Formative Assessment

STUDY MODULE 4   **NOVEMBER, 2010**

"**Formative assessment is to be interpreted as all of those activities undertaken by teachers and/or by students which provide information to be used as feedback to modify the teaching and learning activities in which they engage .**" **(Black & Williams, 1998)**

"**The purpose of formative assessment is to provide feedback to teachers and students during the course of learning about the gap between students' current and desired performance so that action can be taken to close the gap. Learning progressions that clearly articulate a progression of learning in a domain can provide the big picture of what is to be learned, support instructional planning, and act as a touchstone for formative assessment.**" **(Heritage, 2008).**

Understanding Formative Assessment

Formative assessment is the process that teachers and students engage in during the instructional cycle that provides feedback to both parties regarding the level of each student's understanding and skill with regard to the benchmarks and standards being taught. The purpose of formative assessment is to maximize student learning by pinpointing gaps in their knowledge; it provides teachers with key information that should be used to adjust instruction accordingly to best meet the needs of students.

Formative assessments do not and should not all have to be assigned a score—the key is that constructive and meaningful feedback is provided to students in a timely manner so that they can improve. Some formative assessments should provide comments only, so students will focus on areas of strength and improvement rather than only being concerned with a grade.

Formative assessment is often described as *assessment for learning* while summative assessment is described as *assessment of learning*. According to Stiggins, Arter, Chappuis, and Chappuis (2006), "Assessments for learning happen while learning is still underway. These are the assessments that

In 1998, researchers Paul Black and Dylan Wiliam summarized the findings from more than 250 studies on formative assessment. They saw effect sizes in those studies that ranged from 0.4 to 0.7 and drew the following conclusion:

> The research reported here shows conclusively that formative assessment does improve learning. The gains in achievement appear to be quite considerable, and as noted earlier, among the largest ever reported for educational interventions. As an illustration of just how big these gains are, an effect size of 0.7, if it could be achieved on a nationwide scale, would be equivalent to raising the mathematics attainment score of an "average" country like England, New Zealand, or the United States into the "top five" after the Pacific rim countries of Singapore, Korea, Japan, and Hong Kong. (p. 61)

we conduct throughout teaching and learning to diagnose student needs, plan our next steps in instruction, provide students with feedback they can use to improve the quality of their work, and help students see and feel in control of their journey to success… This is not about accountability—these are assessments *of* learning. This is about getting better." (p. 31)

Feedback is the cornerstone to effective formative assessment. Feedback may be given individually or in groups, and it may be given in writing or verbally. It should be specific and provide clear guidance on what students are doing well and what their areas for improvement are. Feedback should also be given with sensitivity, especially to struggling learners, and should in-

clude both the positive and the negative. Diagnostic feedback is generally given at the beginning of a unit of study and helps students frame their current knowledge and skills against what they need to be able to achieve to meet the goals of the course.
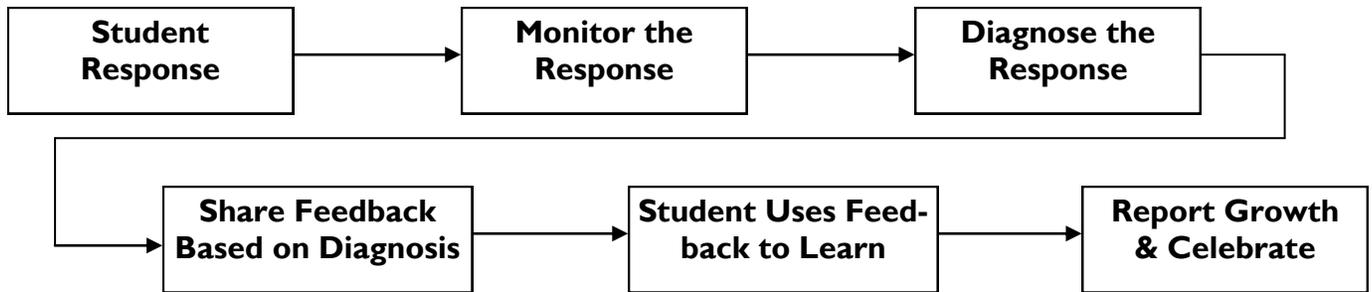
For formative assessment to be effective, students must be involved and engaged in the process. Students should be actively evaluating their own work and in many cases, they can learn and grow from evaluating the work of others. We must provide students with clear learning targets, well in advance, so that they can be successfully in meeting those targets and have the time and support needed to maximize their learning.

Formative assessment means information gathered and reported for use in the development of knowledge and skills, and summative assessment means information gathered and reported for use in judging the outcome of that development." Susan Brookhart, 2004

Defining Formative Assessment

From *Formative Assessment: Responding to Your Students* by Harry Tuttle, 2009.

Formative assessment refers to assessment that is specifically intended to generate feedback to improve and accelerate student learning (Sadler, 1998). You may have heard formative assessment referred to as continuous assessment, early warning assessment, interactive assessment, or dynamic assessment. Formative assessment occurs when you feed information back to the students in ways that enable students to learn better, or when students can engage in a similar, self-reflective process. Heritage (2007) expands the concept by saying that the process involves obtaining evidence about student learning, providing feedback to students, and closing the gap between the learner's current and desired state. Formative assessment is not a specific type of assessment, rather it is the manner in which the assessment is used. Formative assessment is a process. The Formative Assessment Process is outlined in the flowchart below:

Student Response	→	**Monitor the Response**	→	**Diagnose the Response**

Share Feedback Based on Diagnosis	→	**Student Uses Feedback to Learn**	→	**Report Growth & Celebrate**

State tests, course finals, quarterly benchmarks, and unit tests are important because they summarize your students' past learning; however, they do not help the students improve on a regular weekly or daily basis as classroom formative assessments do. These summative assessments reveal what was learned, but they do not provide specific suggestions for the students to improve. When you use formative assessments you identify the present status of the students in terms of the learning standard, diagnose what to do to assist them, provide feedback, allow students to make the changes, and celebrate their learning successes.

Why would you want to use formative assessment? When teachers use formative assessment, students can learn in six to seven months what will normally take a school year to learn (Leahy, Lyon, Thompson, & Wiliam, 2005). Furthermore, Aisnworth and Viegut (2006) explain that when you use formative assessment, you are better able to: determine what standards the students already know and to what degree; decide what changes in instruction to make so that all students succeed; create appropriate lessons, activities, and groupings for differentiated instruction; and inform students about their progress to help them set goals. Formative assessment is the most powerful single moderator in the enhancement of achievement (Hattie, 1998). In addition, the research of Black and Wiliam (1998) emphasize that this approach works extremely well with at-risk students.

Many educators (Black & Wiliam, 1998; Sadler, 1998; Stiggins, 2007; Heritage, 2007) have identified what constitutes formative assessment:

- Pre-assessing students
- Sharing learning goals with students
- Sharing or co-creating learning criteria with students
- Employing quality classroom discourse and questioning
- Using rich and challenging tasks that elicit students' responses
- Identifying the gap between where students are now and the desired standard goal
- Providing feedback that helps students identify how to improve
- Using self-assessment and peer-assessment
- Providing students with opportunities to close the gap between current and desired performance
- Celebrating learning progressions

This formative listing looks very similar to a standards-based learning chart designed by O'Shea (2006) as shown on the following page where the standard component is on the left and the formative assessment is on the right.

Standards-Based Learning

Components	In a formative assessment approach and a standards-based lesson
Edits the chosen standard to select a key goal for the unit. Paraphrases it in the student's language.	• Tells the student the standard in their language. • Has posted the standard and refers to it throughout the unit.
Plans for assessments on the standard before, during, and after the unit.	• Pre-assesses students to determine their present status in the standard. • Informs students of the high level of expectation in the standard, and shows the exemplars (samples of different levels of work). • Informs students of the format of assessments. • Frequently gives formative standards-based assessments and analyzes the results. • Gives a post-assessment that represents the highest thinking level (DOK) of the standard.
Develops performance tasks.	• Tells students how in-class tasks, homework, and projects advance them in the standard. • Assigns performance tasks that clearly demonstrate the standard. • Observes the results of each performance task to adjust instruction.
Scaffolds the performance tasks.	• Scaffolds through using various sequential performance tasks to help all students climb the cognitive ladder in the standard.
Incorporates the standard's key vocabulary throughout the unit.	• Includes key vocabulary in teaching and requires it in students' oral, visual, and written responses.

Pre-Assessing Your Students

Your students should take the pretest several weeks before the unit so that you have adequate planning time to modify the unit. These pretests do not have to be complex. They will assess the whole standard or the goals (major components of the standard) at its highest level of thinking, and they will assess the comprehensive nature and in-depth nature of the standard. A pretest covers one of many different aspects:

- All the year's key concepts: A science teacher has developed two questions for each of the key goals that she covers during the year. She gives the pretest at the beginning of the year to have a baseline for all of her students.
- Content on the state assessment: An algebra teacher may give the students a sample state assessment during the second week of the school year to see what skills and knowledge the students presently possess.
- Overarching skills or concepts: An English teacher uses a reading comprehension pretest at the beginning of the year to determine how well the students comprehend reading materials.
- Several goals found in a unit: A math teacher pulls out four questions that are the most difficult and that represent different standard's goals from the unit and asks students to solve these problems.
- A specific goal within a unit: A social studies teacher creates several pretests, each one focusing on a different goal, such as the purpose of the Constitution, the three branches of government, and the Bill of Rights. As students finish one section of the unit, they have a pretest on the next section.
- Misconceptions: As a science teacher plans the unit, he thinks about all of the misconceptions that previous students have displayed about this standard and examines the results from previous year's tests. He pinpoints the difficulties the students had.
- Performance tasks: A French teacher has her students talk about a topic to see if they can say 10 coherent sentences within a short time period.
- Students' self-assessment: Students are given a list of goals or performance tasks and check off which ones they are very confident that they can do. Although this is a perception pretest, it helps the students reflect on their own skills and knowledge and provides the teacher with a view of what they feel are their strengths and learning gaps.

Tips for Assessing

From *Talk About Assessment: Strategies and Tools to Improve Learning* by Damian Cooper (2007)

- Ensure that you have multiple sources of evidence, gathered on different occasions, and ideally involving different modes (write, do, say) before drawing conclusions about an individual's level of understanding or skill.
- Activating prior knowledge is akin to priming a pump. The word *activate* suggests that students are actively involved with the content being assessed. It also implies that students will be *doing*, not merely reading and writing. Finally, as the assessor, you will be watching and listening, not simply grading.
- Students require information about the quality of their work in order to improve their performance.
- Use open-ended tasks that require more than the recall of facts and skills and can be solved in more than one way or allows for more than one correct answer. Open-ended tasks are instructive to both the student and the teacher.
- Creating KWL charts as part of the initial assessment phase of the learning cycle is motivating to students and provides a window for assessing the collective prior knowledge of the class.
- Information gathered through probing questions can provide the teacher with vital insights about the instruction that individual students require to promote understanding.
- There are two significant variables that affect the degree to which feedback will maximize student learning: the quality of the feedback and how soon the students receive the feedback following the completion of a task.
- Conferencing with students is an effective form of providing feedback. To minimize interruptions and maximize the effectiveness of one-on-one conferencing, the rest of your class must be engaged in quiet work. Clear guidelines for behavior during conferencing can be developed jointly with students and posted in the classroom.

Recognizing Effective Feedback

From *Advancing Formative Assessment in Every Classroom: A Guide for Instructional Leaders* by Connie Moss and Susan Brookhart, 2009.

- Given in a timely manner so students can utilize the feedback
- Not too much or too little, making at least one observation about a strength of the work
- Written, oral, or demonstrated, as appropriate to the students and the work
- Individualized or group-directed, as appropriate to the students and the work
- Focused on the work and the process the student used to do the work
- Descriptive
- Criterion-referenced
- Positive, clear, specific, and supportive in tone
- "Mistakes" are viewed as opportunities for learning
- Students are not afraid to ask for help as needed
- Assignments build on strengths and practice to overcome weaknesses
- Student self-efficacy is high
- Students become better at appraising their own work

Guiding PLC Discussion Questions

1. How can you work together to develop a variety of pre-assessments to determine student learning gaps?
2. Describe strategies you've used successfully to provide students with meaningful and timely feedback about their learning.
3. Are there strategies that you can integrate into existing classroom routines to provide students with immediate feedback?
4. How can you involve students in the assessment process?
5. How can you work together to translate the state standards into terms that are easily understandable and meaningful to students (learning targets)?
6. How can you make use of PLD's within your assessments?

Strategies for Sharing Learning Targets and Criteria for Success

General Strategy	Specific Tactics	Examples
Questioning	• Teachers check for understanding by asking for student questions or by asking students to put their learning goals in their own words.	*Kevin, can you tell me one thing about the water cycle you already know?... Jacob, can you tell me one other thing about the water cycle?... Jaden, can you put those two things together so we have a definition of the water cycle?*
	• Teachers use directed discussion or warm-up questions.	*Why is it important to know about the water cycle?*
	• Students think-pair-share what they think they will be learning, why it's important, and how it relates to previous learning.	*What would a good report on the water cycle look like?* *Donna, what do you think of Matthew's idea about the way to do a picture of the water cycle?* *How long would the report have to be to show you really understand the whole water cycle?*
Planning and Envisioning	• Students list what they know and want to know. • Students make planning charts for individual or group work.	*Groups working on the water cycle reports plan a week of work, including library research, reading, writing, drawing, editing, and planning a presentation.* *Students use these planning charts to keep track of progress. The teacher uses these planning charts for interim assessment of student progress and for asking questions about what students learn along the way.* *The teacher asks for interim assessments as checkpoints along the way—for example, a list of sources after library day, an outline as the report is planned, a draft as the report is written, a list of students' roles for an oral presentation.*
Using Examples	• Students look at good examples and make a list of what makes them good.	*Here are the five best water cycle reports from last year. What do you notice about them?* *Can you organize these things you notice into categories?*
	• Students look at a range of examples, sort them into quality levels, and write descriptions of the levels that turn into draft rubrics.	*Put these water cycle reports into three piles: Good, OK, and Not Good.* *What makes the Good ones good? How are the OK reports different from the Good ones? From the Not Good ones?*
Using Rubrics	• Students use teacher-made rubrics to assess examples.	*Here are some water cycle reports from last year. Discuss with your group how you would evaluate them using this rubric and why.*
	• Students rephrase teacher-made rubrics into their own words.	*Here is the rubric we will use for your water cycle reports. How would you describe these qualities to another student?*
	• Students use rubrics to assess their own work and revise.	*How do you think your water cycle report measures up on this rubric? Use a highlighter to show the descriptions in the rubric that you think describe your work. Is there anything you want to revise?*

From *Advancing Formative Assessment in Every Classroom: A Guide for Instructional Leaders* by Connie Moss and Susan Brookhart, 2009.

"Engaging the student, activating prior knowledge and skills, building trust, and improving self-esteem—these are the essentials when conducting initial assessment with students, especially reluctant and struggling students."   Damian Cooper, 2007