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## Study Shows Peer Discussion And Clickers Improve Student Performance

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Across the University of Colorado at Boulder campus students are sharing answers, checking their responses to questions against those of their neighbors and making adjustments to those answers in hopes of earning a better grade.

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Not surprisingly, the students are getting more answers right. But what may be startling is that professors are encouraging the whole thing.

The students aren't cheating, they are learning from each other in a meaningful way, according to Tin Tin Su, an associate professor in the molecular, cellular and developmental biology department. Su is one of a group of CU-Boulder researchers that also includes Michelle Smith, William Wood, Wendy Adams, Carl Wieman (also of the [University of British Columbia](#)), [Jennifer Knight](#) and Nancy Guild, who authored a paper in the Jan. 2 issue of the journal *Science* showing how peer discussion during “clicker” questions helps students learn in a way that simple lecturing does not.

Clickers are simple audience response devices, similar to a TV [remote control](#), that allow students to record their answers to thought-provoking, multiple-choice questions in class. After students answer a question individually, the instructor often asks them to discuss the question and then vote again before revealing the answer. After discussion, they usually do better on the question – but why?

“I was skeptical about whether in-class discussion really led to students' learning,” said Su. “The clickers are a good way to get instant feedback, but do the students really learn from discussion or are they just changing their answers because of peer pressure?” Since no study had ever been done to determine which of these possibilities was true, Su and a number of other researchers decided to find out.

“We came up with a method for testing whether the students are actually learning or

just being influenced by other students who they think know the right answer,” said Michelle Smith, a science teaching fellow with CU’s Science Education Initiative and a research associate in MCD biology.

The researchers used pairs of similar clicker questions in lectures during the semester and evaluated student responses. Each time, the students answered the first question of the pair individually, then talked to their neighbors about their answers.

Then they were asked to answer a second, similar question individually. About 50 percent got the question right on the first try. After talking to neighbors, the number jumped to 68 percent. And when they individually answered a follow-up question about the same concept, the number jumped again to over 70 percent, much better than the 50 percent of individual correct answers on the first question.

Via [Physorg.com](http://Physorg.com)

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