

1086-Q1-2004      **Daniel T Kaplan\*** ([kaplan@macalester.edu](mailto:kaplan@macalester.edu)), 1600 Grand Ave., Saint Paul, MN 55116.  
*Calculus is Hard, Change is Harder.*

Over the last decades, there have been many calls for change in the transition to college-level math. Some are based on conclusions reached by experienced educators, some based on abstract pedagogical principles, some based on surveys of “client” or “partner” disciplines, some based on analysis of transcripts and similar data about student success and trajectories. Taken as a body, the quantitative research and the qualitative experience of educators indicates that the path of algebra leading to calculus seems not to be providing the majority of students with a useful mathematical preparation. Substantial ingenuity, creativity, and energy have been put into developing alternative pathways and pedagogies, but there is hardly a collective sense of optimism that things are getting broadly better.

There are several large-scale reasons why improving the situation is hard. I’ll discuss some of these and argue that they point to a need for a discontinuous change in our curriculum. I’ll outline one possible approach involving a simple mathematical repertoire, an emphasis on approximation and modeling, and serious engagement with modern computing and data. (Received September 24, 2012)