

ZMATH 2009e.00641

Örnek, Funda

Evaluation novelty in modeling-based and interactive engagement instruction.

Eurasia J. Math. Sci. Technol. Educ. 3, No. 3, 231-237 (2007).

Summary: A calculus-based introductory physics course, which is based on the *Matter and Interactions: Modern mechanics* curriculum of Chabay and Sherwood, has been taught at Purdue University. Characteristic of this course is its emphasis on modeling. Therefore, I would like to investigate the effects of modeling-based instruction and interactive engagement on students' physics understanding. For this reason, The Force Concept Inventory (Hake) as pre-and post-test was used to evaluate students learning and understanding following a newly developed approach to teaching mechanics in an introductory physics course. The results lead that it can be concluded that the modeling-based interactive teaching method helps students to improve their understanding and learning physics.

Classification: M55 D45 D35 C75

Keywords: conceptual understanding; learning; teaching; physics models; integrated curriculum; calculus-based physics course; qualitative study; tertiary education