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Assessing the Impact on Student Learning and Behavior in a First Applied Statistics Course by Innovative Use of Three Delivery Types Including Online Homework: Initial Results.

This paper describes the results obtained from an initial analysis of an experiment performed during the Spring 2009 Semester in an introduction to applied statistics course. The experiment dealt with administering three types of homework: paper, MyMathLab online with immediate feedback, and MyMathLab online with delayed feedback. The details of the experimental design and implementation are described in the previous paper. The principal hypothesis addressed is whether homework type affects student learning as measured by exam performance, taking into account student and course demographics. Among the other hypotheses considered is whether there are short-term or long-term effects, again after taking into account demographics. We report on the results of statistical tests performed on all of these hypotheses. A summary of the students' attitudes and preferences towards the three homework types is provided. We conclude with a brief discussion of how to best utilize the different types of homework to enhance and assess the educational experience. (Received September 22, 2009)