Statway and Quantway
a pathways approach to mathematics

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Community College Pathways Program
Pathways Approach

- **Structural Change**
  - Accelerated cohort experience – reducing time and transitions
  - College level mathematics focus with developmental math supports
  - Must maintain rigor – UC statistics transferability + meets pre-college mathematics requirement

- **Pedagogical and Content Shift**
  - Authentic contexts
  - Aligned with specific programs of study
  - Active and collaborative learning

- **Integrated Student Supports**
  - Student and faculty resources for addressing non-cognitive factors and language and literacy barriers that can hinder mathematics learning

- **Network Improvement Community**
  - Space for shared learning – common curriculum, pedagogy, and assessments
  - Evidence base for continuous improvement
A New Way: Coherent, Intensive, Accelerated Learning

Quantway 1

Quantway 2 or College Level QR Course

Statway

College Math Credit

Semester 1

Elem Alg

Semester 2

Int Alg

Semester 3 or more

College Math

Elem Alg

Int Alg

College Math

Traditional Math Sequence
Statway colleges have maintained success rate during period of expansion

*Estimate – 11% success after one year, predicted 15% at two years
Statway Student versus Comparison Student Success Rates (C or better) AY 2013-2014
Can we change students’ beliefs and attitudes in three weeks?

<table>
<thead>
<tr>
<th></th>
<th>Interest in Math</th>
<th>Confidence</th>
<th>Relevance of math in course</th>
<th>Belief that math intelligence is fixed</th>
<th>Math Anxiety</th>
<th>Stereotype Threat</th>
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</thead>
<tbody>
<tr>
<td>Effect Size</td>
<td>0.34</td>
<td>0.21</td>
<td>0.48</td>
<td>-0.65</td>
<td>-0.47</td>
<td>-0.22</td>
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Productive Persistence Matters

Failed Mid-Course Assessment
- Low Risk: 28%
- Moderate Risk: 45%
- High Risk: 55%

Failed End-of-Course Assessment
- Low Risk: 13%
- Moderate Risk: 37%
- High Risk: 63%
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Who Are Pathways Students?

**College Readiness: Math**
- 75% 2 Levels and Below
- 22% 1 Level Below
- 3% College Ready

**College Readiness: Reading**
- 55% College Ready
- 45% Not College Ready

Who Are Pathways Students? (Chart 1)

College Readiness:
- Math
- Reading

- 75% 2 Levels and Below
- 22% 1 Level Below
- 3% College Ready
- 55% College Ready
- 45% Not College Ready
Who Are Pathways Students?

Maternal Education

- 69% Less than College Degree
- 31% 2-Year, 4-Year, or Graduate Degree

Home Language

- 64% English
- 36% Home Language Not Primarily English
Statway’s success exceeds the comparison groups in half the time.

**Percentage Correct (C or Better)**

- **2011-2012**: Statway 48%, Comparison 16%
- **2012-2013**: Statway 52%, Comparison 14%
- **2013-2014**: Statway 48%

*Estimate – 11% success after one year, predicted 15% at two years.*
Statway Student versus Comparison Student Success Rates (C or better) AY 2013-1014
Quantway’s success rate exceeds the comparison group’s in one half the time.
Quantway Student versus Comparison Student Success Rates (C or better) AY 2013-1014

The graph shows the comparison of success rates between Quantway students and comparison students. The x-axis represents the comparison student success rate, while the y-axis represents the Quantway student success rate. The data points indicate that the success rates are relatively close, with some variability. The parity line is represented as a diagonal line, suggesting that if all comparison students achieved the success rate of Quantway students, the success rates would align. There is a noticeable trend that as the comparison student success rate increases, the Quantway student success rate also increases, though not perfectly aligned with the parity line.
## Developmental Math Success by Subgroup

### Quantway Comparison Fall 2013

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<thead>
<tr>
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<th>Female</th>
<th>Male</th>
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<tbody>
<tr>
<td></td>
<td>Non-QW</td>
<td>QW</td>
</tr>
<tr>
<td>Hispanic</td>
<td></td>
<td></td>
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<tr>
<td>Black</td>
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<tr>
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<tr>
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<td></td>
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<tr>
<td>Unknown</td>
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<tr>
<td>Other</td>
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### # of Students

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<th></th>
<th>Hispanic</th>
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<th>Multi</th>
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<th>White</th>
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