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Kenneth I. Gross*, Department of Mathematics and Statistics, University of Vermont, 16 Colchester Avenue, Burlington, VT 05401. *Elementary School Teachers as Mathematicians: The Vermont Model for Raising Student Mathematics Achievement.*

Nearly a decade ago, a chance event led to founding a master's degree program for elementary teachers, the Vermont Mathematics Initiative (VMI), based on the belief that mathematics knowledge is prerequisite to enhanced pedagogy and higher student achievement. Now in its ninth year, the VMI has had a profound impact on the teachers themselves, their classroom practice, and most importantly their students. As well, the VMI has inspired programs in other states, and it has been shown to be equally effective with middle school teachers. This talk will outline some of the ingredients that have led to the program's success, including guiding principles, key elements of the mathematics content, classroom strategies, and support structures designed to transform elementary teachers – many of whom enter the program ill-prepared in and fearful of mathematics, and do not find teaching mathematics a pleasant experience – into strong mathematical thinkers who see the world around them in a mathematical light, are enthusiastic about teaching mathematics, and are committed to improving mathematics instruction in their schools and districts. Along the way, we will also touch upon implications of what we have learned from VMI for teaching mathematics, in general, at the college level. (Received September 18, 2007)