

# Leading Curricular Change: A Case Study in Re-envisioning the Calculus Sequence

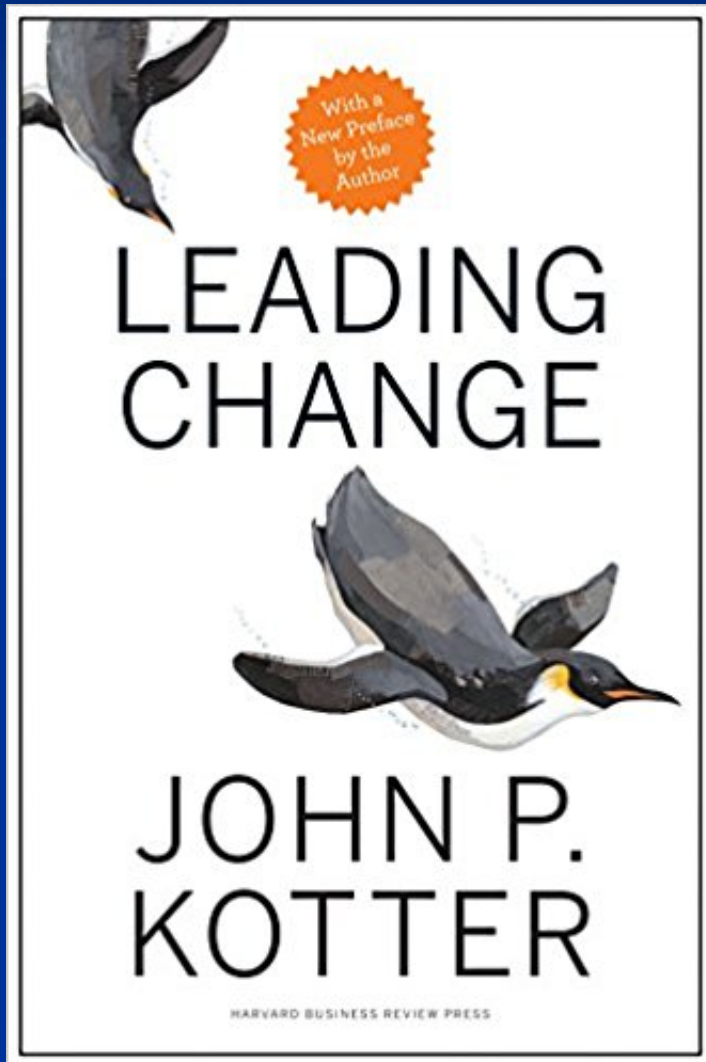
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# A Framework for Leading Change



John P. Kotter is the Konosuke Matsushita Professor of Leadership, Emeritus, at Harvard Business School and is cofounder of Kotter International.

# Stage 1: Establishing Urgency

- Constructive Restlessness – “Wilson’s Principle”

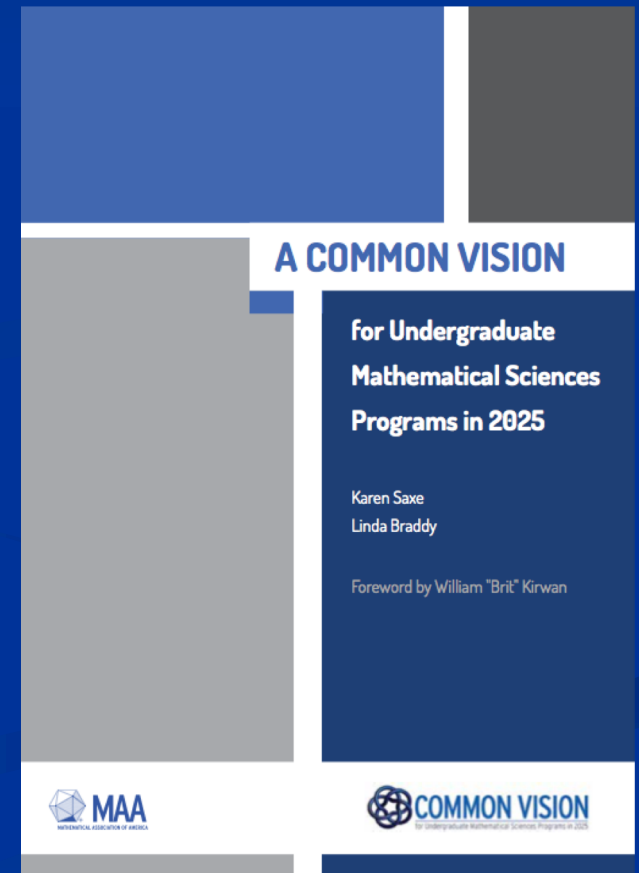
*‘If how we are teaching MAT XXX is perfect, then we are justified in preserving the status quo. If not, then we are compelled to think and reflect – to envision ways in which what we do might be better. And, when we find some idea, to thoughtfully act. –John Wilson, Centre College*



# Stage 1: Establishing Urgency

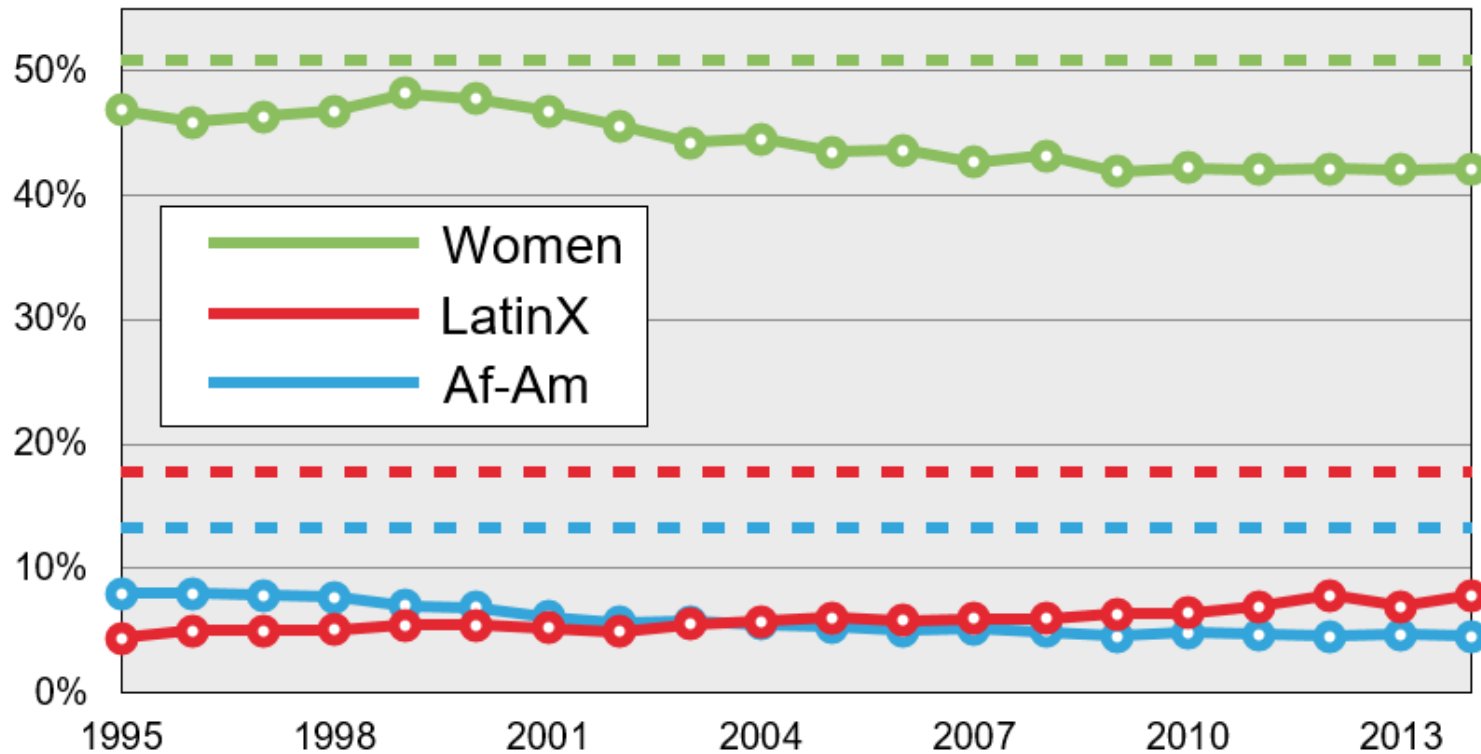
***THE STATUS QUO IS UNACCEPTABLE!!!***

- Update curricula
- Articulate clear pathways
- Scale up use of evidence-based pedagogical methods
- Remove barriers facing students at critical transition points and encourage persistence
- Establish stronger connections with other disciplines



# Stage 1: Establishing Urgency

PERCENT OF U.S. BACHELOR'S DEGREES IN MATH/STATISTICS EARNED BY MEMBERS OF CERTAIN UNDERREPRESENTED GROUPS





# Stage 2: Create a Guiding Coalition



The math faculty of Southwestern University and Centre College



Chad Topaz  
Williams College

# Stage 3: Develop a Vision and Strategy

Keeping in mind why we need to change:

- Constructive Restlessness
- Shifting toward “student-ready” courses
- The students in our classroom have changed
- We, the instructors, have changed

# Stage 3: Develop a Vision and Strategy

Five of our guiding principles:

- Organize every course in a way that engages all students and promotes educational equity.
- Make every course a good entry point into the calculus sequence, based on student background.
- Make every courses a good exit point from the calculus sequence, based on student interest.
- Make sure there is a smooth increase in difficulty across the three courses in the sequence
- Intentionally layers some concepts and applications throughout the sequence.



# Thanks!!

# Questions?

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