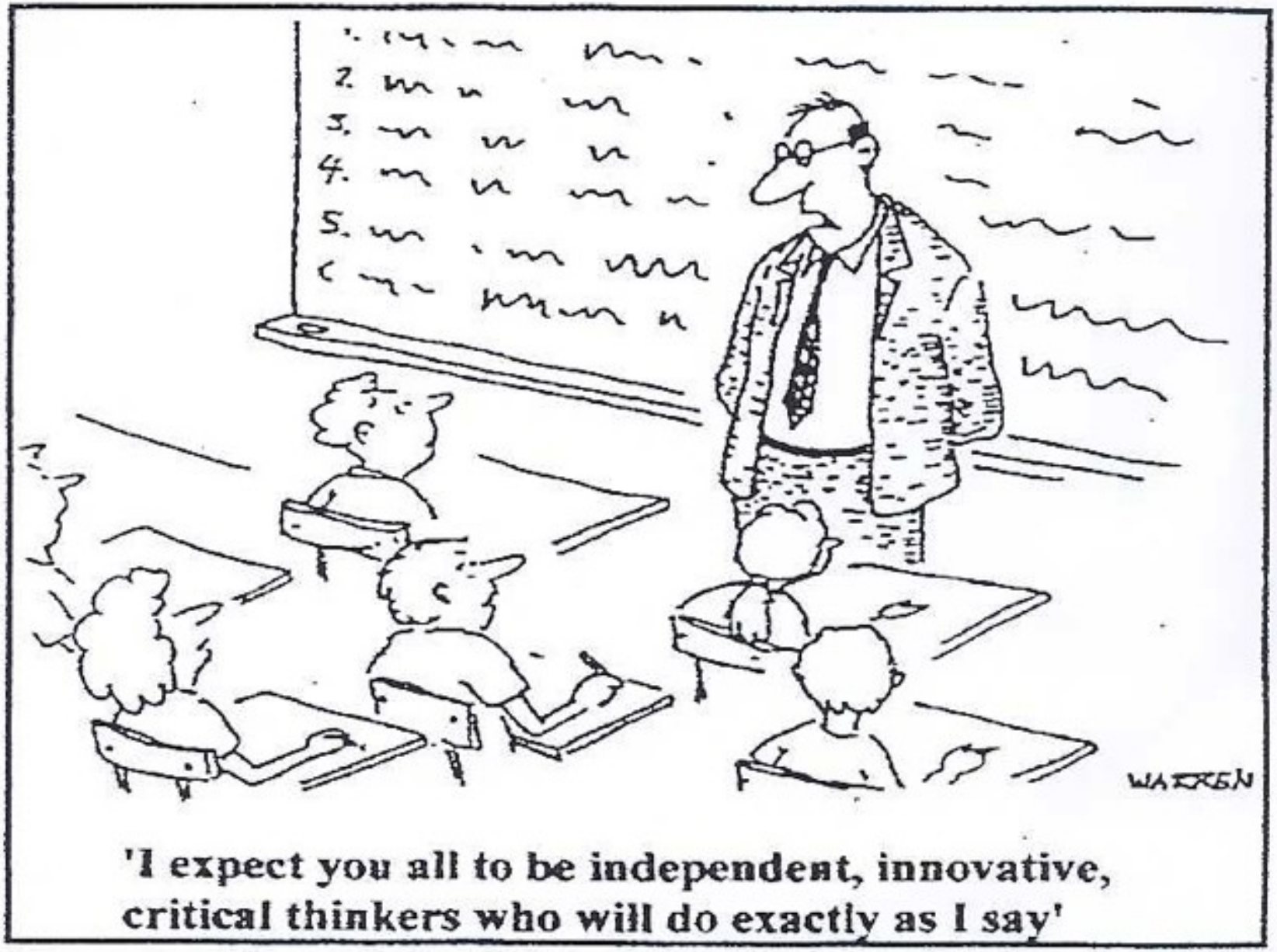
Shifts in Assessment

Assessing FOR learning must happen regularly and we must **shift the emphasis** from focusing on what the *teacher is doing* to what *understanding* the student is demonstrating.



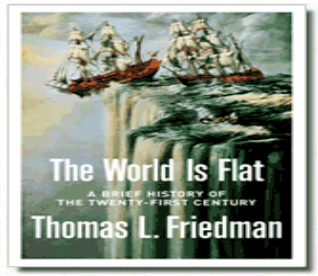
Change in Workplace Skill Demand in the United States (1969-1999)

Skill category	Change
Complex communication	+14%
Expert thinking and problem solving	+8%
Routine manual	-2%
Non-routine manual	-5%
Routine cognitive	-8%



'I expect you all to be independent, innovative, critical thinkers who will do exactly as I say'

COMMON CORE
STATE STANDARDS INITIATIVE
PREPARING AMERICA'S STUDENTS FOR COLLEGE & CAREER



21st Century Work Force Study

- **Employers rank these skills highest for jobs in the next five years**
  - Critical thinking, problem solving
  - Information Technology Application
  - Teamwork/Collaboration
  - Creativity/Innovation
  - Communication
  - Self-Direction
  - Social Responsibility

Talking point: How do we know if we are meeting these demands and getting them ready"?

Kansas College and Career Ready Standards-Connecting Data To Learning

Meeting the "Demands" of preparing ALL students to be career and college ready, means shifting from teacher centered to student centered in standards based education, the new method:

1. **What should my students know and be able to do? (curriculum)**
2. **How do I get them there? (instruction)**
3. **What if that doesn't work? (revised instruction and RtI/MTSS)**
4. **What if they already know this or may have trouble learning it? (differentiation)**
5. **How will I know they "got it"? (assessment)**

Cognitive Demand and Standards for Mathematical Practice

Bloom's Taxonomy Revised	Webb's Depth of Knowledge	Cognitive Demand in Mathematics	Standards for Mathematical Practice
Remembering	Level One Recall and Reproduction	Level One Memorize Facts, Definitions, & Formulas.	1. Make sense of problems and persevere in solving them. 2. Reason abstractly and quantitatively. 3. Construct viable arguments and critique the reasoning of others. 4. Model with mathematics 5. Use appropriate tools strategically. 6. Attend to precision. 7. Look for and make use of structure. 8. Look for and express regularity in repeated reasoning.
Understanding			
Applying		ng	
Analyzing			
Evaluating		ns,	
Creating		ns,	

- Critical thinking, problem solving
- Information Technology Application
- Teamwork/Collaboration
- Creativity/Innovation
- Complex Communication
- Self-Direction

"Using Classroom Formative Assessment and Tasks to Improve Student Learning" KSDE Pre-Conference, Melisa Hancock-KSU and Melissa Fast-KSDE.

Formative Assessment—Designed To Make Students' Thinking Visible

Teachers gather information from observing and listening to students explain their reasoning and then make informed instructional decisions that go beyond students' initial responses to explore their underlying reasoning.

Students may answer a question correctly, but without some aspect of formative assessment, a teacher may think that they understand the concept in question. However, asking students to explain what they were thinking when solving the problem oftentimes reveasl that they had appropriate procedural knowledge but not conceptual understanding and could not explain the mathematical ideas underlying the why or how the procedure or algorithm worked.

Standards for Mathematical Practice
1. Make sense of problems and persevere in solving them.
2. Reason abstractly and quantitatively.
3. Construct viable arguments and critique the reasoning of others.
4. Model with mathematics
5. Use appropriate tools strategically.
6. Attend to precision.
7. Look for and make use of structure.
8. Look for and express regularity in repeated reasoning.

Mathematically Proficient Students

EXAMPLES:

5th graders were asked to solve the problem below. Most of the students were able to get the correct answer. When asked how to divide fractions, most students stated "*you just flip the number and multiply*". When asked why, most of those same students replied, "*That's how you divide fractions*".

3 ÷ 1/3 = _____

- **How would you assess students' understanding of the mathematics involved in this process?**
- **What would you expect from students who UNDERSTAND?**

Effective Formative Assessment

Three processes central to effective formative assessment:

1. Establishing where the learners are in their learning
2. Establishing where they are going
3. Establishing how to get there

“Assessment is today’s means of understanding how to modify tomorrow’s instruction.” -Carol Tomlinson

IF THERE’S NOT A RECIPE FOR FUTURE ACTION— IT IS NOT FORMATIVE ASSESSMENT!

MY FAVORITE "NO": LEARNING FROM MISTAKES

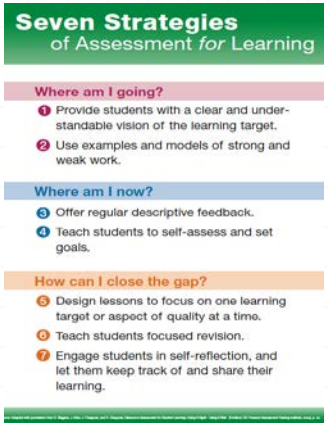
As you observe the video from Ms. Alcala's 8th grade mathematics class, think about the following questions:

1) **Is this an assessment FOR learning or OF learning?**
2) **How does this strategy allow for immediate re-teaching?**
4) **What criteria does Ms. Alcala use to pick her favorite no?**
5) **How does Ms. Alcala use assessment data to inform her teaching?**

https://www.teachingchannel.org/videos/class-warm-up-routine

The Formative Assessment Framework

How to Answer the Three Guiding Questions



Where am I going?

1. Provide a clear and understandable version of the learning targets.
2. Use examples of strong and weak work.

Where am I now?

3. Offer regular descriptive feedback.
4. Teach students to self-assess and set goals.

How can I close the gap?

5. Design lessons to focus on one aspect of quality at a time.
6. Teach students focused revision.
7. Engage students in self-reflection and let them document and share their learning.

"Key Strategies" for Effective Formative Assessment

1. **Clarifying, sharing, and understanding goals for learning and criteria for success with learners**

When teachers start from what it is they want students to know and design their instruction backward from that goal, then instruction is far more likely to be effective,

-Wiggins and McTighe

When students know what they are learning, their performance, on average, has been shown to be

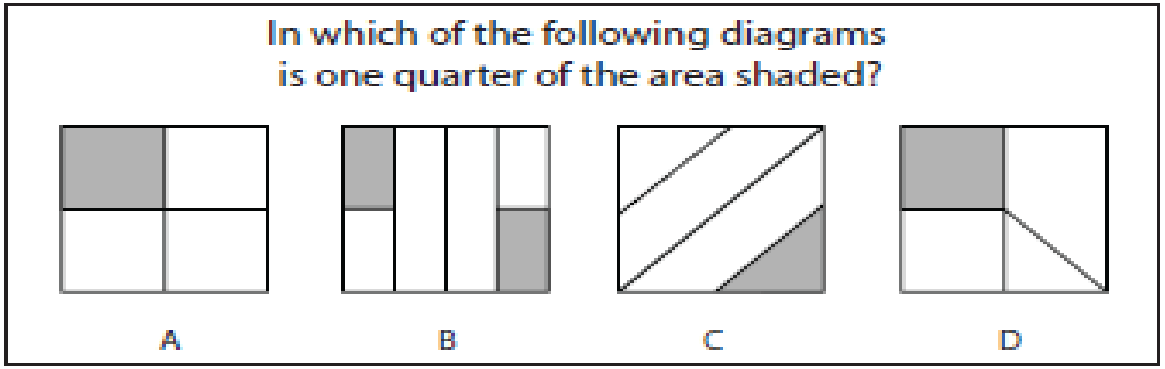
27 percentile points higher

than students who do not know what they are learning.

What are the learning targets?

Key Strategies for Effective Formatives:

2. **Engineering effective classroom discussions, questions, activities, and tasks that elicit evidence of students' learning.**



Standards for Mathematical Practice

- Make sense of problems and persevere in solving them.
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- Model with mathematics.
- Use appropriate tools strategically.
- Attend to precision.
- Look for and make use of structure.
- Look for and express regularity and repeated reasoning.

Key Strategies for Effective Formatives:

4. Activating students as owners of their own learning.

The most important point for teachers is that to maximize learning, the focus needs to be on personal growth rather than on a comparison with others.

Key Strategies for Effective Formatives:

5. Activating students as learning resources for one another.

Research shows that this strategy produces some of the largest gains in any educational interventions, provided 2 conditions are met:

1) *The learning environment must provide for group goals, so that students are working as a group instead of just working in a group,*
2) *There must be individual accountability—each student is responsible for his/her contributions to the group, there can be no "passengers".*

PART ONE 5E Lesson

Engage

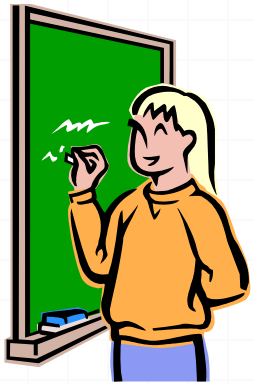
Tell me everything you know about_____ ?
Relevant Contextual Problems
KWL chart, Brainstorming, Concept map,
Questionnaire, Prediction

Explore

Make Sense of the Mathematics
"Think, pair, share"
Use Tools, Visual Representations

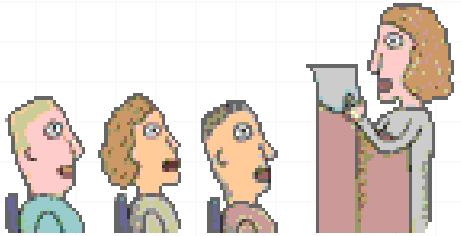
Explain

Explain Reasoning
Academic Vocabulary-Precision
Letter to the teacher
Justify/Prove/Defend Thinking

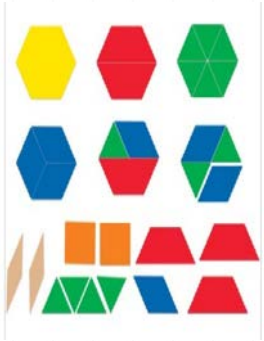


Math Task

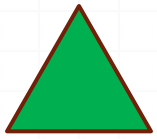
- Work in groups of 4
- Three people are 3rd grade students and will complete the activity.
- One person (the teacher) is responsible for assessing student learning.

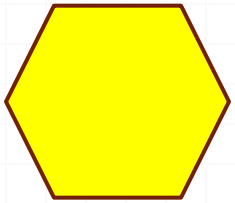


"What Do You Call The _____?"



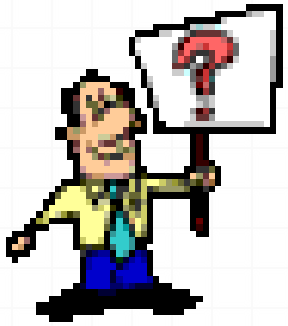
- Agree on the **purpose** and the **targets** - record them on chart paper.
- Get out your manipulatives/tools (Shape Set)
- Take a minute to plan your actions.
- Determine the relationships between the different "shapes" and record your responses.
- Record assessment feedback on chart paper sheet.





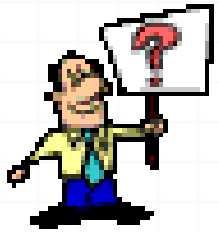
Teachers

- What do your students know?
- How did you find out what they know?
- What's your evidence?



Students

- What did you learn?
- How do you know?
- What feedback would you like from the teacher?



Round Robin Reporting

Demonstration

Feedback:
To be effective, feedback needs to cause thinking

Descriptive Feedback offers information about the work, product, or performance relative to the intended learning. *Effective* descriptive feedback has the following characteristics:

- Value neutral—avoids blame
- Focuses on intended learning
- Shows where the work is right or wrong and WHY
- Pinpoints strengths and identifies areas for improvement in terms of the intended learning
- Models the kind of thinking students will engage in when they self-assess
- Does not cause the learner to shut down—instead moves the learner forward

Evaluative Feedback sums up achievement and assigns a label. It expresses judgment.

- Grades: A, B, C, D, F
- Letters: P for proficient, D for developing, etc.
- Numbers: 4=exceeds standards, 3-meets standards, etc.
- Words: Excellent, Good, Fair, etc.
- Other symbols: smiley faces, stars, pluses, checks, minuses, etc.
- Written comments: good work, needs work, etc.
- We often assign evaluative feedback to all work, even that which is for practice. Not only is this not necessary, it is in many instances counterproductive.

Mark each example of descriptive feedback with a *D* and each example of evaluative feedback with an *E*. If you believe it is neither, mark it with an *X*.

1 _____ Good job!

2 _____ Sloppy work

3 _____ How did you reach that conclusion? Where's your data?

4 _____ Proficient

5 _____ ☺

6 _____ How can you use your picture to check the reasonableness of your answer?

7 _____ C-

8 _____ Excellent!

9 _____ You need to try harder next time. You can do it!

10 _____ Can you help me understand why you stated that you were dividing "60 into 75" and "60 into 70"?

11 _____ ✯

12 _____ You need to label the x-axis, include units with your label, choose an appropriate scale, show the points you plotted, and give the graph a title.

13 _____ 81%

Self Assessment Task

I did these really well:
1.
2.

I could have:
1.
2.

Next time I need to focus on:
1.
2.

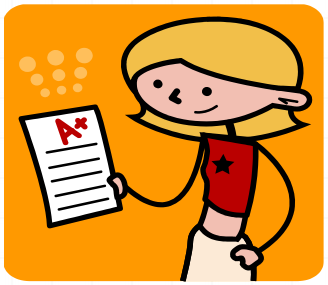
PART TWO 5Es

Elaborate / Extend

- **Application problems,**
- **Connect to the real world**
- **Depth opportunities/connect to other curriculum areas**

Evaluate

Poster, Comparison essay, Presentation, Quick-Writes, Exit Tickets, Self-evaluation, Constructed response (informal/formal)

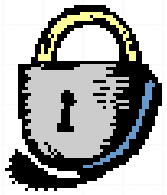


Questions To Ask Yourself Before Assessing

- Why am I assessing?
- What do I want my students to know?
- How will I find out if they know it?
- How will I communicate the results of my assessment?
- Who should be involved?

In Other Words …

- Clarify your purpose.
- Define your target goals.
- Design your plan - what tool(s) will I use to determine if students have met the goals?
- Provide explicit feedback to encourage learning and cause thinking
- Involve students in their own assessment.



The Formative Assessment Process

What It Is…	What It Isn't…
A planned process	Unplanned
Daily	One Time or Periodic Test
Based on assessment evidence of student understanding	Instructional Adjustments Based on Teachers' "feelings"
Using evidence to make instructional adjustments and/or verifying learning	Moving on regardless of student evidence
"Actionable" feedback for students	Grading

REFLECT: Are YOU Assessment Savvy?

- Skilled in gathering accurate information about students learning?
- Give feedback that causes thinking?
- Using it effectively to promote further learning?

Is It Or Isn't It Formative Assessment?

For each vignette, decide whether it is Formative or Summative and defend your choice by providing a brief rationale. Be ready to share with whole group.

Vignette 1: Thumps Up and Thumps Down
Vignette 2: Structured Pair-Work
Vignette 3: Collective Definitions of Success Criteria
Vignette 4: District-Developed Assessments
Vignette 5: Classroom Quizzes

Examples of Formatives in Action?

What data are YOU currently collecting?

Simple Formative	Complex Formative	Simple Summative	Complex Summative	Surveys	Pre-Assessment Data
No paper/pen Oral Checks for Understanding, Observations of Learning with Feedback	Post-Assessments, Exit Tickets, Quick Writes, etc.	Chapter Tests, Vocabulary Tests, Shorter Essays, Parts of Projects	Unit Tests, Cumulative Performance, Assessments, Normed or Standardized Tests	Interest Inventories, Class Climate Checks, Feedback on Lessons Taught, Self-Reporting Achievement	Diagnostic Affective or Cognitive Data
%	%	%	%	%	%

Here's What The Data Tells Us . . .

Simple Formative	Complex Formative	Simple Summative	Complex Summative	Surveys	Pre-Assessment Data
No paper/pen Oral Checks for Understanding, Observations of Learning with Feedback	Post-Assessments, Exit Tickets, Quick Writes, etc.	Chapter Tests, Vocabulary Tests, Shorter Essays, Parts of Projects	Unit Tests, Cumulative Performance, Assessments, Normed or Standardized Tests	Interest Inventories, Class Climate Checks, Feedback on Lessons Taught, Self-Reporting Achievement	Diagnostic Affective or Cognitive Data
Typical					
30%	**5%**	**45%**	**15%**	**2%**	**3%**

Balancing Assessment *for* and *of* Learning

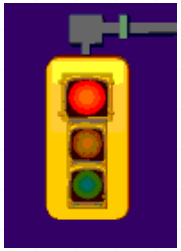
Simply Put:
Formative Classroom Assessment helps you make your *current* practice more intentional and effective!

Formative Assessment Strategies

(handout sites for more)

- Reasoning Inventory
- Task Analysis
- Demonstrations
- Exit / Admit Tickets
- Graphic Organizers
- "I Learned" Statements
- Journal Entry
- Summarizing
- 3-2-1
- Traffic Light
- Affinity Diagrams
- Learning/Response Logs
- Oral Presentations
- Peer Evaluations
- Problem Solving Activities
- Products
- Questioning
- Quick Writes
- Peer/Self-Evaluations
- Monitoring Group Work
- Visual Representations
- "Show Me" White Boards
- Think-Pair-Share

Traffic Light



- Read the Formative Assessment Target Goals posted on the easel sheets throughout the room.
- Place a **green** dot on the **right** side of the chart for any goals that you feel you have already mastered.
- Place a **yellow** dot on the **right** side of the chart for any goals that you know something about but have not yet mastered.
- Place a **red** dot on the **right** side of the chart for any goals that you have either never heard of or that you know virtually nothing about.

Some Final Thoughts . . .

Considerable enhancements in student achievement are possible when we use formative assessments (minute-by-minute and day-by-day), to adjust our instruction to meet students' learning needs.

Making such changes means much more than just adding a few routines to one's normal practice. It involves a change of focus from what the ***teaching is putting into the process*** to ***what the learner is getting out of it***.

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