

Abstract Submitted  
for the PSF16 Meeting of  
The American Physical Society

**Improving Introductory Physics at NIU Using Data From Conceptual Inventories** GREGORY ALLEY, Northern Illinois Univ — Approximately 500 students enroll in either algebra- or calculus-based introductory physics class every semester at Northern Illinois University. These classes have traditionally been traditional lecture/lab style courses, where the emphasis has been on supplying instruction in the expectation that student learning will result. Beginning in 2013 the NIU physics department has been researching methods to improve student-learning outcomes, by experimenting with different instructional techniques and laboratory methods. By using conceptual inventories like the FCI, student learning can be compared between years, to measure the success of different teaching methods. These same statistical measures can also be used on an individual student basis, to identify students who are in need of additional instruction in order to reduce the percentage of students receiving unsatisfactory results, and increase student retention.

Gregory Alley  
Northern Illinois Univ

Date submitted: 19 Sep 2016

Electronic form version 1.4