

Are teachers teaching to national standards?

THE FOCUS of this methodological research is how teachers teach, and the extent to which they are embracing the recommendations of a national standards reform movement. In “From National Movement to Local Action: The Status of Standards-Based Science Instruction in Middle School Classrooms” (Report 64), CRESPAR researchers Christopher Swanson, Stephen Plank, and Gina Hewes used sophisticated measurement techniques to see whether a nationally representative sample of eighth-grade science teachers used strategies that align with this movement.

Using data from the 1996 National Assessment of Educational Progress (NAEP), the researchers explored the possibility of measuring a specific instructional strategy using statistical methods based on item-response theory (IRT).

They seek to measure teachers’

instructional practices with the same rigorous statistical techniques applied to most large-scale assessments of student achievement. These practices represent a shift to a more active classroom, where students participate in learning through projects and experiments rather than listening to lectures and doing seatwork.

The study takes advantage of the naturally existing variation in the classroom practices of a national sample of teachers and IRT measurement models to address some important questions:

- # *Is there evidence that a coherent style of instruction akin to the standards-based model exists in middle school classrooms? If so, which practices appear to be part of, and which are inconsistent with, this approach?*
- # *Is there evidence of these practices being incorporated into classroom instruction*

systematically or in a predictable order?

- # *How prevalent is the standards-based approach to science in this sample?*

The study shows that most teachers fall along a single dimension defined by a coherent set of practices that are closely aligned with the aims of the standards movement. Further, the report goes into detail about which practices appear to be most readily embraced and which appear to be more difficult (or, perhaps, should be thought of as coming later in a process of instructional change).

“We believe that the kind of solid measurement strategy being explored in this study represents an essential foundation and necessary precursor to subsequent studies of a more substantive and policy relevant nature,” the authors write. Q