Developing Common Formative Assessments to Engage Students in Their Learning

(Slides)

Dennis King
Developing Common Formative Assessments to Engage Students in Their Learning

Assessment in a PLC Culture

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Today’s Targets

• Identify the work of highly effective teams.
• Unpack a common core standard or essential learning into learning targets.
• Explore strategies to involve students in the assessment process.
• Review examples of assessment maps.

Rick Wormeli

• What is the purpose of summative and formative assessment?
• What makes the two assessment types different?
• Why is feedback important?
• What goes unlearned because the teacher did not apply formative assessment practices?
The Work of Teams

Four Critical Questions
1. What do we want our students to learn?
2. How will we know when they have learned it?
3. How will we respond when some students don’t learn?
4. How will we respond when students already know it?

Products and Resources

<table>
<thead>
<tr>
<th>Products</th>
<th>Resources</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>1.</td>
</tr>
<tr>
<td>2.</td>
<td>2.</td>
</tr>
<tr>
<td>3.</td>
<td>3.</td>
</tr>
<tr>
<td>4.</td>
<td>4</td>
</tr>
</tbody>
</table>
Strong vs. Weak Assessment

• Sarah’s Assessment Journey
  • Is this an assessment example?
  • What type of assessment did Sarah demonstrate?
  • Strengths and weaknesses

• The History Lesson
  • Is this an example of assessment?
  • What type of assessment did the students illustrate?
  • Strengths and weaknesses

Assessment: Two Purposes

<table>
<thead>
<tr>
<th>Assessment of Learning</th>
<th>Assessment for Learning</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strives to document student achievement</td>
<td>Strives to increase student achievement</td>
</tr>
<tr>
<td>Diagnoses a program’s strengths and weaknesses by providing comparable results</td>
<td>Diagnoses a student’s strengths and weaknesses by providing results that are unique to individual students</td>
</tr>
<tr>
<td>Provides summative results at the end of a unit or course of study</td>
<td>Provides data throughout a unit or course of study that allows tailoring of instruction and motivation for improvement</td>
</tr>
<tr>
<td>Informs others (teachers, parents, administrators, community members) about students and their achievement</td>
<td>Informs students about themselves and helps them learn how to take charge of their own progress</td>
</tr>
<tr>
<td>Assumes the teacher’s role is to gauge student success</td>
<td>Assumes the teacher’s role is to promote student success</td>
</tr>
<tr>
<td>Reflects the standards themselves</td>
<td>Reflects the knowledge, skills, and understandings that underpin standards</td>
</tr>
</tbody>
</table>

Adapted from Stiggins, “Assessment Crisis: The Absence of Assessment for Learning,” Phi Delta Kappan (June 2002)

Which Is Which?

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

How can we use assessment to help the student believe that the target is within reach?

Research consistently shows that use of regular, high-quality **formative assessments** increases student achievement.

### Research on Effects

<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 William (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
1.0 Standard Deviation Equals

- 35 percentile points
- 2–4 grade equivalents
- 100 SAT score points
- 5 ACT composite score points
- U.S. TIMSS scores from 22nd of 41 nations to the top 5

Achievement Gains Associated With Number of Formative Assessments Over 15 weeks

<table>
<thead>
<tr>
<th>Number 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>
</tr>
<tr>
<td>20</td>
<td>0.71</td>
<td>26.0</td>
</tr>
<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>
</tr>
</tbody>
</table>


Assessment Continuum

<table>
<thead>
<tr>
<th>Classroom Assessments</th>
<th>Common Assessments</th>
<th>District Level Assessments</th>
<th>External Assessments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Most Formative</td>
<td>More Formative</td>
<td>More Summative</td>
<td>Most Summative</td>
</tr>
<tr>
<td>Daily</td>
<td>Weekly</td>
<td>Unit</td>
<td>Monthly</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Semester</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Annual</td>
</tr>
</tbody>
</table>
Key points:
• How does this activity resemble what students experience everyday?
• What challenges did you face?
• What would produce increased results?

Learning and Achievement Targets

Statements of what we want students to learn and be able to do

What Are Learning Targets?

A learning target is any achievement expectation we have for students on the path toward mastery of a standard.

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 a standard.
Identifying Learning Targets for Essential Outcomes

• Knowledge
• Reasoning
• Performance skill
• Product

Deconstructing a Standard

• First, CIRCLE all skills or verbs—what students must do.
• Second, UNDERLINE anything that requires direct instruction, key concepts (nouns or noun phrases)—what students must know.
• Third, STAR any performance skills (intentionally watch and listen for it).
• Fourth, BOX any components that need to be part of the final product.

3.MD.8
Grade 3, Measurement and Data, 8th Standard Common Core

Solve real world and mathematical problems involving perimeters of polygons, including finding the perimeter given the side lengths, finding an unknown side length, and exhibiting rectangles with the same perimeter and different areas or with the same area and different perimeters.
3.MD.8

Solve real world and mathematical problems involving perimeters of polygons, including finding the perimeter given the side lengths, finding an unknown side length, and exhibiting rectangles with the same perimeter and different areas or with the same area and different perimeters.

List Content and Skills

<table>
<thead>
<tr>
<th>Content (Nouns)</th>
<th>Skills (Verbs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Real world problems</td>
<td>• Solve real world problems.</td>
</tr>
<tr>
<td>• Mathematical problems</td>
<td>• Solve mathematical problems.</td>
</tr>
<tr>
<td>• Perimeter</td>
<td>• Calculate perimeters of polygons.</td>
</tr>
<tr>
<td>• Perimeter given side lengths</td>
<td>• Calculate perimeters given side lengths.</td>
</tr>
<tr>
<td>• Perimeter with an unknown side length</td>
<td>• Calculate perimeters with an unknown side length.</td>
</tr>
<tr>
<td>• Rectangle</td>
<td>• Draw rectangles with the same perimeter and different areas.</td>
</tr>
<tr>
<td>• Rectangles with same perimeter and different areas</td>
<td>• Draw rectangles with the same area and different perimeters.</td>
</tr>
</tbody>
</table>

Types of Learning Targets

• Knowledge and simple understanding
• Reasoning and complex understanding
• Skill
• Product
Knowledge and Simple Understanding Learning Target

- Mastery of substantive subject content where mastery includes knowing it, understanding it, and knowing how to find it
- Mastery of facts and information through recall
- Simple understanding
- **Words used**: explain, understand, describe, identify, recognize

Knowledge

**Master factual and procedural knowledge, to be learned outright or retrieved:**
- Recognizes and describes patterns
- Understands long-term physiological benefits of regular participation in physical activity.
- Explains the important characteristics of U.S. citizenship
- Knows that energy can be transformed between various forms

Deep Understanding and Reasoning

**Use knowledge to reason and solve problems:**
- Uses statistical methods to describe, analyze, evaluate, and make decisions
- Analyzes fitness assessments to set personal fitness goals; strategizes ways to reach goals; evaluates activities
- Examines data and results; proposes meaningful interpretation
Skill Learning Target

- It is the development of proficiency where the process is important.
- It is something the student demonstrates—something that is done.
- It involves a behavior in which the knowledge, understanding, and reasoning are used overtly.

Examples: Playing a musical instrument, reading aloud, speaking in a second language, or using a psychomotor skills

Skill

Demonstrate mastery of specific performance skills:

- Measures length in metric and US units
- Reads aloud with fluency and expression
- Dribbles to keep the ball away from an opponent
- Participates in civic discussion with the aim of solving current problems
- Uses simple equipment and tools to gather data

Product Learning Target

- It is the ability to create tangible products that meet standards of quality and present concrete evidence of academic proficiency.
- It is dependent upon attaining knowledge and reasoning targets.
- It is a sample of student work that demonstrates ability to use knowledge and reasoning.

Examples: Writing samples, term projects, artistic products, research products
**Product**

Create quality products:
- Constructs bar graphs
- Develops a personal health-related fitness plan
- Constructs physical models of familiar objects
- Creates a scripted scene based on improvised work

**Deconstructing Standards and Outcomes**

- Determine standard type.
  - Knowledge, reasoning, skill, or product
- Identify its underpinning learning targets.

<table>
<thead>
<tr>
<th>Standard (target) 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>
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.”

―Ken O’Connor
Clear (Student-Friendly) Statement of Learning Target

Sample target: Be able to summarize text.
- Review word to be defined.
  - Summarize: to give a brief statement of the main points, main events, or important ideas
- Use student-friendly language.
  - "This means I can make a short statement of the main points or the big ideas of what I read."

Clear (Student-Friendly) Statement of Learning Target

Sample target: Be able to make predictions.
- Review word to be defined.
  - Prediction: a statement saying something will happen in the future
- Use student-friendly language.
  - "This means I can use information from what I read to guess at what will happen next."

Our Goal: Students Who Are . . .

- Informed about their learning
- Analytical regarding their learning
- Actively involved in their learning
- Personally invested in their learning

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**Student Involvement: Guiding Questions**

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

(Royce Sadler)

- Where am I going?
  - Provide an understandable vision of the learning target.
  - Use models of strong and weak work.

- Where am I now?
  - Offer regular descriptive feedback.
  - Teach students to self-assess and set goals for learning.

- How can I close the gap?
  - 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.

**Student Goal Setting**
(Adapted from Richard Stiggins)

My strengths (the targets I got right):

My areas for growth (the targets I got wrong):

My learning goal:

Strategies and activities I can do to address my goal:
Assessment Continuum

Classroom Assessments

Common Assessments

District Level Assessments

External Assessments

Most Formative

More Formative

More Summative

Most Summative

Daily

Weekly

Unit

Monthly

Semester

Annual

Ongoing Student and Teacher Assessment

Collaboratively Developed and Curriculum Imbedded

DIBELS

NWEA-MAP

DesCartes

Programmatic Support with entry and exit criteria

Quizzes, Essays and Projects

Final Exams

State Assessments

ACT/SAT

AP Exams

Pyramid of Interventions

Our Reflections

• We thought about ...

• We’re going to try ...

• We have questions about ...

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