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Effects of a teacher professional development program on the mathematics achievement of middle school students.

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Summary: The effect of a 15- to 24-month in-service professional development (PD) program on state accountability mathematics test scores for middle school students was examined using a quasi-experimental design. Middle level mathematics teachers ($n = 128$) from 7 school districts and 64 middle schools volunteered for a PD sequence of content-oriented summer courses and pedagogy-oriented structured follow-up experiences during the subsequent academic year. Student effects of the PD program were measured using Colorado's state mathematics test results for 2 cohorts of students: 1 that received mathematics instruction from participant teachers in the year prior to the PD and another cohort that received mathematics instruction in the year following the PD. The odds of a student achieving a Proficient or Advanced score on the state test were then compared between cohorts. Results showed that student' odds of achieving a score of Proficient or better increased with teacher participation in the PD program.

Classification: B50

Keywords: professional development; teacher education programs; mathematics achievement; middle school students; inservice teacher education; quasiexperimental design; mathematics tests; program effectiveness; instructional effectiveness; achievement gains; cohort analysis; pedagogical content knowledge; intervention; knowledge base for teaching; mathematics education; improvement programs; instructional improvement; teacher improvement

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