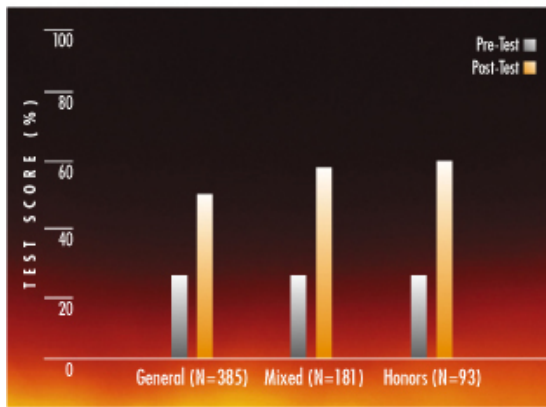
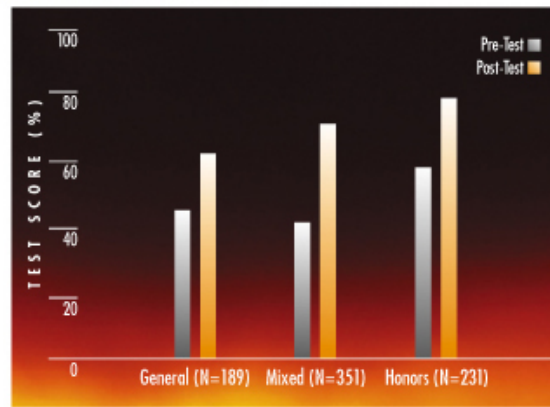


Evidence of Student Achievement



1 9th Grade Test Score Means by Ability Level



2 10th Grade Test Score Means by Ability Level

Results of a Nationwide Field Test

A national field test of BSCS Science: An Inquiry Approach was conducted from January through June 2002. The field test comprised urban, suburban, and rural classrooms across 10 states, 31 teachers, 64 classes, and nearly 1600 students.

Among the findings, several stand out with respect to the quality and effectiveness of the instructional materials and student achievement.

First, overall results from pre- and post-tests were tracked per student in a total of 1,550 paired results. For all pre-post tests, the results demonstrate strong and statistically significant gains in student achievement. Average student gains at both 9th and 10th grade levels were between 20 and 25 percent.

Second, for both grade levels, classes characterized as having students with “general ability,” “high ability,” and classes where these abilities were “mixed” each demonstrated a significant increase from pre-test to post-test, independent of ability level of students (See Figures 1 and 2).

As part of a classroom-based study, student achievement was correlated with level of fidelity of teacher implementation. Based on classroom observations by BSCS staff, the external evaluator used an observation protocol with high inter-rater reliability to assess the degree of fidelity. Teachers demonstrating high fidelity of use of the instructional materials were considered “high implementers.” Teachers who were teaching the materials with somewhat less fidelity or significantly less fidelity were considered “medium” or “low” implementers, respectively. After teachers were assigned to an implementation category, their student test scores were correlated with the teacher’s level of implementation.

The results indicate that both 9th and 10th grade students learned more from teachers who taught the materials with medium and high fidelity than from teachers who taught the materials with significantly less fidelity. It is encouraging, however, that students still learned from the materials even when they were in classrooms with teachers identified as low implementers. This finding points to the quality of our student materials as well as importance of our in-depth materials for teachers.