

# Assessment from the Ground Up

By P. DAVID PEARSON

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Is it possible to design and use assessment systems that are fair to students, useful to teachers, and meet the accountability demands of policymakers?

“Yes,” said UC Berkeley Graduate School of Education Professor Mark Wilson. So the measurement expert and his colleagues at the BEAR (Berkeley Evaluation and Assessment Research) Center began crafting assessment systems that apply new theories in measurement and learning.

As Wilson told me, it’s all about “deciding what you want to measure and how you are going to observe it, understanding how users are going to respond and what you might do about it, then deciding how to put all that evidence together so you get the actual measurements that you care about.”

For the last 15 years, Wilson and his BEAR team have been doing this work using four essential building blocks, each block representing one of the four stages of assessment develop-

to produce reports that help them interpret assessment results, both for the whole class and for individuals.

These assessments are fair to students because instructional activities and evaluation are aligned with well-defined learning goals. The assessment data and reports are useful to teachers, too, because they get a realistic view of what students know, can readily see how students are progressing toward learning goals, and can plan lessons that address specific gaps in student knowledge. And schools now have a more accurate picture of the learning gains of their students because they use more valid and reliable measures of student progress.

The opportunity to improve teacher practice is perhaps the most exciting outcome of using BAS. Teachers are learning how to interpret all kinds of student work to detect subtle gaps in learning that can be corrected while students are still engaged in instructional activities, rather than waiting for end-of-unit tests to detect learning shortfalls. “I often overestimated what my students knew. What they really knew was made clear by [the *ClassMap* diagnostic] report,” confirmed a fourth-grade science teacher in South Carolina. And a participating student commented: “She gave us a chance to see what we did and what we did wrong. You really can understand the work you’re doing.”

BAS is thriving in the face of state level mandates spawned by No Child Left Behind legislation that seems to be driving assessment and curriculum in the opposite direction. Rather than “teaching to the test,” BAS teachers “test to the teaching.”

Could this be a harbinger of things to come?

To learn more about the BEAR center at UC Berkeley’s Graduate School of Education, visit [bearcenter.berkeley.edu](http://bearcenter.berkeley.edu).

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*P. David Pearson is the Dean of the Graduate School of Education at the University of California, Berkeley.*

**This is one in a series of essays by the Education Deans Alliance. The Alliance is an association of 11 presidents and deans of schools of education who are committed to the improvement of educational policy, practice, and research and to the centrality of schools of education in achieving those goals. To find out more about the Alliance, visit [www.educationdeansalliance.org](http://www.educationdeansalliance.org).**

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ment: (1) *define progress variables*: the big ideas and skills you want to develop over time; (2) *perform an items design*: develop assessment activities that would best represent progress on those big ideas; (3) *describe the outcome space*: the way you’ll interpret student responses; and (4) *select the most feasible measurement model*: a system that guarantees that the assessment is reliable, valid, and usable. Taken together, these four building blocks make the BEAR Assessment System (BAS) come alive.

And BAS works. Several studies—ranging from observations of pre-school teaching to elementary conceptual science curricula to college-level chemistry—have shown that students learn more when classroom activities and assessments are developed using BAS’s building blocks. Learning gains are even more dramatic when teachers apply BAS in the classroom—many use BEAR’s *ClassMap* software