Quantifying Achieved Curricular Breadth: Evaluating a Change in Degree Requirements

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Kalamazoo College
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Overview

- Background
- The dataset
- Assessment of breadth
- Now what?!
Background

• *K-Plan*

• Greater integration

• Simplify “surfeit of conceptual scaffolding”

• Student agency

• Why mess with success?
Background

Kalamazoo College 2005 to 2009

Longitudinal Effect Size
Measuring CLA “gains” over four years:
An effect of a college education
2007: Distinctiveness Initiative Task Force (DITF) worked to find ways to enhance our curriculum and address desire for greater integration.
January 2009: Faculty voted to adopt a new set of graduation requirements.
Graduation Requirements: Common to Old and New

• First-Year Seminar
• Major
• Language (intermediate level)
• PE (Physical Education/Wellness)
• SIP (Senior Individualized Project)
<table>
<thead>
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<th>Differences</th>
<th>Old</th>
<th>New</th>
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<tbody>
<tr>
<td></td>
<td>QR (1 unit)</td>
<td>Sophomore Seminar (1 unit)</td>
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<td>AOS (10 units)</td>
<td>Senior Seminar (1 unit)</td>
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<td>-Lit, Fine Arts, CE, and History (3 units)</td>
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<tr>
<td></td>
<td>✓ 1 unit Lit</td>
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</tr>
<tr>
<td></td>
<td>✓ 1 unit CE</td>
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<td>-Phil/Rel (2 units)</td>
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<tr>
<td></td>
<td>-SocSci (3 units)</td>
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<tr>
<td></td>
<td>✓ ≥1 unit from at least 2 divs</td>
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<tr>
<td>Cultures (3 units)</td>
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<td></td>
<td>-1 US</td>
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<td>-2 from different regions OR</td>
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<td>LACC (1 unit)</td>
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Palpable concern about students attaining breadth in their education persists.
What do we mean by “Breadth”? 

- Exposure to a variety of ways of knowing 
- Sustained engagement in more than one area 
- Interdisciplinary pursuits
“K” Learning Outcomes
(approved April 2010)

A Kalamazoo College graduate will...

• Have studied a variety of fields of inquiry
• Have explored the cultures of different regions of the world
• Be able to learn effectively in a variety of settings
• Be proficient in at least one second language
Summer 2011: Begin assessing achieved curricular breadth under the new requirements.
Quantifying the breadth represented by a set of courses is impossible...

but we can quantify course selections.
The Dataset
The Dataset

- Class Entering 2004 (249 students)
  - June ’08
- Class Entering 2005 (305 students)
  - June ’09
- Class Entering 2006 (302 students)
  - June ’10
- Class Entering 2007 (263 students)
  - June ’11

New Graduation Requirements Spring 2009
A Close-up Look at the Data:
2004 for AOS Requirements

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<th>B</th>
<th>D</th>
<th>F</th>
<th>H</th>
<th>J</th>
<th>L</th>
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A Close-up Look at the Data: 2004 by Division
Questions to Consider

• To what extent are old AOS requirements still being met?
• To what extent are course selections spread across divisions? Are some divisions/areas now being avoided?
• To what extent has the distribution of achieved breadth across students changed?
AOS Requirements
Percent with no courses in...

- Natural Science
- Math/CS

Year of Entry

Percent with No Courses

2004: 25
2005: 25
2006: 30
2007: 26

Kalamazoo College
Percent meeting the requirement

Year of Entry

Percent meeting requirement

Soc Sci

Phil/Rel

51
Percent with **one or more courses** in..
For comparison, percent taking languages has held steady.
By Division
Are students completely avoiding certain divisions?

- Fine Arts
- Humanities
- Math/Sci
- Soc Sci

Year of Entry

Percent with zero courses

- 2004: 0
- 2005: 0
- 2006: 9
- 2007: 14
Percent with **one or fewer courses:**

- Fine Arts: 37
- Humanities: 28
- Math/Sci: 28
- Soc Sci: 28

Year of Entry:
- 2004
- 2005
- 2006
- 2007
Are students siloing in some divisions?

- Fine Arts
- Humanities
- Math/Sci
- Soc Sci

Year of Entry

Percent with 20+ courses

2004 2005 2006 2007
Breadth as Sustained Engagement

In how many of the 4 divisions do students take 3 or more classes?
Number of Divs with 3+ Courses

Avgs:
- 2004: 3.01
- 2005: 2.91
- 2006: 2.75
- 2007: 2.70

Std errors are .041 to .043 but hard to interpret w/o random sampling.
2. Adventure Index

A more intuitive summary measure is the proportion of units in the least-frequent division.
### Individual Student Records:
Proportions by Division

<table>
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<th>Student Number</th>
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<th>Hum</th>
<th>Math/Sci</th>
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</table>
The adventure index ranges from a low of 0 (no sense of adventure?) to a maximum of 0.25 (equal spread of units across divisions).
Nearly **one-fourth** of the just-graduated 2007 cohort took no classes in at least one division.

Compared to 6-7 percent in ’04-’05 cohorts.

The **average** adventure index has declined significantly from pre-change levels.
Summary

1. Not surprisingly, breadth has declined since the move to the new requirements.

2. More students are graduating with very few or no courses in the sciences, fine arts, philosophy, and religion.

3. But no strong evidence of widespread siloing in a single division.
Now what?!

1. Wait while we collect more data.
2. Establish a formal set of “breadth expectations.”
3. Tweak the system by adding a couple targeted requirements.
4. ???