

Research in Physics Education as a Basis for Improved Instruction

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Although physicists have been engaged in teaching their subject for over a century, physics education itself has been considered more of an art than a science by most of those involved in it. It is only relatively recently that physicists have taken on the teaching (and learning) of physics as a legitimate and worthwhile research problem in itself. They have brought to bear their deep knowledge of the subject along with a commitment to thoroughgoing and systematic analysis. As a result, significant progress has been made in identifying and addressing common student learning difficulties. The overall objective is to catalyze substantial improvements in instruction that will result in more effective learning by students at all levels.