Common Formative Assessments: The Key to Student Learning

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Facts

• Teachers are hard-working, dedicated individuals.
• Despite all of our hard work, we struggle to help all students learn at high levels.
• The work is never easy and becoming more difficult every year.

The Question

What is the most important work that will result in high levels of learning for all students?
“The most promising strategy for sustained, substantive school improvement is building the capacity of school personnel to function as a professional learning community.”

—Milbrey McLaughlin

In Fact...
There is now conclusive, compelling research stating that acting as a PLC is the most powerful and effective process to systemically change school culture and improve student learning.

Critical Questions

• What do we want students to know and be able to do?
• How will we know if they can?
• What will we do if they can’t?
• What will we do if they already can?
Today's Tasks

- Understand the role of common formative assessments in the learning process.
- Understand how a team moves from essential learner outcomes to formative assessment to interventions and enrichment.
- Understand the importance of student involvement in assessment.
- Determine the implications for classroom and team assessment practices.

You can enhance or destroy students’ desire to succeed in school more quickly and permanently through your use of assessment than with any other tools you have at your disposal.

—Rick Stiggins, Assessment Trainers Institute

Essential Question

How can we create and utilize common assessments that both monitor and promote student learning?
Big Idea

Teachers must know what students have learned in order to know what to do next.

Crucial Distinction

Assessment of Learning: How much have students learned as of a particular point in time?

Assessment for Learning: How can we use assessment to help students learn more?

So Why Do We Need Formative Assessments?

If We Examine the Research...
Inside the Black Box: Raising Standards Through Classroom Assessment
Paul Black & Dylan William, 1998
Black & Wiliam Questions
1. Does better formative assessment = higher test scores?
2. Does formative assessment need improving?
3. What improvement is needed?

Black & Wiliam Questions
1. Does better formative assessment = higher test scores?
   √ YES

Research Findings

<table>
<thead>
<tr>
<th>Study</th>
<th>S.D. Gains</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bloom (1984)</td>
<td>1.0 to 2.0 *</td>
</tr>
<tr>
<td>Black and Wiliam (1998)</td>
<td>.5 to 1.0**</td>
</tr>
<tr>
<td>Meisels, et al. (2003)</td>
<td>.7 to 1.5</td>
</tr>
<tr>
<td>Rodriguez (2004)</td>
<td>.5 to 1.8**</td>
</tr>
</tbody>
</table>

* Rivals one-on-one tutorial instruction
** Largest gains for low achievers

—Rick Stiggins (2005) Keynote Address
1.0 Standard Deviation Equals

- 30+ percentile points on ITBS
- (middle of score range)
- Four grade equivalents
- 100 SAT score points
- Six ACT score points
- U.S. TIMSS rank from 23rd to top five
- Potential elimination of score gaps

Unprecedented Achievement Gains

In Fact....

“When implemented well, formative assessment can effectively double the speed of student learning.”


Black & Wiliam Questions

2. Does formative assessment need improving?

√ YES
Black & Wiliam Questions

3. What improvement is needed?
   ✓ Accuracy
   ✓ Descriptive feedback
   ✓ Student involvement

Research Support

“Research suggests that, if done well, genuine ‘assessments for learning’ can produce among the largest achievement gains ever reported for educational interventions.”

Olson, “Just-In-Time Tests” Change What Classrooms Do Next. Education Week, (May 2, 2007), p.22

Formative Assessment

“In other words, formative assessment, effectively implemented, can do as much or more to improve student achievement than any of the most powerful instructional interventions (such as) intensive reading instruction, one-on-one tutoring and the like.”

Research consistently shows that regular, high-quality formative assessments increase student achievement.

An Assessment is Formative...

- If it is used to identify students who are experiencing difficulty in their learning.
- If students who are having difficulty are provided with additional time and support for learning.
- If students are given an additional opportunity to demonstrate their learning.

An Assessment is Formative...

- If it is used to identify students who have already learned the targets
- If students who have learned it are provided extra time for extensions to their learning
- If students are given an additional opportunity to demonstrate their extended learning
An Assessment is Formative...

If the students are involved in the entire process.

Formative assessment informs learning—it puts students in the drivers seat.

Formative Assessment is the partnership of teachers with their students

Teachers become more effective, students become actively engaged, and both become intentional learners.

Moss & Brookhart
Advancing Formative Assessment In Every Classroom
(2009) p.5

Best Practice

Teachers and administrators absolutely must be assessment literate.
Teacher Assessment Effectiveness

- Teacher at the 50%ile
- Teacher increase to 84%ile
- Teacher increase to 99%ile
- Student at the 50%ile
- Student increase to 63%ile
- Student increase to 78%ile

As the teacher becomes more skilled at using formative assessments, student achievement increases. Marzano 2006, p. 4

With a Partner, define....

- Test
- Evaluation
- Assessment

Traditional Instruction-Assessment Model

[Diagram showing Pretest, Teach, Teach, Teach, Posttest, Assign Grades]
Summative Assessment (Assessment OF Learning)

- Summative assessment is the attempt to summarize student learning at some point in time.
- Summative assessments are not designed to give feedback useful to teachers and students during the learning process.

---Fair Test Examiner (Winter 1999)

Formative Assessment (Assessment FOR Learning)

All those activities undertaken by teachers and by their students [that] provide information to be used as feedback to modify the teaching and learning activities in which they are engaged

---Black & Wiliam (1998)
Which is which?

It isn’t the method that determines whether the assessment is summative or formative, it is how the results are used.

Big Idea

A balanced system of assessments provides information for accurate teacher response as well as effective systematic team intervention.

The Model

Literate users rely on continuous assessment FOR learning, marked with periodic assessments OF learning, using a full range of assessment measures.
Achievement Gains Associated With Number of Assessments Over 15 Weeks

<table>
<thead>
<tr>
<th># of Assessments</th>
<th>Effect Size</th>
<th>Percentile Gain</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>1</td>
<td>0.34</td>
<td>13.5</td>
</tr>
<tr>
<td>5</td>
<td>0.53</td>
<td>20.0</td>
</tr>
<tr>
<td>10</td>
<td>0.60</td>
<td>22.5</td>
</tr>
<tr>
<td>15</td>
<td>0.66</td>
<td>24.5</td>
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<tr>
<td>20</td>
<td>0.71</td>
<td>26.0</td>
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<tr>
<td>25</td>
<td>0.78</td>
<td>28.5</td>
</tr>
<tr>
<td>30</td>
<td>0.82</td>
<td>29.0</td>
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</table>


Formative Assessments In Action

- Tests
- Quizzes
- Homework
- Personal communication
- Grading
- Observation
- Projects

Less Assessments – More Data Points
What are the benefits of creating and administering assessments as a team?

What Are Common Assessments?
Not standardized tests, but rather teacher-created, teacher-owned assessments that are collaboratively scored and that provide immediate feedback to students and teachers.

—Douglas Reeves, CEO and Founder, The Leadership and Learning Center

Common Assessment
Any assessment given by two or more teachers with the intention of collaboratively examining the results for:

• Shared learning
• Instructional planning for individual students and/or
• Curriculum, instruction, and/or assessment modifications
Why Common Assessments?

Team-developed common assessments
- Are more efficient.
- Promote equity.
- Monitor and improve student learning.
- Inform and improve the practice of individual teachers and teams of teachers.
- Build team capacity to achieve at higher levels.
- Are essential to systematic interventions when students do not learn.

(DuFour, DuFour, & Eaker, 2008)

Why Common Assessments?

Team-developed common assessments
- Increase accuracy and reliability.
- Promote continued development of assessment literacy for teachers.
- Increase collective efficacy.

(Guskey, 2009)

But What If I Stand Alone?

Specialists • Single Courses • Varied Curriculum Within a Department
Three options

Whole-school effort
e.g., writing

↑ ↔
Vertical or horizontal alignment

Cross buildings or districts
Power of Formative Assessments

Educators collectively become more skilled and focused at assessing, disaggregating, and using student achievement as a tool for ongoing improvement.

Michael Fullan 2005, p. 71

Linking Formative and Common Assessments

Two strategies seem especially promising for schools. One is to expand the quality and variety of formative assessments; a second is to promote and organize collective inquiry into and discussion of student progress and achievement based on a range of assessments.

Judith Warren Little, 2006, p. 9

Common Assessments: The Key to Student and Teacher Learning

To the extent that teachers work together in teams to:
- Analyze, understand and deconstruct standards
- Transform standards into high quality classroom assessments
- Share and interpret the results together
they benefit from the union of their wisdom about how to help students continue to grow as learners.

Rick Stiggins 2005, p. 82
How does a team use essential outcomes to create common assessments?

What Comes Next?

• Clarify essential outcomes and agree on what they mean with team members.
• Understand embedded learning targets.
• Agree on the depth of knowledge that students need.
• Set the foundation for knowing what to assess and do next with students.

Deconstructing Essential Outcomes Into Targets
Deconstructing

• The purpose of this process is to clarify for all what the essential outcome means.

• Teacher teams should agree on which targets are included in the outcome and what proficiency looks like.

What Are Learning Targets?

• A learning target is any achievement expectation for students on the path toward mastering an essential outcome.

• It clearly states what we want the students to learn and should be understood by teachers and students.

• Learning targets should be formatively assessed to monitor progress toward an essential outcome.

Essential Outcomes and Targets

(Wiggins & McTighe, 2000)
Achievement Targets

- Knowledge
- Reasoning
- Performance skills
- Products

(Stiggins, 2005b)

Knowledge Targets

Students know and understand concepts and facts. Students can find information they need.

Key words: explain, understand, describe, identify, define

Reasoning Targets

The student uses knowledge to solve a problem or make a decision or plan.

Key words: compare, contrast, analyze, synthesize, classify, infer, deduce, evaluate
Skill Targets
The student demonstrates that she knows the process to complete a skill.

**Key words:** observe, listen, perform, do, use, question, conduct, speak

Product Targets
The student uses knowledge, reasoning, and skills to produce a final quality product.

**Key words:** design, produce, create, develop, make

Types of Achievement Targets

- Review types of achievement targets on page 26.
- Work with a partner to find an achievement target for each type using sample essential outcomes on page 27.
**Which Is Which?**

Verbs help identify the type of target to be assessed.

<table>
<thead>
<tr>
<th>Knowledge</th>
<th>Reasoning</th>
<th>Performance Skill</th>
<th>Product</th>
</tr>
</thead>
<tbody>
<tr>
<td>know</td>
<td>list</td>
<td>name</td>
<td>identify</td>
</tr>
</tbody>
</table>

(Stiggins et al., 2004; Anderson et al., 2001)

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**Depth of Knowledge**

It’s more than the verb.

What are the levels of thinking that a student must engage in to understand this essential outcome?
Deconstructing Essential Outcomes

- Determine essential outcome type.
  - Knowledge, reasoning, skill, or product

- Identify its underpinning learning targets.

<table>
<thead>
<tr>
<th>Standard Type</th>
<th>Underpinning Learning Targets</th>
</tr>
</thead>
<tbody>
<tr>
<td>Product</td>
<td>Product + S + R + K</td>
</tr>
<tr>
<td>Skill</td>
<td>Skill + R + K</td>
</tr>
<tr>
<td>Reasoning</td>
<td>Reasoning + K</td>
</tr>
<tr>
<td>Knowledge</td>
<td>Knowledge</td>
</tr>
</tbody>
</table>

Essential Outcome: Construct a horizontal bar, vertical bar, pictograph, or tally chart with appropriate labels and title from organized data.

Type: ☐ Product ☐ Skill ☐ Reasoning ☐ Knowledge

<table>
<thead>
<tr>
<th>Learning Targets</th>
</tr>
</thead>
<tbody>
<tr>
<td>Construct a graph from tables of data.</td>
</tr>
</tbody>
</table>

Knowledge Targets:

- What is a bar graph? Horizontal? Vertical? Pictograph?
**Essential Outcome:** Make inferences in informational text.

**Type:**  
- Product  
- Skill  
- Reasoning  
- Knowledge

**Learning Targets**  
What are the knowledge, reasoning, skill, or product targets underpinning the standard or benchmark?

<table>
<thead>
<tr>
<th>Product Targets</th>
<th>Skill Targets</th>
<th>Reasoning Targets</th>
<th>Knowledge Targets</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Analyze text to identify evidence that leads to a conclusion regarding a situation or issue.</td>
<td>Explain what it means to infer. Recognize inference in simples. Understand how good readers use strategies.</td>
</tr>
</tbody>
</table>

**Misconception Alert!**

“When you are deconstructing an essential outcome, you are analyzing what the student should know and do, not how you are going to assess it.”

—Stiggins, Arter, Chappuis, & Chappuis, 2004

Teams are clarifying PLC Question 1.

**Why Deconstruct?**

- Clarify what the standard means.
- Identify underpinning learning targets to be assessed.
- Determine what method of assessment is most appropriate.
- Map an assessment plan.
Assessment is an instructional tool.
It’s About Evidence-Based Decision Making.

Formative assessment represents evidence-based instructional decision making. If you want your students to achieve more, then formative assessment should be for you.

(Popham, 2008, p. 15)

To inform and impact professional practice, ensure all teachers receive timely and frequent information on their students’ achievement

• in meeting an agreed-upon standard
  • on a valid assessment*
  • in comparison to others.

*(Popham, Educational Assessment: Need an accurate interpretation, not an accurate test.)

Use Data to Know What to Do Next.

• Plan a differentiated lesson the next day based on assessment results.

• Students requiring more time and support should be retaught using an instructional strategy different from the first strategy used.

• Students who learned it initially might need additional practice or extension activities.
More of the same is usually not the best intervention. Think new and comprehensive!

Consider

- Graphic organizers (metaphors and analogies)
- Using manipulatives
- Reciprocal teaching
- Summarizing, notetaking
- Vocabulary instruction

Making “Correctives” Work

- Use a different strategy than the classroom teacher used.
- Work with individuals or small groups who have the same identified problem.
- Assess after you have retaught to see if they understand it.
The Formative Assessment Process is Lightning in a Bottle!

- It costs nothing.
- It works in every classroom, grade level, and subject area.
- It works each minute of every school day.
- It increases learning for all students.
- It raises teacher quality.
- It forges learning partnerships between students and teachers.

(Moss & Brookhart, 2009, p. 23)

An Assessment is NOT Formative Unless Students are Engaged in the Process

So how do we engage the Wii GENERATION?

Essential Questions

Can we use the assessment process to help our students want to learn?

When was the last time you gave an assessment students did not want to miss?
The Wii Generation
(X Box, Play Station, DSi…)

Compare video games to more traditional games.
How are they different?
How does this impact the way students think?

Efficacy

Knowing that I have the capacity to make a difference through my work and being willing to take the responsibility to do so

—Costa & Garmston, Cognitive Coaching, 1997

Formative Assessment
Largest Gains in Achievement
According to the Research...

• Increased Student Involvement

• Increased Descriptive Feedback
Ken O’Conner (2002)

Assessment is not something that is done to students separate and apart from instruction; assessment must be - and must be seen to be - something that is done with students as an integral part of the learning process.

Student Involvement
Guiding Questions

- Where am I going?
- Where am I now?
- How can I close the gap?

—Sadler, 1989

Where am I going?
Student Involvement Alert!
“Students can hit any target that they can see and holds still for them.”
—Stiggins, Arter, Chappuis, & Chappuis, 2004, p. 57

With Clear Targets, Students Can...
• Understand what they know and don’t know and their level of achievement.
• Plan next steps in their learning.
• Fix their work.
• Self-assess and set goals.
• Keep track of their learning target by target or standard by standard.

What does it mean to share learning targets and criteria for success?
• Telling students or writing it on the board is not enough!
• Students need to envision the learning target.
• Students must understand the target and know what good work looks like.
Four Strategies for Sharing Targets

• Questioning
• Planning and envisioning
• Using examples
• Using rubrics

Student Friendly Targets

Target:
Students will begin a paragraph with a topic sentence.

Student Friendly Target:
I can begin my paragraph with a topic sentence. This means the first sentence of my paragraph will let the reader know what I will be writing about.

Largest Effects According to Research

• Increased student involvement
• Increased descriptive feedback

(Black & Wiliam, 1998)
What do I need to do next?

Student Feedback

- Is based on learning targets they understand
- Is frequent and describes strengths and next steps
- Emphasizes what they already know
- Limits corrective feedback to what they can absorb at a given time
  —Chappuis, Stiggins, Arter, & Chappuis, 2005

Research Results for Feedback

- Bloom (1976) 43 percentile gain
- Kumar (1991) 41 percentile gain
- Walberg (1999) 33 percentile gain
- Haas (2005) 21 percentile gain

Synthesis studies all showed gains in achievement with feedback.

(Marzano, 2007, p. 12)
The Research

- Page (1958): Students who receive descriptive feedback rather than grades will achieve higher.
- Stewart and White (1976): Evaluative feedback does not increase student achievement.

Feedback Content

- **Focus**: Comment on the work and the process, not the student!
- **Compare**: Use criterion-referenced feedback comparing student work and process to a rubric or exemplar. Use self-referenced feedback for unsuccessful students who need to see their progress.

  (Brookhart, 2008)

- **Function**: Describe, don’t judge.
- **Valence**: Use positive comments for work done well. When using negative comments, add suggestions for improvement.
- **Clarity**: Use appropriate vocabulary and consider the student’s level.
- **Specificity**: Make it specific enough that they know what to do next but not so specific you’ve done the work for them!
Our Goal

Students who are:
• Informed about their learning
• Analytical regarding their learning
• Actively involved in their learning
• Personally invested in their learning

Student Involvement
Guiding Questions

- Where am I going?
- Where am I now?
- How can I close the gap?

(Sadler, 1989)

Think-Pair-Share

- Individually read the explanation in the handout for each of the seven strategies and identify which of Sadler’s three questions each is designed to answer.
- Pair up and share your answers.
Assessment for Learning Strategies

• Provide an understandable vision of the learning target.
• Use models of strong and weak work.
• Offer regular descriptive feedback.
• Teach students to self-assess and set goals for learning.
• Design lessons to focus on one aspect of quality at a time.
• Teach students focused revision.
• Engage students in self-reflection. Let them keep track of and share what they know.

Research on Goal Setting

• Wise & Okey (1983) 41 percentile gain
• Lipsey & Wilson (1993) 21 percentile gain
• Walberg (1999) 16 percentile gain

(Marzano, 2007, p. 11)

You Be George

Student involvement in assessment for learning
Self-reflection and goal setting
You Be George

- The process
- Learning targets
- Strengths and areas for improvement
- Strengths, review, and further study
- Goal setting

Learning Targets

Elementary

Secondary

Strengths and Areas for Improvement

Elementary

Secondary
Strengths, Review, and Further Study

Elementary  Secondary

Student Goal Setting

Elementary  Secondary

Student Involvement

Achievement improves when students are required to think about their learning, articulate what they understand, and identify what they still need to learn.

(Black & Wiliam, 1998; Sternberg, 1996)
Real Student Involvement

- Students name their learning targets.
- Students manage their materials and data, tracking their progress.
- Students set goals and learning plans or activities for themselves as learners.
- Students self-assess and self-evaluate their work. They have peers evaluate their work.
- Students reflect on what they have learned.
- Students generate possible test items.
- Students participate in rubric development.
- Students engage in meaningful dialogue.
- Students support each other in addressing gaps.

Smarty Pants Folder

Student record keeping by kindergartners (data folder)

- Students check off letters and concepts they know.
- Students create a bar graph of what they already know.

“Oh, I see that you want me to get better!”

Secondary Student Teams

- Students assist each other in filling learning gaps.
- First intervention is textbook, notes, homework, reference books, and your team.
- Students retake assessments until they meet the established criteria.
Student-Involved Communication

Student-led conferences
• Greater sense of responsibility
• Pride in accomplishment

Result? Greater achievement!

Teaching students how to learn, instead of merely what to learn, is valuable work that is worth doing.

Putting It All Together

<table>
<thead>
<tr>
<th>Links</th>
<th>Sadler: Student-Involved Learning Questions</th>
<th>DuFour, DuFour, &amp; Eaker: PLCs Questions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Target</td>
<td>Where am I going?</td>
<td>1. What is it we want kids to learn?</td>
</tr>
<tr>
<td>Measurement</td>
<td>Where am I now?</td>
<td>2. How will we know when they’ve learned it?</td>
</tr>
<tr>
<td>Strategies</td>
<td>How can I close the gap?</td>
<td>3. What will we do when they don’t learn it?</td>
</tr>
<tr>
<td>Advanced target and strategies</td>
<td>Where am I going?</td>
<td>4. What will we do when they have already learned it?</td>
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