Abstract Submitted
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Sustaining Educational Innovation: engaging traditional faculty in transformed practices[1] STEVEN POLLOCK, NOAH FINKELSTEIN, University of Colorado at Boulder — Over the past five years CU Physics has engaged in an experimental study of what it means to transform our introductory physics sequence to employ the tools and practices shown to be productive by physics education research. We have previously reported on the successful transformation of the courses to make them student centered, interactive and post high learning gains on conceptual surveys. [1] In an effort to understand the long-term potential of these course transformations, we now examine what happens when the course is transferred to new faculty. We demonstrate that it is possible to maintain high learning gains with new faculty and find two critical factors that contribute to the sustained success of these course transformations: 1) faculty background and beliefs and 2) particular curricular materials and practices selected to use. We also present a model (the Learning Assistant program) designed for sustaining these reforms and for increasing student interest and retention in teaching. [2]
[1] N.D. Finkelstein and S.J. Pollock, "Replicating and Understanding Successful Innovations: Implementing Tutorials in Introductory Physics" *Physical Review, Spec Top: Physics Education Research,* 1, 010101 (2005). [2] V.Otero, N.D. Finkelstein, R. McCray, and S. Pollock, "Who is Responsible for Preparing Science Teachers?" *Science.* **313**(5786), 445-446 (2006).

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