

## Summary of Research on *BSCS Biology: A Human Approach*

***BSCS Biology: A Human Approach:*** In a comparison study that looked at the results of 76 students using *BSCS Biology: A Human Approach* (*BB: AHA*, the treatment condition) and 49 students using another biology program (the comparison condition), there was an overall improvement in mean post-test scores. When a more detailed study was conducted to examine the relationship between the teachers' fidelity of use of the program and student learning, more interesting results emerged. One preliminary study found distinct differences in the learning gains of students whose teachers implemented the program as designed as opposed to the gains of students whose teachers implemented the program with considerably less fidelity. Student learning was measured using a 20-item subset of questions from the NABT/NSTA biology exam. This test was used because, at the time of the study, it was considered a difficult test that was independent of a particular curriculum. Fidelity was measured through classroom observations. These findings are illustrated in Table 1 and Figure 1.

**Table 1. Student Learning Gains by Teacher**

Teacher	Pre-Test Average	Post-Test Average	Average Gain
1	6.4	10.3	3.9
2	9.2	10.4	1.2
3	4.8	5.5	0.7
4	4.5	4.4	0

**Figure 1. Pre- and Post-Test Results for NABT/NSTA Biology Exam**

