Relevance, Renewal, Retention

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June 30, 2013
Appreciation

- **Engage to Excel**: an *electric* wake-up call.
- Post-secondary mathematics education is of *paramount* importance.
- Mathematical sciences community is *greatly interested* in improving outcomes.
Mathematician’s perspective

• Research mathematics is thriving; applications are rapidly expanding; over 60% retention of majors.

• Remediation, general requirements, STEM students, mathematics majors require different approaches.

• Essentially every mathematics department tries to tailor its offerings to meet requirements of its client departments.

• There are a great many local efforts to renew and improve the delivery of mathematics education.
Ingredients for improved mathematics education

- **Curricular reform** leading to well-planned pathways.
- **Cooperation** with client departments.
- **Teaching methodologies** promoted on the basis of measured outcomes.
- **(Online) technology** adopted to complement, not replace personal education.
Plans and strategy

- Develop a **framework** that can be adopted at local levels.
- **Archives and virtual meetings** to share new course content and teaching methodologies.
- **Intra-university cooperation**, including team teaching.
- **Carnegie Corp of NY, AAU, other foundations, NSF efforts** to lead
Discussion topics

- Impact of online technology on disadvantaged students.
- Awkward communication with education community.
- U.S. competitiveness demands more knowledgeable (not just more) STEM students.
- Motivation through applications requires awareness of students’ interests.
Help is needed

- PCAST and others can help to maintain the high visibility of these challenges.

- Academic leaders can facilitate exchanges between the mathematical sciences and other disciplines.

- Government agencies can provide financial resources for teaching innovation.

- Business leaders can join academics in emphasizing the importance of mathematical skills.
THANK YOU for your interest and concern.