Instructional Technology in Engineering:
Do Men and Women Derive the Same Benefits?

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Abstract

In order to facilitate active learning (*i.e.*, student interactions) and emphasize real-world applications in an introductory undergraduate biomedical engineering course on probability and statistics, we have developed a scaffold of multiple instructional technologies [1]. These technologies include the course management system, BlackBoard®, hyperlinked PowerPoint® notes, Classroom Performance System (CPS) technology, and "real-world" MATLAB®-intensive problems. Our assessments of this scaffold suggest that, over all, the instructional technology components are supporting student learning in the intended ways [2, 3]. Our prior studies, however, have evaluated the scaffold with the data aggregated for both genders. In this study we look at whether or not men and women derive different benefits from the instructional technologies. Our data presents an analysis of survey data on instructional technology perceptions and usage over several semesters in undergraduate courses. The impact of students' attitudes toward math and technology learning more generally is also considered. Our findings are useful in developing instructional strategies that enable the most effective use of technology to support learning by a diverse student body.

Topic Category

Multimedia Classrooms of the Future

Keywords

Gender, instructional technology, engineering probability and statistics, individualized learning

References

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