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Improving mathematics teachers' content knowledge via brief in-service: A US case study.

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Summary: This study is an evaluation on whether middle-level mathematics teachers' participation in a week-long in-service course on middle-level mathematics concepts increases their understanding of this content. A secondary purpose of this study is an exploration of teacher perceptions before and after the institute via self-report surveys. Participants include 31 middle-level mathematics teachers who attended at least one of the two in-services, one emphasizing algebra concepts and the other emphasizing probability and geometry concepts. The findings indicate that teachers' content knowledge significantly improved, as measured by pretest and post-test results. The self-report survey responses did not change as a result of participation in the in-service, but overall patterns of responses in both the quantitative and qualitative survey data indicate how the institutes can contribute to a larger professional development strategy. Both in-service courses are described and implications are discussed. (Contains 1 table.) (ERIC)

Classification: B50 C79

Keywords: test results; probability; teacher attitudes; knowledge base for teaching; pedagogical content knowledge; mathematical concepts; middle school teachers; secondary school mathematics; inservice teacher education; algebra; geometry; mathematics; instruction; program effectiveness