

Abstract Submitted  
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**Problem Solving Approach: Computer vs. Textbook**<sup>1</sup> EVAN RICHARDS, North Carolina State University, Raleigh, NC, JEFF POLAK, University of Wisconsin at Whitewater, Whitewater, WI, ASHLEY HARDIN, Broughton High School, Raleigh, NC, MARY BRIDGET KUSTUSCH, North Carolina State University, Raleigh, NC, JOHN RISLEY, North Carolina State University and WebAssign, Raleigh, NC — Given the abundant use of worked examples and problems as learning material in physics textbooks, it is appropriate to investigate methods of implementing them in the classroom. In particular, a version of the textbook worked examples and problems implemented on a computer with auto-grading and recording features, would allow instructors to track which students complete the computer versions. In addition, computers offer interactivity, which is not practical with the inherent constraints of the textbook implementation. This study seeks to compare student performance in solving physics problems in two separate formats: computer and textbook. Each problem was preceded by a related worked example in the same format. T-tests reveal no significant differences in mean performance between the two groups. However, error analysis denoted significant differences in the group correlations to error type, which prompted the approach analysis to be undertaken. The results of this study will be presented.

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