

Abstract Submitted  
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**Evaluation and Redesign of Introductory Undergraduate Physics Series for Use with USB Devices** LEAH PARSONS, GARY BEDROSIAN, Allegheny College — The introductory physics laboratory series at many colleges suffer from several problems, including a large time commitment, inflexibility of lab set-ups, and lack of accommodation of multiple learning styles. It is difficult in a conventional lab set-up, in which students follow a carefully specified series of steps, to be able to generalize findings to more than one specific case. In this project, we propose changes that will allow students to form the labs to their own learning styles to better study the phenomena of interest as well as to address the other issues. To test our ideas, we have reduced the current introductory physics labs at Allegheny College to their basic principles in order to apply them to a new, more flexible, lab paradigm. Using a USB device designed by Rensselaer Polytechnic Institute, labs that reflect the core concepts of introductory physics will be able to be performed in a more agreeable environment: the student's own home, at a time of their choice, with use of a personal computer and simple additional materials. This project will present the method of lab design as well as proposed testing of lab effectiveness.

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