

Abstract

This article reviews research on the achievement outcomes of three types of approaches to improving elementary mathematics: Mathematics curricula, computer-assisted instruction (CAI), and instructional process programs. Study inclusion requirements included use of a randomized or matched control group, a study duration of 12 weeks, and achievement measures not inherent to the experimental treatment. Eighty-seven studies met these criteria, of which 36 used random assignment to treatments. There was limited evidence supporting differential effects of various mathematics textbooks. Effects of CAI were moderate. The strongest positive effects were found for instructional process approaches such as forms of cooperative learning, classroom management and motivation programs, and supplemental tutoring programs. The review concludes that programs designed to change daily teaching practices appear to have more promise than those that deal primarily with curriculum or technology alone.