

Abstract Submitted
for the TSS16 Meeting of
The American Physical Society

Teaching physics with Learning Assistants: Impacts on student outcomes AARON COLLINS, JESSICA CONN, JOSEPH HOOK, DAVID DONNELLY, ELEANOR CLOSE, Texas State University — The Texas State University physics department has implemented reformed instructional methods in all sections of our calculus-based introductory sequence, introducing a Learning Assistant (LA) program in 2012 and re-structuring our use of lecture time to include LA-supported small group work with research-based curriculum materials. In this presentation we examine changes in student outcomes in introductory mechanics over the past five years, in particular conceptual understanding as measured by the Force Concept Inventory (FCI), and student success as represented by DFW rates. Overall during this time, student gains on the FCI have more than doubled, and DFW rates have been cut in half. These data are complicated by other changes taking place over the same time span, including faculty turnover and explosive growth of majors in the new Ingram School of Engineering. We will examine changes in the student population over time as well as relationships between student learning gains, student major, and instructors' level of experience with reformed teaching. In researching this subject matter, we hope to further the Texas physics community's understanding of the possibilities of reformed teaching techniques for improving student learning and success in introductory courses.

Aaron Collins
Texas State University

Date submitted: 03 Mar 2016

Electronic form version 1.4