

‘Scientific’ Label in Law Stirs Debate

Proposals could reduce focus on randomized experiments.

By [Debra Viadero](#) October 17, 2007 *Education Week*

While other ideas for revamping the No Child Left Behind Act are taking center stage, a quiet debate is unfolding over proposals to tinker with the law’s definition of what constitutes “scientifically based research” in education.

The phrase is one of the most oft-repeated in the lengthy text of the nearly 6-year-old law. Sprinkled through the federal education statute more than 100 times, the references to “scientifically based research” require educators to rely on such studies in choosing everything from approaches to reading instruction to anti-drug programs for students. And that’s not to mention the law’s use of such related terms as “evidence-based” research.

But the legislative definition of “scientifically based research,” which favors randomized or experimental studies over other kinds of research in determining what works in schools, has also been criticized for promoting a narrow view of educational scholarship.

Leaders of the House Education and Labor Committee, in a [draft proposal for reauthorizing the NCLB law](#) circulating since late summer, would tone down that emphasis on scientific experiments by stipulating that studies aimed at determining whether an educational program or practice works may include—but are not limited to—random-assignment experiments.

The proposed change has raised concerns among some federal education research officials and research groups.

“I’m not thrilled with that provision,” said Grover J. “Russ” Whitehurst, the director of the Institute of Education Sciences, the research arm of the U.S. Department of Education. He has been spearheading the department’s efforts to promote rigorous education research.

“I don’t know of any credible expert who doesn’t think a randomized research design doesn’t give you the best possible answer to causal questions,” he added.

The Gold Standard

The Knowledge Alliance, a Washington group representing a mix of research and research-and-development centers, also voiced opposition to the draft bill’s proposed change to members of Congress.


But other Washington-based education groups, such as the American Educational Research Association and the Software & Information Industry Association, say the new language would be an improvement over current law.



**Gerald E.
Sroufe**

“For a bill like NCLB, we think it reflects a much more appropriate understanding of research methodology,” Gerald E. Sroufe, the director of government relations of the 25,000-member AERA, said of the proposed change. “My opinion about RCTs [randomized-control trials] is that they are underutilized in educational research and overemphasized in political discussions.”

Known as the “gold standard” for answering cause-and-effect questions, randomized field trials are those in which participants are randomly assigned to either experimental or control groups. Such studies are rare in education, partly because educators balk at giving an intervention to one group of students but not another. While such experiments can determine what works, scholars say, they can’t explain why.

The House draft bill’s proposed definition of “scientifically valid” research is modeled on one used in the [Education Sciences Reform Act of 2002](#) , which created the IES. But the draft legislation would omit the preference for randomized studies that is now expressed in both the NCLB and the ESRA laws.

Scientifically valid research, the House committee’s proposal states, would include studies that are “rigorous, systematic, and objective” and that present findings and make claims that are “appropriate” to the methods used. The discussion draft also gives a nod to examining the weight of evidence—in other words, the consistency of findings across multiple studies or sites—and presenting clear, detailed data so that findings can be replicated.

“I think there’s a general movement away from the more rigorous definition of the so-called ‘gold bar,’” said Charles Blaschke, the president of Education TURNKEY Systems Inc. of Falls Church, Va., which tracks federal education legislation for publishers.



**James W.
Kohlmoos**

James W. Kohlmoos, the president of the Knowledge Alliance, said the apparent backlash against the current law’s references to “scientifically based research” on Capitol Hill may stem

from bad publicity over the Education Department's management of the Reading First program. The program requires states to use practices grounded in "scientifically based research."

In a series of reports issued since fall 2006, the department's inspector general said program administrators may have steered the grant-application process for the \$1 billion-a-year initiative to ensure that particular reading programs and instructional approaches were widely used by participating schools, and that others were left out—including some that had solid research track records.

"Reading First didn't help promote the legitimate implementation of 'scientifically based research' and caused a lot of confusion about the concept," Mr. Kohlmoos said.

'Rigorous' and 'Appropriate'

Meanwhile, a pair of bills introduced in the Senate last month offer yet another view of what "scientifically based research" should look like. Sponsored by Sen. Richard G. Lugar, R-Ind., and Sen. Jeff Bingaman, D-N.M., the proposed [Proven Programs for the Future of Education Act](#) would grant schools that use "research-proven" programs in Reading First a competitive preference of 10 points. A companion bill, the [Education Research and Development to Improve Achievement Act](#), would authorize up to \$100 million for the development and evaluation of such programs.

Both bills say "research-proven" programs are those evaluated by at least two studies that use academically equivalent control and treatment groups, include sample sizes of five or more classes or 125-plus students, and use standardized assessments rather than developer-created measures, among other criteria.

"The hope is that some of what's in these bills could get folded into NCLB," said Robert E. Slavin, a co-founder of the Success For All Foundation, whose allegations that the Reading First program was being mismanaged launched the inspector general's inquiries. Mr. Slavin helped write the proposed definition in the Senate bills.

In the end, though, said Mr. Kohlmoos, lawmakers need to be consistent within NCLB and across other education laws.

"You should have clarity and consistency or the effort to promote rigor goes nowhere," he said.