Equity Minded Approaches to Data Analysis

NASH TS3 Grant Meeting

October 11, 2018
From Knowing to Doing

- Prediction to Action (management and orchestration)
- Predictive Analytics (Embedded in processes)
- Descriptive Analytics (Statistical analysis)
- Forecasting
- Business Intelligence (Ad hoc reporting)
- Reporting (Standard reports)
From Knowing to Doing – Start by Knowing

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Hard Problems – Can we improve access?

• “Baby Boom Echo” – The children of the largest generation in history arrive

• “The Great Recession” – People flee to higher education?

• “Baby Bust Echo” – Generation X’s childrens arrive
Hard problems – Can our students succeed?

GRADUATION RATES

UW Institution
UW System

Entering Fall
2000 to 2013

Graduating From
- Any UW
- Same UW

Graduating Within
- 4 Years
- 6 Years

Rates are shown for students graduating at the same UW institution where started or at any UW institution.

Graduation rates for UW System and UW four-year institutions are based on new freshmen enrolling full-time in fall semester and graduating with a bachelor’s degree.
Hard problems – Can all of our students succeed?

GAPS IN SIX-YEAR GRADUATION RATES

Graduation rates for UW System and UW four-year institutions are based on new freshmen enrolling full-time in fall semester and graduating with a bachelor’s degree from the same institution where started.
Hard problems – Can all of our students succeed?

GAPS IN GRADUATION OR TRANSFER-OUT FROM UW COLLEGES

UW Institution
- UW Colleges

Entering Fall
- 2003 to 2014

Group
- Pell Recipient
- Underrepresented Minority (URM)

Outcomes for UW Colleges are based on new freshmen enrolling full-time in fall semester and graduating from UW Colleges or transferring to a UW four-year institution within three years. To protect student privacy, values are not shown when five or fewer students graduated or transferred out.
Hard problems – Can all of our students succeed?

GAP TO SIX-YEAR GRADUATION RATES

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<th>Year</th>
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Graduation rates for UW System and UW four-year institutions are based on new freshmen enrolling full-time in fall semester and graduating with a bachelor’s degree from the same institution where started.

To protect student privacy, values are not shown when five or fewer students graduated.
Hard problems – Can we make change permanent?

Based on new freshmen enrolling full-time in fall semester at four-year institutions and graduating with a bachelor's degree. To protect student privacy, rates are not shown when five or fewer students graduated.
Institutional Data

• 6-year grad rate gaps
  https://www.wisconsin.edu/accountability/educational-performance/?storypoint=3

• 3-year graduation and transfer-out (UW Colleges)
  https://www.wisconsin.edu/accountability/educational-performance/?storypoint=4

• Retention of underrepresented groups
  https://www.wisconsin.edu/accountability/progress-and-completion/?storypoint=2

• 4-year and 6-year graduation of underrepresented groups
  https://www.wisconsin.edu/accountability/progress-and-completion/?storypoint=5
• Own the difficulty
• Own the limited success
• Embrace the revolution
From Knowing to Doing

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From Knowing to Doing – What Can be Done?

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What is the Revolution?

• Not about absolute availability of information

• Tidal wave in total amount of data

• What began as incremental change has reached a point of state change

• Change in how we think about these things not simply how we do things

• An Epistemological Revolution
Models

How have we learned to integrate vast new data into our thinking

• Evidence-Based Medicine

• Supply Chain Management

• Catechism
Evidence-based Medicine

“The EBM Triad”

- External Evidence
- Clinical Expertise
- Patient Expectations

Source: Sackett et al. 1996
Supply Chain Management

Source: Koutsoukis et al. 2000
Information revolution: 1519

Change is being driven by what people can do now that they could not do before

People, Systems and the Problems they address will dramatically lag technology’s capabilities
Lessons Learned

• Ask the right questions
• Ensure the right data is available
• Get it into the hands of the experts
5 High Impact Areas, 5 Core Questions

1. **Student Success** – What makes different groups of students (or potential students) more or less successful?

2. **Learning** – What practices in the learning space lead to greater success and more effective learning?

3. **Cost** – What is the cost to run programs (academic and otherwise) at different universities, for different groups, and under different circumstances?

4. **Academic Programs** – What array of programs will most effectively meet the needs of our students and the state of Wisconsin?

5. **Human Capital** – What are the factors that will make faculty and staff the most effective at meeting System and institutional missions?
5 High Impact Areas, 5 Core Questions

1. Student Success – What makes different groups of students (or potential students) more or less successful?

2. Learning – What practices in the learning space lead to greater success and more effective learning?
High Impact Practices

Average Semesters Enrolled:

- 2006: 82.0%
- 2008: 83.0%
- 2011: 82.0%
- 2014: 89.0%
- 2017: 89.0%
From Knowing to Doing – What Can be Done?

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Use Cases

• Personalized High Impact Action
• Improved Success of Micro-segmented groups
• Specific Educational “life-cycle” interventions
• Scalable results