

Abstract Submitted
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Common themes and outcomes in research-based physics teacher education DAVID E. MELTZER, Arizona State University — Physics teacher education is normally viewed as an applied problem, and is typically investigated at the macroscopic level by assessing and probing overall program outcomes such as number and quality of graduates. There is little published research that examines individual program elements or that compares different programs to each other. However, examination of the literature reveals both common themes and frequently observed outcomes that characterize research-based physics teacher education programs. Common themes include close and extended supervision by expert physics educators, helping pre- and in-service teachers develop and test physics laboratory activities that guide students to deduce physics principles from their own observational data. A frequently observed outcome is improved physics performance by students of teachers who participate in research-based programs. Other common outcomes include better understanding of students' physics ideas, and an improved ability to develop and lead laboratory activities in which students are engaged in authentic investigations.

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