Undergraduate Statistics: An Empirical Comparison of Blended and Traditional Learning, and National Origin

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Abstract

For an undergraduate statistics subject in a business degree at an Australian university, this observational study looks into the effects on final exam results of two different approaches to tutorials: one uses traditional pencil-and-paper problem-solving, the other uses web-based exercises with such user-friendly features as animated graphs and interactive drag-and-drop diagrams. In addition, this study also looks at differences between the performance of students from different national backgrounds, including from China, India, and Vietnam. These measurements of exam performance shed light on two issues. One is the comparison between teaching done on a fully face-to-face manner and a blended approach with computer-aided tutorials but face-to-face teaching. The other issue is to critically evaluate the notion that it is good to learn declarative knowledge ("what is") by learning procedural knowledge ("how to"), which is what these exercises in statistics are supposed to be achieving. The exam results were collected over a 2 1/2 year period, observing over 300 students in total.

Keywords

blended learning; undergraduate statistics