

Abstract Submitted
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Computer Based Collaborative Problem Solving for Introductory Courses in Physics CAROLINA ILIE, State University of New York at Oswego, Oswego, NY, KEVIN LEE, University of Nebraska at Lincoln, Lincoln, NE — We discuss collaborative problem solving computer-based recitation style. The course is designed by Lee [1], and the idea was proposed before by Christian, Belloni and Titus [2,3]. The students find the problems on a web-page containing simulations (physlets) and they write the solutions on an accompanying worksheet after discussing it with a classmate. Physlets have the advantage of being much more like real-world problems than textbook problems. We also compare two protocols for web-based instruction using simulations in an introductory physics class [1]. The inquiry protocol allowed students to control input parameters while the worked example protocol did not. We will discuss which of the two methods is more efficient in relation to Scientific Discovery Learning and Cognitive Load Theory. 1. Lee, Kevin M., Nicoll, Gayle and Brooks, Dave W. (2004). “A Comparison of Inquiry and Worked Example Web-Based Instruction Using Physlets”, *Journal of Science Education and Technology* 13, No. 1: 81-88. 2. Christian, W., and Belloni, M. (2001). *Physlets: Teaching Physics With Interactive Curricular Material*, Prentice Hall, Englewood Cliffs, NJ. 3. Christian, W., and Titus, A. (1998). “Developing web-based curricula using Java Physlets.” *Computers in Physics* 12: 227–232.

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