Session D: A Guide to Formative Assessment
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Wisconsin Mathematics Council Annual Meeting Pre-Conference
Presented by the Milwaukee Mathematics Partnership
April 30, 2008
Formative Assessment Research

“Use of formative assessment produces greater increases in student achievement that any other more expensive efforts (reducing class size, increasing teachers’ content knowledge).”

NCTM Assessment Research Clips, 2007

“Improved formative assessment helps low achievers more than other students and reduces the range of achievement while raising achievement overall.”

Black and Wiliam, 1998

“Firm evidence shows that formative assessment is an essential component of classroom work and that its development can raise standards of achievement.”

Black and Wiliam, 1998

“Hypothetically if assessment for learning became standard practice only in classrooms of low-achieving, low-socioeconomic-status students, the achievement gaps would be erased. No other school improvement innovation can claim effects of this nature or size.”

Richard J. Stiggins

“Achievement gains are maximized in contexts where educators increase the accuracy of classroom assessments, provide students with frequent informative feedback, and involve students deeply in the classroom assessment, record keeping, and communication process: the principles of assessment for learning.”

Richard J. Stiggins

“Research supports the conclusion that formative classroom assessment is one of the most powerful tools a classroom teacher might use. Formative assessments are defined as any activity that provides sound feedback on student learning.”

Robert Marzano, 2006

The Milwaukee Mathematics Partnership (MMP), an initiative of the Milwaukee Partnership Academy (MPA), is supported with funding from the National Science Foundation under Grant No. EHR-0314898.
What Strategies Contribute to Effective Formative Assessment?

Research suggests that effective assessment can be based on the following five “key strategies”.

- Clarifying, sharing, and understanding what students are expected to know
- Creating effective classroom discussions, questions, activities and tasks that offer the right type of evidence of how students are progressing to the espoused learning goals
- Providing feedback that moves learning forward
- Encouraging students to take ownership for their own learning
- Using students as learning resources for one another

NCTM Assessment Research Clips, 2007
Using the Guide to Formative Assessment at Your School

Step 1: Independently work out the CABS.
- How would you solve this CABS?
- How would students solve this CABS?

Step 2: CABS Assessment Overview form (only 3 of the 4 areas)
- What are the key mathematical features that you expect students to develop as a response?
- Connect the key features to the Comprehensive Math Framework.
- What misconceptions do you anticipate students will demonstrate?
- This will help you develop the language needed for descriptive feedback.

Step 3: Analyze Student Work
- Look through student work.
- What key mathematical features are present?
- Are there any mathematical features present that weren’t identified earlier?
- What misconceptions are present?

Step 4: CABS Assessment Overview form: refine and complete (4th area)
- Refine the key mathematical features you expected to see if needed.
- Identify misconceptions that were present on student work.

Step 5: Effective Feedback Summary form
- As you analyze student work, sort student work according to category (all correct, same misconceptions, wrong strategy, etc).
- Once all student work is sorted, create the descriptive feedback statement you would give each category.
- Complete the Effective Feedback Summary form identifying the descriptive feedback given for each category.
- List the students who will receive that descriptive feedback.
- These will be the descriptive feedback statements that students will be asked to match their own work to.
- Students should complete their Assessment Summary Sheet in their Assessment Portfolio.

Step 6: CABS Class Summary Report form
- This form is completed for teacher’s use.
- What did my kids do well? What challenges do they still have?
- Next Steps: use the information to help guide what to do next in your teaching process.
- You may want to use this form to share CABS data at grade level meetings, Department meetings and Learning Team meetings.

Step 7: Assessment Feedback Summaries form (only when 2+ teachers are analyzing student work)
- Discuss each level for each category.
- Decide what level is appropriate for the student work sample you analyzed.
- Comment on the group’s consensus or lack of agreement.
Joe had three test scores of 78, 76, and 74, while Mary had scores of 73, 83, and 75.

What is the minimum score Joe would have needed on his third test to have a higher mean than Mary’s mean? ________________

How did you determine your answer?
### School Self-Assessment and Guide

#### Learning Teams Continuum of Work for Mathematics

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<td>Understand importance of identifying and articulating big ideas in mathematics to bring consistency to a school’s math program.</td>
<td>Develop meaning for the math embedded in the targets and the alignment to state standards/descriptors school’s math program.</td>
<td>Provide a measure of consistency around student achievement based on the targets.</td>
<td>Examine student work to monitor achievement and progress toward the targets.</td>
<td>Use student work for instructional decisions, and appropriate. continuous, feedback to students.</td>
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### Tools
- Grade level lists of 9-11 big ideas per grade
- Horizontal list of targets by content across grades

### Tools
- Target-descriptor alignment worksheets
- WKCE Depths of Knowledge Framework
- Pacing Guides

### Tools
- WKCE data on student achievement
- Assessing the Assessment Guide
- District Model CABS
- WKCE Depths of Knowledge Framework

### Tools
- MMP Protocol for analysis of student work
- DVD of the MMP protocol in use
- Descriptive Feedback

### Tools
- Descriptive Feedback
- Class and Student Feedback Summary
- CABS Class Summary Report

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*Learning Team: “Where is our staff on the continuum of work for mathematics in regards to Learning Targets and classroom assessments and what is our evidence?”*

### Stage 5. Level 3 CABS—Formative Feedback

Goal: To use student work from common classroom assessments (CABS) to drive instructional decisions on “what do we do next” in the classroom and to provide appropriate and continuous feedback to students.

1. Can teachers give a specific example of a way they have used results from CABS to inform and modify classroom practice?
2. How do teachers use the “CABS Class Summary Report” to share the successes, challenges, and next steps for student learning?
3. How do teachers give students descriptive feedback that prompts them to self-reflect on ways to improve their work?
4. How do teachers use the “Class Student Feedback Summary” to make instructional decisions based on descriptive feedback to students?