



## Guiding Principle 3: Purposeful assessment drives instruction and affects learning.

*Assessment is an integral part of teaching and learning. Purposeful assessment practices help teachers and students understand where they have been, where they are, and where they might go next. No one assessment can provide sufficient information to plan teaching and learning. Using different types of assessments as part of instruction results in useful information about student understanding and progress. Educators should use this information to guide their own practice and in partnership with students and their families to reflect on learning and set future goals.*

### Research Summary

Assessment informs teachers, administrators, parents, and other stakeholders about student achievement. It provides valuable information for designing instruction; acts as an evaluation for students, classrooms, and schools; and informs policy decisions. Instruments of assessment can provide formative or summative data, and they can use traditional or authentic designs. Research on assessment emphasizes that the difference between formative and summative assessment has to do with how the data from the assessment is used.

Dunn and Mulvenon (2009) define summative assessment as assessment “data for the purposes of assessing academic progress at the end of a specified time period (i.e., a unit of material or an entire school year) and for the purposes of establishing a student’s academic standing relative to some established criterion” (p. 3).

The Council of Chief State School Officers (CCSSO) (2008) define formative assessment as a process “used by teachers and students during instruction that provides feedback to adjust ongoing teaching and learning to improve students’ achievement of intended instructional outcomes” (p. 3).

Wisconsin’s approach to balanced assessment [www.dpi.wi.gov/oea/balanced](http://www.dpi.wi.gov/oea/balanced) emphasizes the importance of identifying the purposes for administering an assessment. Identifying the purpose or data needed establishes whether a particular assessment is being used formatively

or summatively. There can be multiple purposes for giving a particular assessment, but identifying how the data will be used helps to ensure that the assessment is collecting the data that is needed for educators, students and their families.

Assessments, whether formative or summative, can be designed as traditional or authentic tools. Traditional assessment uses tools such as paper and pencil tests, while authentic assessment focuses on evaluating student learning in a more “real life” situation. The bulk of the research on assessment design focuses on authentic assessment.

### Formative Assessment

Using formative assessment as a regular part of instruction has been shown to improve student learning from early childhood to university education. It has been shown to increase learning for both low-performing and high-performing students. Black and Wiliam’s (1998) seminal study found that the use of formative assessment produces significant learning gains for low-achieving students. Other researchers have shown similar results for students with special learning needs (McCurdy & Shapiro, 1992; Fuchs & Fuchs, 1986). Research also supports the use of formative assessment in kindergarten classes (Bergan, Sladeczek, Schwarz, & Smith, 1991), and university students (Martinez & Martinez, 1992).

Formative assessment provides students with information on the gaps that exist between their current knowledge and the stated learning goals (Ramaprasad, 1983). By providing feedback on specific errors it helps students understand that their low performance can be improved and is not a result of lack of ability (Vispoel & Austin, 1995). Studies emphasize that formative assessment is most effective when teachers use it to provide specific and timely feedback on errors and suggestions for improvement (Wininger, 2005), when students understand the learning objectives and assessment criteria, and when students have the opportunity to reflect on their work (Ross, 2006; Ruiz-Primo & Furtak, 2006). Recent research supports the use of web-based formative assessment for improving student achievement (Wang, 2007).



A number of studies emphasize the importance of teacher professional development on formative assessment in order to gain maximum student achievement benefits (Atkins, Black & Coffey, 2001; Black & Wiliam, 1998). A 2009 article in *Educational Measurement* asserts that teachers are better at analyzing formative assessment data than at using it to design instruction. Research calls for more professional development on assessment for teachers (Heritage, Kim, Vendlinski, & Herman, 2009).

#### *Authentic Assessment*

Generating rich assessment data can be accomplished through the use of an authentic assessment design as well as through traditional tests. Authentic assessments require students to “use prior knowledge, recent learning, and relevant skills to solve realistic, complex problems” (DiMartino & Castaneda, 2007, p. 39). Research on authentic assessment often explores one particular form, such as portfolios (Berryman & Russell, 2001; Tierney et al., 1998); however, several studies examined more than one form of authentic assessment: portfolios, project-based assessment, use of rubrics, teacher observation, and student demonstration (Darling-Hammond, Rustique-Forrester, & Pecheone, 2005; Herman, 1997; Wiggins, 1990). Authentic assessment tools can be used to collect both formative and summative data. These data can provide a more complete picture of student learning.

#### *Balanced Assessment*

Wisconsin’s Next Generation Assessment Task Force (2009) defines the purpose and characteristics of a balanced assessment system:

**Purpose:** to provide students, educators, parents, and the public with a range of information about academic achievement and to determine the best practices and policies that will result in improvements to student learning.

**Characteristics:** includes a continuum of strategies and tools that are designed specifically to meet discrete needs—daily classroom instruction, periodic checkpoints during the year, and annual snapshots of achievement. (p. 6)

A balanced assessment system is an important component of quality teaching and learning. Stiggins (2007) points out that a variety of quality assessments must be available to teachers in order to form a clearer picture of student achievement of the standards. Popham

(2008) believes that when an assessment is of high quality, it can accurately detect changes in student achievement and can contribute to continuous improvement of the educational system.

#### **Probing Questions**

- How might you use questioning and discussion in your classroom in a way that gives you formative assessment information on all students?
- How can you use assignments and tests as effective formative assessment?
- How could you design and implement a balanced assessment system that includes pre- and post assessments for learning?

#### **Resources**

Rick Stiggins, founder and director of the Assessment Training Institute, provides resources on the practice of assessment at <http://www.assessmentinst.com/author/rick-stiggins/>.

Margaret Heritage’s books *Formative Assessment for Literacy and Academic Language* (2008, coauthored with Alison Bailey) and *Formative Assessment: Making It Happen in the Classroom* (2010) provide resources and practices. These books are available through bookstores.

ASCD has publications on assessment at <http://www.ascd.org/SearchResults.aspx?s=assessment&c=1&n=10&p=0>.

The National Middle Schools Association provides assessment information through a search for “assessment” at <http://www.nmsa.org/>.

Boston (2002) recommends the following resources for assessment:

- *A Practical Guide to Alternative Assessment*, by J. R. Herman, P. L. Aschbacher, and L. Winters. Available at a variety of booksellers.
- *Improving Classroom Assessment: A Toolkit for Professional Developers*  
<http://educationnorthwest.org/resource/700>
- *Classroom Assessment and the National Science Education Standards*  
<http://www.nap.edu/catalog/9847.html>



## References

Atkins, J. M., Black, P., & Coffey, J. (2001). *Classroom assessment and the National Science Education Standards*. Washington, DC: National Academy Press.

Bergen, J. R., Sladeczek, I. E., Schwarz, R. D., & Smith, A. N. (1991). Effects of a measurement and planning system on kindergartners' cognitive development and educational programming. *American Educational Research Journal*, 28(3), 683–714.

Berryman, L., & Russell, D. R. (2001). Portfolios across the curriculum: Whole school assessment in Kentucky. *English Journal*, 90(6), 76–83.

Black, P., & Wiliam, D. (1998). Assessment and classroom learning. *Assessment in Education*, 5(1), 7–74.

Boston, C. (2002). The concept of formative assessment. *Practical Assessment, Research, and Evaluation*, 8(9). Retrieved June 3, 2011, from <http://pareonline.net/getvn.asp?v=8&n=9>

Council of Chief State School Officers. (2008). *Attributes of effective formative assessment*. Washington, DC: Author. Retrieved June 3, 2011, from [http://www.ccsso.org/Documents/2008/Attributes\\_of\\_Effective\\_2008.pdf](http://www.ccsso.org/Documents/2008/Attributes_of_Effective_2008.pdf)

Darling-Hammond, L., Rustique-Forrester, E., & Pecheone, R. (2005). *Multiple measure approaches to high school graduation*. Stanford, CA: School Redesign Network at Stanford University.

DiMartino, J., & Castaneda, A. (2007). Assessing applied skills. *Educational Leadership*, 64(7), 38–42.

Dunn, K. E., & Mulvenon, S. W. (2009). A critical review of research on formative assessment: The limited scientific evidence of the impact of formative assessment in education. *Practical Assessment, Research, and Evaluation*, 14(7). Retrieved June 3, 2011, from <http://pareonline.net/pdf/v14n7.pdf>

Fuchs, L. S., & Fuchs, D. (1986). Effects of systematic formative evaluation: A meta-analysis. *Exceptional Children*, 52(2), 199–208.

Heritage, M., Kim, J., Vendlinski, T., & Herman, J. (2009). From evidence to action: A seamless process in formative assessment? *Educational Measurement: Issues and Practice*, 28(3), 24–31.

Herman, J. (1997). Assessing new assessments: Do they measure up? *Theory Into Practice*, 36(4), 196–204.

Martinez, J. G. R., & Martinez, N. C. (1992). Re-examining repeated testing and teacher effects in a remedial mathematics course. *British Journal of Educational Psychology*, 62(3), 356–363.

McCurdy, B. L., & Shapiro, E. S. (1992). A comparison of teacher monitoring, peer monitoring, and self-monitoring with curriculum-based measurement in reading among student with learning disabilities. *Journal of Special Education*, 26(2), 162–180.

Next Generation Assessment Task Force. (2009). *Crafting a balanced system of assessment in Wisconsin*. Madison: Wisconsin Department of Public Instruction. Retrieved June 3, 2011, from <http://www.dpi.state.wi.us/oea/pdf/NGTFbr.pdf>

Popham, W. J. (2008). *Transformative assessment*. Alexandria, VA: Association for Supervision and Curriculum Development.

Ramaprasad, A. (1983). On the definition of feedback. *Behavioral Science*, 28(1), 4–13.

Ross, J. A. (2006). The reliability, validity, and utility of self-assessment. *Practical Assessment, Research and Evaluation*, 11(10). Retrieved June 3, 2011, from <http://pareonline.net/pdf/v11n10.pdf>

Ruiz-Primo, M. A., & Furtak, E. M. (2006). Informal formative assessment and scientific inquiry: Exploring teachers' practices and student learning. *Educational Assessment*, 11(2), 205–235.

Stiggins, R. J. (2007, November–December). Assessment for learning: A key to student motivation and learning. *EDge*, 2(2), 1–20.

Tierney, R., Clark, C., Fenner, L., Herter, R. J., Simpson, C. S., & Wisner, B. (1998). Portfolios: Assumptions, tensions, and possibilities. *Reading Research Quarterly*, 33(4), 474–486.

Vispoel, W. P., & Austin, J. R. (1995). Success and failure in junior high school: A critical incident approach to understanding students' attributional beliefs. *American Educational Research Journal*, 32(2), 377–412.

Wang, T. H. (2007). What strategies are effective for formative assessment in a e-learning environment? *Journal of Computer Assisted Learning*, 23(1), 171–186.

Wiggins, G. (1990). The case for authentic assessment. *Practical Assessment, Research, and Evaluation*, 2(2). Retrieved June 3, 2011, from <http://pareonline.net/getvn.asp?v=2&n=2>