

**ZMATH 2016f.01179**

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**Flipped statistics class results: better performance than lecture over one year later.**

J. Stat. Educ. 22, No. 3, 10 p., electronic only (2014).

Summary: In this paper, we compare an introductory statistics course taught using a flipped classroom approach to the same course taught using a traditional lecture based approach. In the lecture course, students listened to lecture, took notes, and completed homework assignments. In the flipped course, students read relatively simple chapters and answered reading quiz questions prior to class and completed workbook activities in class. The workbook activities consisted of questions (multiple choice, short answer, computation) designed to help students understand more complex material. Over one year after taking the course (median = 20 months), students took a standardized test of their knowledge of statistics as well as nine other content areas in psychology. Students in the flipped course outperformed the students in the lecture course on the statistics portion of the test ( $d = .43$ ), but not on non-statistics portions of the test.

*Classification:* K15 D45 U55

*Keywords:* university teaching; statistics; teaching methods; educational research; comparative studies; flipped course; student activities; active learning; homework; cognitive psychology; analysis of learning outcomes; teaching-learning processes

<http://ww2.amstat.org/publications/jse/v22n3/winqvist.pdf>