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Evaluating the Effectiveness of an Inquiry Curriculum using FCI and CLASS as Assessment Tools J. RUSSELL HARKAY, Keene State College — The Force Concept Inventory [1] and Colorado Learning Attitudes about Science Survey [2] have been administered to students enrolled in the inquiry courses at Keene State College both before and after completion of courses using the Phenomenal Physics [3] curriculum as well as students in algebra physics. Results are used to interpret course effectiveness in the areas of retention of concepts, knowledge of basic physics, and student beliefs about physics and about learning physics. Information from CLASS is used to probe how student beliefs and attitudes are impacted by their educational experience. Data from both are used every semester to fine-tune the curriculum to ensure that it is as robust and effective as possible. Both of the instruments are well-established and validated using reliability studies and extensive statistical analysis of responses. Remarkable gains are consistently exhibited by students enrolled in the inquiry curriculum while those in the traditional algebra physics follow national norms.

[1] D. Hestenes, Arizona State University, modified by E. Mosca and others
[2] W. K. Adams, N. S Podolefsky, N. D. Finkelstein, Univ. of Colorado
[3] J. R. Harkay, "Phenomenal Physics-A Guided Inquiry Approach"

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