SES10-2010-000073

Abstract for an Invited Paper
for the SES10 Meeting of
the American Physical Society

**Problem Solving: Helping Students Move From Novices Toward Experts**

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When introductory physics students engage in problem solving, they often exhibit behaviors that can frustrate their teachers. Some well-known examples of these habits include refusing to draw free-body diagrams, hunting through the book to find an example problem to use as a (perhaps inappropriate) template, and the classic "plug-n-chug" mentality. Studies in science education and cognitive science have yielded rational explanations for many of these novice behaviors and lay a groundwork for instructors to aid their students in beginning to develop more expert-like skills and behaviors. A few examples of these studies, as well as curricular tools that have developed as a result, will be shared. These tools not only encourage students to try more expert-like strategies, but also prime them for developing conceptual understanding.