

1056-N1-478

**Steve Benson\*** ([sbenson@lesley.edu](mailto:sbenson@lesley.edu)), Division of Natural Science and Mathematics, Lesley University, 29 Everett Street, Cambridge, MA 02138-2790. *Calculus: A Gateway to Algebra?! Preliminary report.*

We all know the old adage, "you don't really learn anything until you have to teach it," which has *some* truth to it, since it's through carefully working with and thinking about a particular topic that one builds a deep understanding. Of course, a better adage would be, "you don't learn something until you have to use it," which I propose to further "morph" to "it's hard to teach something if you don't really see where it leads."

I will discuss our calculus course for in-service elementary and middle school teachers, sharing quotes from teachers about how participating in the calculus class(es) changed their approach to teaching pre-algebra and algebra courses in elementary and middle school. The success of this course in helping teachers see the relevance of - and improve their confidence and practice with - proportional reasoning, algebraic thinking, and problem solving has led us to reconsider our sequence of courses for preservice teachers. (Received September 09, 2009)