

The Role of Research in the Improvement of Physics Education

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In recent years, university-based researchers in physics education have identified and investigated a number of critical factors that tend to constrain improved student learning. Through systematic and reproducible studies, key elements of the learning process have been explored and specific problem areas have been analyzed in detail. Based on this research, innovative curricular materials and novel instructional methods have been developed and carefully evaluated. Improvements in student learning have been extensively documented in many diverse institutional settings. The overall picture offers considerable hope that the future will see significant and sustained improvements in physics education on a much wider scale.