

Abstract Submitted
for the APR09 Meeting of
The American Physical Society

Colorado Assessment of Problem Solving (CAPS) – Identifying student’s problem solving skills WENDY ADAMS, University of Colorado Boulder, CARL WIEMAN, University of British Columbia and University of Colorado — Problem solving is central to any physics curriculum and physics educators have put extensive effort into understanding successful problem solving; however, there is currently no efficient way to evaluate problem solving skill. Attempts have been made in the past; however, knowledge of the principles required to solve the subject problem are so absolutely critical that they completely overshadow any other skills students may use when solving a problem. The work presented here is unique because CAPS removes the requirement that the student already have a grasp of physics concepts. CAPS has been developed and validated at Colorado and measures a person’s competence in 44 separate skills that are used when solving a wide range of in-depth problems including classical mechanics and quantum mechanics problems. Understanding the specific processes that impact how a person solves a problem identifies which components are specific to physics and those that transfer across discipline, and provides insight for improved methods for teaching. 1. Supported in part by funding from National Science Foundation

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Date submitted: 13 Jan 2009

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