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Physics Education Research: Adapting to new topics and student populations

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The number of physics education researchers has grown dramatically in the past few decades, and the goals and methods of this research have diversified. I will describe a review of physics education research papers that suggests some patterns to this growth, and discuss possible factors that have influenced the evolution of the field. The move toward investigating more challenging topics has implications for how we interpret our research results, and the models we use for student thinking have become more varied as a result. A second focus of this talk will be what I see as a disparity between the student populations that are most commonly studied by physics education researchers and the overall distribution of students taking physics. Because the research population tends to be selected from better prepared student populations and from more challenging courses, we may be in danger of developing an overly optimistic view of what students can do and of the effectiveness of research-based interventions.