

1011-97-188

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Elementary and Middle School Teachers as Mathematicians: Training K-8 Mathematics Teacher Leaders.

The Vermont Mathematics Initiative (VMI) is a highly successful comprehensive, statewide, three-year master's degree granting program designed to train elementary teachers to be mathematics leaders in their schools and districts. At the heart of the VMI is strong mathematics content knowledge. The VMI model and materials are also being used in K-8 teacher professional development programs in other states as well. Based upon the experience gained from these programs, we will explore strategies for transforming elementary and middle school teachers, many of whom are ill-prepared in and fearful of mathematics, into mathematicians. To the extent possible in the timeframe of the talk, we will discuss the following questions: What should one teach and why? How should instruction be delivered? What support structures are efficacious? How does one interpret the word 'mathematicians' in the above sentence? What are some important lessons learned? (Received August 26, 2005)