

Abstract Submitted  
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**Reasoning, Attitudes, and Learning: What matters in Introductory Physics?** MELISSA BATEMAN, BRIAN PYPER, BYU-Idaho — Recent research has been revealing a connection between epistemological beliefs, reasoning ability and conceptual understanding. Our project has been taking data collected from the Fall '08 and Winter '09 semesters to supplement existing data in strengthening the statistical value of our sample size. We administered four tests to selected introductory physics courses: the Epistemological Beliefs Assessment for Physical Science, the Lawson Classroom Test of Scientific Reasoning, The Force Concept Inventory, and the Conceptual Survey in Electricity and Magnetism. With these data we have been comparing test results to demographics to answer questions such as: Does gender affect how we learn physics? Does past physics experience affect how we learn physics? Does past math experience affect how we learn physics? And how do math background successes compare to physics background successes? As we answer these questions, we will be better prepared in the Physics classroom and better identify the struggles of our students and solutions to help them better succeed.

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