Abstract Submitted
for the APR14 Meeting of
The American Physical Society

Clickers don't always help: Classroom context and goals can mitigate clicker effects on student learning[1] AMY SHAPIRO, GRANT O'RIELLY, JUDITH SIMS-KNIGHT, University of Massachusetts Dartmouth — Clickers are commonly used in large-enrollment introductory courses in order to encourage attendance, increase student engagement and improve learning. We report the results from a highly controlled study of factual and conceptual clicker questions in calculus-based introductory physics courses, on students' performance on the factual and conceptual exam questions they targeted. We found that clicker questions did not enhance student performance on either type of exam question. The use of factual clicker questions actually decreased student performance on conceptual exam questions, however. Directing students' attention to surface features of the course content may distract them from the important underlying concepts. The conceptual clicker questions were likely ineffective because the practice students got on homework questions had a stronger effect than the single question posed in class. Interestingly, the same studies in general education biology and psychology courses show a strong, positive effect of clickers on student learning. This study suggest that the usefulness of clickers should be weighed in the context of other course activities and goals. Secondary analyses will explore the effect of students' GPA, motivation and study strategies on the results.

[1]This work was supported by the Institute of Education Sciences, US Dept. of Education, through Grant R305A100625 to UMass Dartmouth. The opinions expressed are those of the authors and do not represent views of the Institute or the US Dept. of Education.

Grant O'Rielly
University of Massachusetts Dartmouth

Date submitted: 09 Jan 2014 Electronic form version 1.4