Abstract Submitted
for the MAR09 Meeting of
The American Physical Society

To Click or Not to Click[1] NINA ABRAMZON, HOMEYRA SADAGHIANI, California Polytechnic University Pomona — A comparison of clickers v. flashcards in a controlled setting was done to test a) whether clickers show an improvement over flashcards in students learning the following concepts: i) Coulomb's force law and ii) magnetic fields caused by currents, and b) if students using clickers are more open towards conceptual questions and the peer instruction method compared to students using flashcards. Two classes taught concurrently by the same instructor were taught identically, except that in one class the collection of answers to concept questions was done using clickers, and in the other using flashcards. To test which students learned the concepts better, a few multiple choice questions from a standard exam used in physics education were included in the final exam of both classes, and the performance of the two classes was compared. In addition, a questionnaire was given to each class to evaluate students' opinions about the benefits of lectures including conceptual TPS questions and the use of related conceptual questions on exams. The results of the survey were compared between the two classes. The experimental design and results of the study will be presented.

[1]Sponsored by the Faculty Center for Professional Development at Cal Poly Pomona.

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Date submitted: 28 Jan 2009 Electronic form version 1.4