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Investigative Science Learning Environment: Motivation and Outcomes

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The National Science Foundation's "Shaping the Future 1996" warns that: "the national work force is changing dramatically, as high-paying but relatively unskilled factory jobs disappear in the face of foreign competition and technological advances; consequently the educational needs of the prospective work force are now vastly different." This report and many others indicate that science education should place much more emphasis on helping students acquire the process abilities used in the practice of science, abilities such as model building, designing experiments, analyzing real world problems, justifying assumptions, evaluating work, and communicating. This presentation will illustrate how Investigative Science Learning Environment used in introductory physics courses helps achieve these goals in large and small college classrooms and describe the results in terms of student learning of these abilities and of physics content.