Classroom Assessment for Student Learning

K-5 Session

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Educational Excellence

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Formative or Summative Activity

In your group:

-Decide if each assessment is formative or summative?

-Tell why?

- ❖OAKS/SBAC assessments
- ❖District/State Writing Assessment
- ❖Running Record
- ❖Classwork/Homework
- ❖Progress Monitors/Quiz
- ❖Universal Screener
- ❖Ticket out the Door/Exit Tickets
- ❖English Language Proficiency Assessment
- ❖Pre-assessment
- ❖Work samples

Use these sentence frames in your group:

- I think this is _____ because _____
- It could be both because _____.
- If you use it to _____, then it would be _____.

Formative Assessment Research

> *Innovations that include strengthening the practice of formative assessment produce significant and often substantial learning gains.*
>
> *—Black & Wiliam, 1998b, p. 140*

We know now that formative assessment is reported to cause gains in student achievement, but we have to dig deeper into its many variations to learn what gains to expect and which practices are likely to lead to them. For this information, we look to the research.

The most well-known body of evidence was assembled and summarized by two British researchers, Paul Black and Dylan Wiliam. They conducted a comprehensive review of studies on formative assessment practices that collectively encompassed kindergarteners to college students; represented a range of subject areas, including reading, writing, social studies, mathematics, and science; and were carried out in numerous countries throughout the world, including the United States (Black & Wiliam, 1998a).

The gains they found were among the largest reported for any educational intervention. Typical effect sizes were between 0.4 and 0.7 (Black & Wiliam, 1998b). In some studies they reviewed, certain formative assessment practices increased the achievement of low-performing students to the point of approaching that of high-achieving students. To put the standard deviation numbers into perspective, a 0.4 to 0.7 achievement gain translates to 15 to 25 percentile points on commonly used standardized test score scales. For example, a student scoring at the 45th percentile who then attained a 0.7 standard deviation gain would score at the 70th percentile. These are whopping achievement gains—we don't accomplish them with a good night's sleep the night before the test, snacks on the day of the test, or a pep rally. As one might guess, these formative assessment practices were not a matter of ingenious test preparation.

Source: Adapted with permission from J. Chappuis, R. Stiggins, S. Chappuis, and J. Arter, *Classroom Assessment for Student Learning: Doing It Right—Using It Well*, 2nd ed. (Upper Saddle River, NJ: Pearson Education, 2012), p. 22.

What were the achievement gains attributable to formative assessment practices?

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What Gives Formative Assessment Its Power?

These are the reported gains that have launched a thousand "formative assessment" products. But the size of the achievement gains is only half of the story. The other half is what occurred to cause the gains. In reviewing the interventions featured in the highest-impact studies, Black and William (1998b) make the following observations:

- "Opportunities for students to express their understanding should be designed into any piece of teaching, for this will initiate the interaction through which formative assessment aids learning" (p. 143).
- "The dialogue between pupils and teachers should be thoughtful, reflective, focused to evoke and explore understanding, and conducted so that all pupils have an opportunity to think and to express their ideas" (p. 144).
- "Feedback to any pupil should be about the particular qualities of his or her work, with advice on what he or she can do to improve, and should avoid comparisons to other pupils" (p. 143).
- "If formative assessment is to be productive, pupils should be trained in self-assessment so that they can understand the main purposes of their learning and thereby grasp what they need to do to achieve" (p. 143).

Source: J. Chappuis, R. Stiggins, S. Chappuis, and J. Arter, *Classroom Assessment* for *Student Learning: Doing It Right—Using It Well*, 2nd ed. (Upper Saddle River, NJ: Pearson Education, 2012), pp. 22–23.

Based on Black and Wiliam's observations, what would you say are the highest-impact formative assessment practices?

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Activity 3.5 Template for Deconstructing a Content Standard

Content Standard				
Type	Knowledge ____	Reasoning ____	Skill ____	Product ____
Nouns:			Verbs:	

Underpinning Learning Targets

Knowledge Targets	**Reasoning Targets**	**Skill Targets**	**Product Targets**

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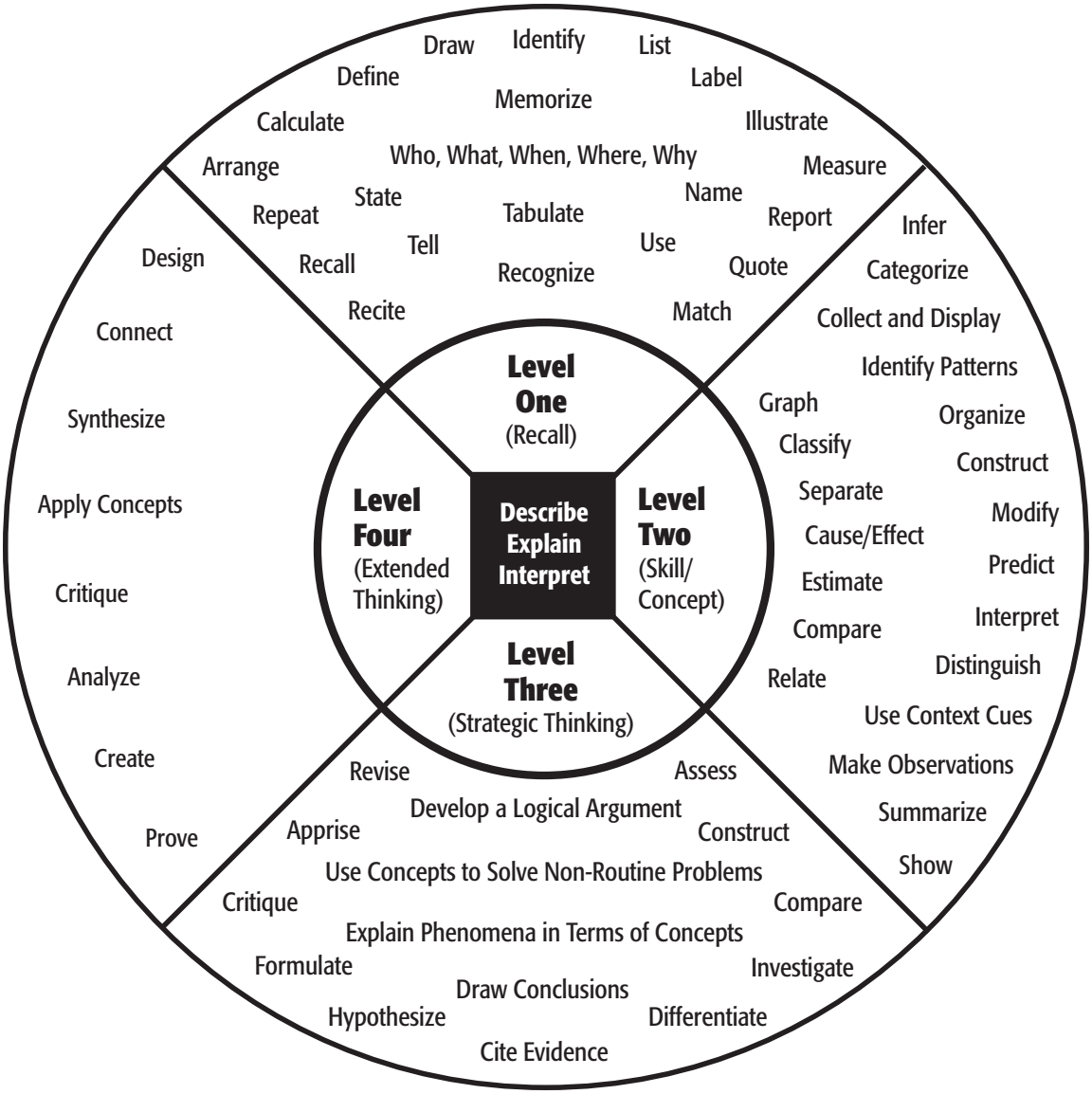
Depth of Knowledge (DOK) Levels



Level One Activities	Level Two Activities	Level Three Activities	Level Four Activities
Recall elements and details of story structure, such as sequence of events, character, plot and setting.	Identify and summarize the major events in a narrative.	Support ideas with details and examples.	Conduct a project that requires specifying a problem, designing and conducting an experiment, analyzing its data, and reporting results/ solutions.
Conduct basic mathematical calculations.	Use context cues to identify the meaning of unfamiliar words.	Use voice appropriate to the purpose and audience.	Apply mathematical model to illuminate a problem or situation.
Label locations on a map.	Solve routine multiple-step problems.	Identify research questions and design investigations for a scientific problem.	Analyze and synthesize information from multiple sources.
Represent in words or diagrams a scientific concept or relationship.	Describe the cause/effect of a particular event.	Develop a scientific model for a complex situation.	Describe and illustrate how common themes are found across texts from different cultures.
Perform routine procedures like measuring length or using punctuation marks correctly.	Identify patterns in events or behavior.	Determine the author's purpose and describe how it affects the interpretation of a reading selection.	Design a mathematical model to inform and solve a practical or abstract situation.
Describe the features of a place or people.	Formulate a routine problem given data and conditions.	Apply a concept in other contexts.	
	Organize, represent and interpret data.		

Webb, Norman L. and others. "Web Alignment Tool" 24 July 2005. Wisconsin Center of Educational Research. University of Wisconsin-Madison. 2 Feb. 2006. <http://www.wcer.wisc.edu/WAT/index.aspx>.

DOK Question Stems

DOK 1

- Can you recall_____?
- When did ____ happen?
- Who was ____?
- How can you recognize____?
- What is____?
- How can you find the meaning of____?
- Can you recall____?
- Can you select____?
- How would you write___?
- What might you include on a list about___?
- Who discovered___?
- What is the formula for___?
- Can you identify___?
- How would you describe___?

DOK 2

- Can you explain how ____ affected ____?
- How would you apply what you learned to develop ____?
- How would you compare ____? Contrast_____?
- How would you classify____?
- How are____alike? Different?
- How would you classify the type of____?
- What can you say about____?
- How would you summarize____?
- How would you summarize___?
- What steps are needed to edit___?
- When would you use an outline to ___?
- How would you estimate___?
- How could you organize___?
- What would you use to classify___?
- What do you notice about___?

DOK 3

- How is ____ related to ____?
- What conclusions can you draw _____?
- How would you adapt____to create a different____?
- How would you test____?
- Can you predict the outcome if____?
- What is the best answer? Why?
- What conclusion can be drawn from these three texts?
- What is your interpretation of this text? Support your rationale.
- How would you describe the sequence of____?
- What facts would you select to support____?
- Can you elaborate on the reason____?
- What would happen if___?
- Can you formulate a theory for___?
- How would you test___?
- Can you elaborate on the reason___?

DOK 4

- Write a thesis, drawing conclusions from multiple sources.
- Design and conduct an experiment. Gather information to develop alternative explanations for the results of an experiment.
- Write a research paper on a topic.
- Apply information from one text to another text to develop a persuasive argument.
- What information can you gather to support your idea about___?
- DOK 4 would most likely be the writing of a research paper or applying information from one text to another text to develop a persuasive argument.
- DOK 4 requires time for extended thinking.

From Depth of Knowledge – Descriptors, Examples and Question Stems for Increasing Depth of Knowledge in the Classroom Developed by Dr. Norman Webb and Flip Chart developed by Myra Collins

Hess' Cognitive Rigor Matrix & Curricular Examples: Applying Webb's Depth-of-Knowledge Levels to Bloom's Cognitive Process Dimensions – *M-Sci*

Revised Bloom's Taxonomy	Webb's DOK Level 1 Recall & Reproduction	Webb's DOK Level 2 Skills & Concepts	Webb's DOK Level 3 Strategic Thinking/ Reasoning	Webb's DOK Level 4 Extended Thinking
Remember Retrieve knowledge from long-term memory, recognize, recall, locate, identify	○ Recall, observe, & recognize facts, principles, properties ○ Recall/ identify conversions among representations or numbers (e.g., customary and metric measures)			
Understand Construct meaning, clarify, paraphrase, represent, translate, illustrate, give examples, classify, categorize, summarize, generalize, infer a logical conclusion (such as from examples given), predict, compare/contrast, match like ideas, explain, construct models	○ Evaluate an expression ○ Locate points on a grid or number on number line ○ Solve a one-step problem ○ Represent math relationships in words, pictures, or symbols ○ Read, write, compare decimals in scientific notation	○ Specify and explain relationships (e.g., non-examples/examples; cause-effect) ○ Make and record observations ○ Explain steps followed ○ Summarize results or concepts ○ Make basic inferences or logical predictions from data/observations ○ Use models /diagrams to represent or explain mathematical concepts ○ Make and explain estimates	○ Use concepts to solve non-routine problems ○ Explain, generalize, or connect ideas using supporting evidence ○ Make and justify conjectures ○ Explain thinking when more than one response is possible ○ Explain phenomena in terms of concepts	○ Relate mathematical or scientific concepts to other content areas, other domains, or other concepts ○ Develop generalizations of the results obtained and the strategies used (from investigation or readings) and apply them to new problem situations
Apply Carry out or use a procedure in a given situation; carry out (apply to a familiar task), or use (apply) to an unfamiliar task	○ Follow simple procedures (recipe-type directions) ○ Calculate, measure, apply a rule (e.g., rounding) ○ Apply algorithm or formula (e.g., area, perimeter) ○ Solve linear equations ○ Make conversions among representations or numbers, or within and between customary and metric measures	○ Select a procedure according to criteria and perform it ○ Solve routine problem applying multiple concepts or decision points ○ Retrieve information from a table, graph, or figure and use it solve a problem requiring multiple steps ○ Translate between tables, graphs, words, and symbolic notations (e.g., graph data from a table) ○ Construct models given criteria	○ Design investigation for a specific purpose or research question ○ Conduct a designed investigation ○ Use concepts to solve non-routine problems ○ Use & show reasoning, planning, and evidence ○ Translate between problem & symbolic notation when not a direct translation	○ Select or devise approach among many alternatives to solve a problem ○ Conduct a project that specifies a problem, identifies solution paths, solves the problem, and reports results
Analyze Break into constituent parts, determine how parts relate, differentiate between relevant-irrelevant, distinguish, focus, select, organize, outline, find coherence, deconstruct	○ Retrieve information from a table or graph to answer a question ○ Identify whether specific information is contained in graphic representations (e.g., table, graph, T-chart, diagram) ○ Identify a pattern/trend	○ Categorize, classify materials, data, figures based on characteristics ○ Organize or order data ○ Compare/ contrast figures or data ○ Select appropriate graph and organize & display data ○ Interpret data from a simple graph ○ Extend a pattern	○ Compare information within or across data sets or texts ○ Analyze and draw conclusions from data, citing evidence ○ Generalize a pattern ○ Interpret data from complex graph ○ Analyze similarities/differences between procedures or solutions	○ Analyze multiple sources of evidence ○ analyze complex/abstract themes ○ Gather, analyze, and evaluate information
Evaluate Make judgments based on criteria, check, detect inconsistencies or fallacies, judge, critique			○ Cite evidence and develop a logical argument for concepts or solutions ○ Describe, compare, and contrast solution methods ○ Verify reasonableness of results	○ Gather, analyze, & evaluate information to draw conclusions ○ Apply understanding in a novel way, provide argument or justification for the application
Create Reorganize elements into new patterns/structures, generate, hypothesize, design, plan, construct, produce	○ Brainstorm ideas, concepts, or perspectives related to a topic	○ Generate conjectures or hypotheses based on observations or prior knowledge and experience	○ Synthesize information within one data set, source, or text ○ Formulate an original problem given a situation ○ Develop a scientific/mathematical model for a complex situation	○ Synthesize information across multiple sources or texts ○ Design a mathematical model to inform and solve a practical or abstract situation

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Activity 4.2 Target–Method Match Template

Learning Target		Target Type				Assessment Method			
		K	R	S	P	SR	WR	PA	PC
1.									
2.									
3.									
4.									
5.									
6.									
7.									
8.									
9.									
10.									

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Activity 4.5 Form A: Blueprint for a Test with Multiple Assessment Methods

Unit:			
Learning Targets	**Target Type**	**Assessment Method**	**Percent Importance**

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Descriptive or Evaluative Feedback?

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

_____ Try harder next time.

_____ 70%

_____You maintained eye contact with the audience throughout your whole presentation.

_____Good job of getting ready for lunch.

_____ Table 3 is ready for lunch. They have their desks clear, they are sitting down, and they are quiet.

_____ ☺

_____ +

_____ What you have written is a hypothesis because it is a proposed explanation. You can improve it by writing it as an "if...then…" statement.

_____ B+. Good Work.

_____You made some simple mistakes with multiplying three-digit numbers. Next time, take a few minutes when you've finished to check your work.

_____ Emerging

_____ Your work is consistently above average.

_____ 

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Give One, Get One
