

Active Role in Class Helps Black and First-Generation College Students, Study Says

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The trend away from classes based on reading and listening passively to lectures, and toward a more active role for students, has its most profound effects on black students and those whose parents did not go to college, [a new study of college students](#) shows.

Active learning raised average test scores more than 3 percentage points, and significantly reduced the number of students who failed the exams, the study found. The score increase was doubled, to more than 6 percentage points, for black students and first-generation college students.

For black students, that gain cut in half their score gap with white students. It eliminated the gap between first-generation students and other students.

The study does not explain the disparate benefits, and “a lot more work needs to go into looking at attitudes and behaviors,” said Kelly A. Hogan, one of the study’s authors. She is the director of instructional innovation for the College of Arts and Sciences at the University of North Carolina at Chapel Hill.

But Dr. Hogan noted that disadvantaged students arrived at college with poorer study skills, and a more active approach to learning effectively teaches those skills. Research has also shown that disadvantaged students are less likely to participate in class, and report feeling intimidated or isolated, so they may benefit more from a structure that demands participation and cooperation, she said.

The study, published Tuesday in the journal [CBE Life Sciences Education](#), looked at six semesters of an introductory biology class at the University of North Carolina at Chapel Hill, taken mostly by freshmen. Three terms took a more traditional, lecture-based approach, and three demanded more participation by students. The classes averaged almost 400 students, and were taught by Dr. Hogan.

The more active approach gave students more in-class activities, often done in teams, including sets of online exercises. There were similar online exercises assigned to be completed before class along with textbook reading, intended to force students to think about the material rather than just memorize it, and still others for review after a lesson. Many of the exercises were ungraded, but the instructor could tell whether students had done them.

The active strategy, Dr. Hogan said, left less time for lecturing and made much of the traditional lecture moot, anyway. It helped students get more out of the reading — and, crucially, made it much harder for them to skip the reading.

“In a traditional lecture course, they’re not held accountable for being prepared for class, and they really don’t need to be, because an instructor is going to tell them everything he or she wants them to know,” Dr. Hogan said. “Would you read a report for a meeting if you knew your boss was going to spend 15 minutes summarizing it for you? I know I wouldn’t.”

Surveys of students who had taken the class showed that those who had the more active approach were far more likely to have done the reading, and they spent more hours on the work, participated more in class and were more likely to view the class as a community.

Dr. Hogan and her co-author, Sarah L. Eddy, a postdoctoral fellow in biology at the University of Washington, noted that the revised courses were categorized as only “moderately structured,” and that they could have moved even further away from the traditional lecture. It is not clear what effect that would have had on achievement.

Other studies have shown similar improvements from demanding more student interaction, but did not break that down by demographic groups. Dr. Hogan said she would like to see the results replicated in a variety of settings — small classes, less selective colleges, and humanities or social science courses, for example.