Improving Graduation Rates Using Data Insights and Predictive Modeling

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Predicting Success

1. Increasing Student Success
2. Incorporating Proactive Student Support
3. Taking a High Touch High Tech Approach
4. Tracking Institutional Effectiveness
5. Defining the Technological Solution
From Data Reports to Analytics

- What's the best that can happen?
- What will happen next?
- What if these trends continue?
- Why is this happening?
- What actions are needed?
- Where exactly is the problem?
- How many, how often, where?
- What happened?
Really Knowing Our Students

Goes Beyond Reporting

- Pattern recognition
- Predictive
- Prescriptive
- Inferential
Increasing Graduation Rates

Graduation Rate increased from 14% to 24% in 5 years

New Reactive Programs

• Early Alert
• Supplemental Instruction
• Completion Concierge
• Summer Bridge for High School Students
• All data based, reactive solutions

New, Proactive Systemic Solutions
Improving Student Success Support Across the Pathway
Aggregating Data

What if we combined all that we know:

- High School GPA
- Placement Scores
- Attendance Patterns
- Engagement on Campus
- Progress in Course Work

- Age
- Pell Eligible
- Full Time vs. Part Time
- Ethnic Background
- First Generation College
  - Attendee Course Work
Removing the Guesswork

- Abilities
- Counseling
- Program of Study
- Course Scheduling
- Support Services
- Placing into success interventions prior to experiencing failure
The Student Retention Model

- Ethnic Group
- First Generation
- Gender
- FT/PT Status
- High School GPA
- ACT/SAT Score
- Current GPA
- PELL Grant
- Campus Activities
- Student Data
- Course Data
- College Data

Student Retention Predictive Analytics Model

Reports & Alerts

Advisor

Student

Early Intervention

Risk Factor

Model Variable
Dashboards

• Institutional
• Operational Student
Institutional > Student Success

Progress Towards Target

- Developmental Course Success Rate
  - In Progress – On Target
- Gatekeeper Course Success Rate
  - In Progress – On Target
- Persistence Rate (Fall to Fall)
  - Target Achieved
- Advancement Rate
  - Target Achieved
- Credentials Conferred
  - Target Achieved

Fiscal Year 2010 - 2014

- Developmental Course Success Rate
- Gatekeeper Course Success Rate
- Persistence Rate
  - Fall - Spring
  - Fall - Fall
- Student Advancement Rate
- Annual Completions
  - Credentials Confirmed
  - Number of Completions
Graduation Rate

Full definition: Percent of full-time, first-time, degree/certificate-seeking students who completed a degree or certificate within three years of initial enrollment.

Data source: IPEDS – Three-year rate (2012 data represents students who enrolled at Harper in fall 2009 and completed a degree or certificate by spring 2012)

Peer group: College of DuPage, College of Lake County, Elgin Community College, Joliet Junior College, Moraine Valley Community College, Oakton Community College, Triton College
Student Information
Advisor Use Case: Personalized Data-Driven Intervention

Select Cohort

<table>
<thead>
<tr>
<th>COHORT YEAR</th>
<th>Total Student</th>
<th>Avg Risk.15</th>
<th>Avg Risk.30</th>
<th>Avg Risk. Complete</th>
<th>Avg GPA</th>
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<tbody>
<tr>
<td>2006</td>
<td>2713</td>
<td>66%</td>
<td>75%</td>
<td>69%</td>
<td>2.71</td>
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<tr>
<td>2007</td>
<td>2812</td>
<td>64%</td>
<td>75%</td>
<td>69%</td>
<td>2.65</td>
</tr>
<tr>
<td>2008</td>
<td>2765</td>
<td>60%</td>
<td>67%</td>
<td>72%</td>
<td>2.77</td>
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</tbody>
</table>

Select Student Cohort
- Average Risk score by Cohort year
- Average Grade by Cohort year

Identify students with high risks
- Standardized Scores and Quick Access
- Customizable to meet specific Harper definitions of At-Risk

At-Risk Student List
Advisor Use Case: Personalized Data-Driven Intervention

**Student Profile**

**Understand the situation**
- What has contributed to the scores
- Student background
- Academic performance

**Simulate what-if scenarios**
- “Tweak” actionable variables
- See predicted results
Predictive Analytics Improves

- Personalization
- Completion
- Career Selection
- Course Planning
- Persistence
- Integrated Support
Student Analytics = Proactive Personalized Student Success
Questions?
Thank you.