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**A simple model for why an active learning approach works best: Experiences with a “Jackson by Inquiry” electromagnetism course**

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The development of an inquiry-based group learning studio lab[1] for the teaching of electromagnetism is described, which has the goal of facilitating the transition of students from passive listeners to active investigators or practicing physicists. We summarize the course design, implementation, and results, which show improved performance by students with weaker math and physics backgrounds or who are under-represented in physics. A number of assessment tools are considered and evaluated including comparison to standard lecture formats. A general strategy for presenting technically demanding material is given and a simple model is presented which relates the success of such structured inquiry approaches to recent research in neurophysiology, cognitive science and learning, and physics education.

1. B. R. Patton, “Group Inquiry-Based Approach to Graduate Education in Physics: Can you do Jackson in a hands-on way?”, APS/AAPT Joint Meeting, Indianapolis, IN, 2-5 May 1996; B. R. Patton, Group Learning-Based Approach to the Graduate Electrodynamics Course: “Jackson by Inquiry,” APS Forum on Education Newsletter, Summer 1996.