



STATWAY™

A student success initiative embedded in a Networked Improvement Community



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The Problem

- 60 – 90% of community college students place into developmental mathematics
- Only 30% of those ever complete the sequence
- Only one pathway – for STEM and non-STEM

One solution...new pathways

- Statway™
 - To-and-through college level statistics in one year
 - Developmental math in the service of statistics
- Quantway™
 - Quantitative literacy courses
 - A developmental math course followed by a college level course

What makes these pathways unique

- Curriculum
 - Outcomes determined by members of leading statistical and mathematics organizations, supported by AMS, ASA, AMATYC, MAA
- Pedagogy
- Professional Development
- Productive Persistence
- Language and Literacy
- Articulation

Networked Improvement Community

- Collaboratory – “a center without walls”
 - Collaboration of researchers and practitioners building and refining a solution
- Carnegie Foundation, Charles A. Dana Center, Researchers at UCLA and University of Pittsburg and University of Minnesota
- 19 Statway™ community colleges in 5 states, 3 CSU campuses

Timeline

- 2010 – 2011
 - Establish and build the community
 - Co – development of materials and supports
 - Lesson study
- 2011 – 2012
 - Pilot the pathways
 - Strengthen the community
 - Continue to improve – curriculum, pedagogy, training, etc
- 2013 and beyond - Expand...

Learning Philosophy Principles

- Rich task or overarching question motivates the development of concepts
- Students bring their own experience and reasoning to solve problems
- Focus on fewer topics in greater depth
- Stress conceptual understanding over procedural fluency

3 Key Learning Opportunities

- Productive Struggle
- Explicit Connections
- Deliberate Practice

3 Key Learning Opportunities

- **Productive Struggle:** The students have to be engaged in working on their own learning. They need to struggle on the right things.
- Explicit Connections
- Deliberate Practice

3 Key Learning Opportunities


- Productive Struggle
- **Explicit Connections:** At some point in the instruction, make explicit connections to other ideas, applications, and/or previous experience.
- Deliberate Practice

3 Key Learning Opportunities


- Productive Struggle
- Explicit Connections
- **Deliberate Practice:** Not repetitive practice!
The questions are ordered and varied so that there is effort for each.

MyStatway™

- “Out of Class Experience”
- Based on Carnegie Mellon’s OLI statistics course
- Students are expected to learn through reading text online.
- Some tasks ask students to self-assess the accuracy of their own responses.



Research Informed Instructional Design

- James Stigler and Karen Givvin, UCLA
 - Lesson Study
 - Faculty engage with each other around how to teach a lesson
 - Sharing and improvement of practice and curriculum
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