

Professional Development Key to Improving Math Achievement

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(PhysOrg.com) -- Teachers have a greater impact than new textbooks or computers when it comes to raising math scores, according to a comprehensive research review by the Johns Hopkins University School of Education's Center for Data-Driven Reform in Education.

Researchers Robert Slavin, director of the Center for Data-Driven Reform in Education at Johns Hopkins University, and Cynthia Lake, research scientist, reviewed 87 previously released experimental studies evaluating the effectiveness of math programs in the elementary grades.

The researchers' review covered three approaches to improving math achievement — textbooks, computer-assisted instruction, and approaches emphasizing professional development in specific teaching methods, such as cooperative learning and teaching of learning skills. They found that changing daily teaching practices did more for student achievement than simply using new textbooks or adding computers to the mix.

"The debate about mathematics reform has focused primarily on curriculum, not on professional development or instruction," said Slavin. "Yet the research review suggests that in terms of outcomes on math assessments, curriculum differences are less consequential than instructional differences."

Researchers conducted a broad literature search in order to locate every study comparing the effectiveness of various math programs to

traditional control groups. The results were published in the September issue of the American Educational Research Association's Review of Educational Research. The review notes that the three approaches to mathematics instruction do not conflict with each other and may have added effects if used together.

The Johns Hopkins Center for Data-Driven Reform in Education is conducting one of the largest research review projects ever undertaken, to increase the use of evidence in education to improve student achievement. The intent is to place all types of programs on a common scale to provide educators with meaningful, unbiased information that they can use to select programs and practices most likely to make a difference with their students. Topics include reading, math, and other programs for grades K-12. Educator-friendly ratings of effective education programs as well as the full reports appear on the Best Evidence Encyclopedia web site at www.bestevidence.org.

Provided by Johns Hopkins University

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