

Abstract Submitted
for the TS4CF08 Meeting of
The American Physical Society

To PhET or Not To PhET: That Is the Question ROBERT CASAO, Montwood High School — The investigation examined use of a Physics Education Technology (PhET) simulation versus a hands-on lab activity on student's conceptual understanding of physics content. Topics of study included vectors, projectile motion, direct current (DC) circuits, and the photoelectric effect. Participants consisted of high school juniors and seniors enrolled in a physics course. Assessment instruments consisted of questions taken from the Vector Evaluation Test, the Electric Circuits Concept Evaluation test, textbook test banks, or written to address concepts under evaluation. Data collection consisted of a pre-test score, a post-test score, and a gain score. The conceptual understanding of the experimental and the control groups did not significantly differ for vectors and DC circuits. The conceptual understanding of the experimental and control groups did significantly differ for projectile motion. The results indicated a conceptual gain for students using the photoelectric effect simulation. Student attitudes towards the PhET simulations were positive.

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Date submitted: 17 Sep 2008

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