

ZMATH 2000a.00498

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Using web-based materials in large-scale precalculus instruction.

Intern. J. Comput. Math. Learn. 4, No. 1, 27-50 (1999).

This paper outlines an attempt at interacting web-based activities into a precalculus course at a large university. A discussion of the development of the web-based activities is initially provided. Distinctions are made between transportation uses of web-based technology and uses that take advantage of the full potential of the technological medium. A report of a study that investigated the effects of the use of the activities in four classrooms follows. The report focuses on the use of the activities by two instructors, only one of whom received mentoring in that regard. The unmentored instructor entered the course with an instructional philosophy more compatible to the goals of the activities than the mentored instructor, and it was found that this led to more appropriate uses of the activities during instruction, despite a lack of mentoring. The difficulties of the unmentored instructor were not inherent in the technology, but in the pedagogic incongruences between the goals of the instructor and the web-based activities. Evidence was also found that these instructional differences impacted how the two groups of students approached the tasks, as well as differences in their understandings of the underlying mathematical ideas of covariance and rate of change. Implications and recommendations are then given.

Classification: I20

doi:10.1023/A:1009806419433