The 3 QLs: Getting Students on the Right Math Pathway

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Why Metamajors?

Julie Hartley
Only about 2 in 5 USHE students complete their degree within 150% of time (6 years for bachelor's, 3 years for associate)
### Guided Pathways to Success

<table>
<thead>
<tr>
<th>Time to Degree</th>
<th>Average number of credits to degree</th>
<th>Time to Degree</th>
<th>Average time to degree, in years</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-year</td>
<td>0</td>
<td>60</td>
<td>8 yrs</td>
</tr>
<tr>
<td>4-year non-flagship</td>
<td>0</td>
<td>120</td>
<td>8 yrs</td>
</tr>
<tr>
<td>4-year flagship/very high research</td>
<td>0</td>
<td>120</td>
<td>8 yrs</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

**DS** = Data suppressed, 10 or fewer students.  
**NP** = The state did not provide data for this metric.  
***= Data do not change based on filters.  
**= Includes full-time and part-time.

Data provided by state to Complete College America in 2013

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Please note: this information represents Complete College America’s analysis of a significant data set derived from information from public institutions and state higher education offices across our Alliance of States. The data is based on median, not average, which eliminates the effects of outliers. Across sectors, data show significant.
Problem: Taking Courses that Don’t Count Toward Major/Changing Major
Big Culprit: Math

IF AT FIRST YOU DON'T SUCCEED, TRY TWO MORE TIMES SO THAT YOUR FAILURE IS STATISTICIALLY SIGNIFICANT.
Diagnosing Problems: National Data

For Every 100 Students of Each Race Enrolled

<table>
<thead>
<tr>
<th>Race</th>
<th>Enroll in Remedial</th>
<th>Complete Gateway</th>
<th>Fail to Complete Gateway</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asian</td>
<td>28</td>
<td>11</td>
<td>18</td>
</tr>
<tr>
<td>Black</td>
<td>60</td>
<td>9</td>
<td>51</td>
</tr>
<tr>
<td>Hispanic</td>
<td>48</td>
<td>12</td>
<td>36</td>
</tr>
<tr>
<td>White</td>
<td>35</td>
<td>9</td>
<td>26</td>
</tr>
</tbody>
</table>
Problem: Wrong Math Pathway
College Algebra:

- Students who are advised into Math 1050 are at greater risk for failure, especially if calculus is not needed for their major.

- Putting students in the wrong math class = setting them up to drop out.
USU MATH ASSESSMENT WORKSHOP OUTCOMES

Most STEM degrees kept MATH 1050 (or higher) as QL and/or prerequisite option (when calculus is a degree requirement).

Sixty-six programs in arts, humanities, social science, and teaching eliminated MATH 1050 as QL. They will substitute STAT 1040, STAT 1045 or another new program-specific QL course.
Advising Dilemma:
What if students haven’t decided on a major?
National Patterns

• 50% of incoming freshmen are “undecided.”
• Don’t know themselves; dualistic thinking.
• Students tend to choose a major based on influence of family and friends or assumptions about what that major does rather than through an understanding of their own personal goals and values.
• Affinity between personality and major is a better predictor of performance than ACT scores.
Solution: broad clusters of related programs = meta-majors
Solution: meta-majors
Advising Dilemma:
What if students change their major?

How many times do college students change majors?

More than 60% of all college students change their major at least once.

The average is three changes of majors per student.
Default to Math 1050 to “keep options open“?

- One USHE 4-Year Institution: all degree-seeking enrollments since 2006.
- The majority of students complete within their initial college.
- Students are 3 ½ times more likely to transfer out of STEM than into it.
- Only 2.9% transferred into a STEM degree.
Advising Dilemma: Math Expiration Dates

- I study
- I take the test
- I pass it
- I forget what I learnt
2014-15 Concurrent Enrollment

1 in 3 high school juniors & seniors take at least 1 concurrent enrollment class

Most popular class: English 1010

9 out of 10 courses are taught by adjunct instructors in high schools

Credits Served by Institution

- SLCC (27%)
- WSU (24%)
- UVU (22%)
- USU (15%)
- Snow (5%)
- DSU (4%)
- SUU (3%)
- U of U (1%)

$32.5 million

In tuition savings that students would have paid for concurrent enrollment classes in college.
SB 196
Solution:
Concurrent Enrollment
Exploratory Pathways
Holland Occupational Codes

Concurrent Enrollment Math Pathways: