USING ANALYTICS AND PROACTIVE INTERVENTIONS TO SUPPORT AT-RISK STUDENTS

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Vice President for Enrollment Management & Student Success
Vice Provost

University of Akron
March 30, 2015
THE BENEFITS OF A COLLEGE DEGREE

YOUNG ADULTS, AGES 25 TO 32

<table>
<thead>
<tr>
<th></th>
<th>Average Annual Income</th>
<th>Unemployment Rate</th>
<th>Lifetime Income (projected)</th>
</tr>
</thead>
<tbody>
<tr>
<td>High School Grads</td>
<td>$28,000</td>
<td>12.2%</td>
<td>$1.3 million</td>
</tr>
<tr>
<td>College Grads</td>
<td>$45,000</td>
<td>3.8%</td>
<td>$2.3 million</td>
</tr>
</tbody>
</table>

THE CHALLENGE IN FRONT OF US

Baccalaureate Degree Attainment by Age 24 by Family Income Quartile
1970 to Present

Georgia State University

- 32,500 students (38% White, 38% African American, 13% Asian, 9% Hispanic)
- 89% of undergraduates receive need-based financial aid
- Ranks in the Top 15 in the Nation for both Pell Population and Diversity *US News and World Report (2015)*
CHANGING DEMOGRAPHICS: RACE & ETHNICITY

UNDERREPRESENTED MINORITIES

- Fall 2008: 53%
- Fall 2009: 53%
- Fall 2010: 54%
- Fall 2011: 56%
- Fall 2012: 59%
- Fall 2013: 60%
- Fall 2014: 63%

Underrepresented Minorities
GEORGIA STATE’S CHANGING STUDENT BODY

PELL
Percent of GSU Undergraduates on Pell

<table>
<thead>
<tr>
<th>Year</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fall 2007</td>
<td>31%</td>
</tr>
<tr>
<td>Fall 2008</td>
<td>32%</td>
</tr>
<tr>
<td>Fall 2009</td>
<td>40%</td>
</tr>
<tr>
<td>Fall 2010</td>
<td>48%</td>
</tr>
<tr>
<td>Fall 2011</td>
<td>51%</td>
</tr>
<tr>
<td>Fall 2012</td>
<td>56%</td>
</tr>
<tr>
<td>Fall 2013</td>
<td>58%</td>
</tr>
</tbody>
</table>
The Challenge in Front of Us

Unmet Financial Need

Cost of Full Year GSU Undergraduate Education: $21,800
(Including in-state tuition, fees, books, room and board)

- There were over 14,000 students at GSU with unmet need during Fall 2014
- Students with unmet financial need often must take on multiple off-campus jobs, forego buying text books, and make other choices that negatively impact their ability to succeed academically.

Cost of Full Year GSU Undergraduate Education: $21,800
(Including in-state tuition, fees, books, room and board)

$21,800

- UNMET NEED (In Some Cases Over $15,000)
- WORK INCOME
- FAMILY CONTRIBUTION
- LOANS
- PELL
- HOPE

Georgia State University
Fragile Finances on the Rise

Unmet Need Levels by Class Standing

<table>
<thead>
<tr>
<th>Year</th>
<th>Seniors</th>
<th>Undergraduates</th>
</tr>
</thead>
<tbody>
<tr>
<td>2005</td>
<td>$5,222</td>
<td>$4,224</td>
</tr>
<tr>
<td>2012</td>
<td>$6,792</td>
<td>$5,785</td>
</tr>
<tr>
<td>2014</td>
<td>$8,303</td>
<td>$6,793</td>
</tr>
</tbody>
</table>

Average Unmet Need

- Senior: 2005 - $5,222, 2012 - $6,792, 2014 - $8,303
- Undergraduate: 2005 - $4,224, 2012 - $5,785, 2014 - $6,793
Impact Of Unmet Financial Need On Academic Performance

Percent of Students with a 3.0 GPA or Above by Financial Need

(Fall 2008, Undergraduate Students)
Early GPA Trends Are Hard to Reverse

GPA Trends by Graduate and Dropout Cohort
2008 Freshman Cohort (1st Term GPA 2.0 - 2.75)
PROACTIVE INTERVENTIONS

• Use Data to Identify Problems Early
• Pilot
• Revise
• Pitch
• Scale
BEFORE FRESHMAN FALL

SUMMER SUCCESS ACADEMY

• 340 Highest At-Risk Freshmen (low previous retention)
• Summer session before freshman fall with 7 credit hours of bachelor’s-level work
• Intensive advisement
• Academic skills
• Financial literacy training
• Team building

Retention Rate 2011: 50%
Retention Rate Today: 87%
Freshman Learning Communities with Block Schedules of 5 to 6 courses: 95% of non-Honors Freshmen (Opt-out model)

Meta Majors:
- STEM
- Business
- Arts and Humanities
- Education
- Policy and Social Science
- Exploratory

1st-Year GPA

<table>
<thead>
<tr>
<th></th>
<th>No FLC</th>
<th>FLC</th>
</tr>
</thead>
<tbody>
<tr>
<td>GPA</td>
<td>2.73</td>
<td>2.96</td>
</tr>
</tbody>
</table>

Retention

<table>
<thead>
<tr>
<th></th>
<th>No FLC</th>
<th>FLC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Retention Rate</td>
<td>80%</td>
<td>85%</td>
</tr>
</tbody>
</table>

No FLC vs FLC Comparison

Graph showing 1st-Year GPA and Retention rates for Freshmen in Freshman Learning Communities (FLC) vs those not in FLC.
**Freshman and Sophomore Bottlenecks**

**Supplemental Instruction (SI)**

- **Average course GPA**
  - Non SI: 2.41
  - SI: 2.91

- **One-Year Retention**
  - No SI: 83.5%
  - SI: 91.2%

- **Students Benefitted 2013-14**: 9,700
College Algebra, Pre-Calculus, Intro to Stats

- Prior to Change: DFW rates were 43%
- Fall 2014: DFW rate of 19%
- Number of Students enrolled in courses taught through the MILE, 2012-13: 7,500+
- Additional passing grades: 1,800
Academic Program Redesign: Nursing

How Well Does First-Year GPA Predict Graduation in NURSING AND HEALTH PROFESSIONS - NURSING and Overall?

What Opportunities Do We See to Inflct Change?

Graduation Rates by First-Year GPA FT/FT Students

<table>
<thead>
<tr>
<th>GPA</th>
<th>Graduated in program</th>
<th>Graduated in any program</th>
<th>University Grad Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.0 - 2.0</td>
<td>19.6%</td>
<td>5.4%</td>
<td>69.2%</td>
</tr>
<tr>
<td>2.0 - 2.2</td>
<td>28.0%</td>
<td>28.9%</td>
<td>73.3%</td>
</tr>
<tr>
<td>2.2 - 2.4</td>
<td>24.0%</td>
<td>4.0%</td>
<td>72.7%</td>
</tr>
<tr>
<td>2.4 - 2.6</td>
<td>37.9%</td>
<td>10.3%</td>
<td></td>
</tr>
<tr>
<td>2.6 - 2.8</td>
<td>40.0%</td>
<td>8.0%</td>
<td></td>
</tr>
<tr>
<td>2.8 - 3.0</td>
<td>28.9%</td>
<td>6.7%</td>
<td></td>
</tr>
<tr>
<td>3.0 - 3.2</td>
<td>53.8%</td>
<td>25.0%</td>
<td></td>
</tr>
<tr>
<td>3.2 - 3.4</td>
<td>53.8%</td>
<td>23.1%</td>
<td></td>
</tr>
<tr>
<td>3.4 - 3.6</td>
<td>63.6%</td>
<td>63.6%</td>
<td></td>
</tr>
<tr>
<td>3.6 - 3.8</td>
<td>63.6%</td>
<td>63.6%</td>
<td></td>
</tr>
<tr>
<td>3.8 - 4.0</td>
<td>63.6%</td>
<td>63.6%</td>
<td></td>
</tr>
</tbody>
</table>

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Panther Retention Grants: Impact

Fall 2011 Grants: 41
Grants to Date: 3,724
Average Grant: $900

Continuing Students retention rate: 90%
Graduation Rates* for Seniors
Fall 2013

NO PRG: 25.9%
PRG: 56.5%

*Graduated within two semesters of award
The Advisement Challenge: The Murky Middle

Student Performance Curve (Illustrative)

Obvious Risk Cases
Mostly Ds and Fs
High Attrition Risk

Murky Middle
Mixture of Bs and Cs
Outcome Still Uncertain

Nearly impossible to pick out who might actually be at risk from a cursory transcript review

The All-Stars
Straight As and Bs
Probable Graduates

GPA 2.0
Academic Performance
GPA 3.0
Georgia State’s Web-Based GPS Advising System

- A collaboration with the Education Advisory Board and four other schools
- Based on 10 years of RPG data at Georgia State and 2.5 million grades
- Live, nightly feeds from Banner and daily alerts to advisors if students have missed any of the markers
- Predictive analytics for each student’s success in individual majors and courses
- Tracks 700+ alerts for risk factors
# Major Maps

**Chemistry (B.S.)**

<table>
<thead>
<tr>
<th>Semester 1</th>
<th>Semester 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Complete 1 of ENGL 1101, ENGL 1102 or ENGL 1103 (C or Better)</td>
<td>• Complete ENGL 1102 or 1103 (C or Better)</td>
</tr>
<tr>
<td>• Complete MATH 1113 or Higher (B- or Better)</td>
<td>• Complete MATH 2211 or Higher (B- or Better)</td>
</tr>
<tr>
<td>• Complete CHEM 1211K (B- or Better)</td>
<td>• Complete CHEM 1212K (B- or Better)</td>
</tr>
<tr>
<td></td>
<td>• Maintain a cumulative GPA of 2.25 or Better</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>Semester 3</td>
<td>Semester 4</td>
</tr>
<tr>
<td>• Complete CHEM 2400 (B- or Better)</td>
<td>• Complete CHEM 3410 (C or better)</td>
</tr>
<tr>
<td>• Complete MATH 2212 (C or better)</td>
<td>• PHY 2212k ( B- or Better) (C or better)</td>
</tr>
<tr>
<td>• Complete PHY 2211k (C or better)</td>
<td>• Maintain a cumulative GPA of 2.25 or Better</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>Semester 5</td>
<td>Semester 6</td>
</tr>
<tr>
<td>• Complete CHEM 4000 with a C or Better</td>
<td>• Complete CHEM 4010 with a C or Better</td>
</tr>
<tr>
<td>• Complete CHEM 4110 with a C or Better</td>
<td>• Complete CHEM 4120 with a C or Better</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>Semester 7</td>
<td>Semester 8</td>
</tr>
<tr>
<td>• Complete CHEM 4160 with a B- or better</td>
<td>• Complete CHEM 4190 with a C or Better</td>
</tr>
</tbody>
</table>
Alerts Based on Historical Data

Graduation Rate in Major by Introductory Course Grade

Introduction to Chemistry
Natural Science majors

Comparative Politics
Political Science majors

Music Theory I
Music majors

<table>
<thead>
<tr>
<th>Course</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D/F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Introduction to Chemistry, Natural Science majors</td>
<td>70.0%</td>
<td>66.7%</td>
<td>39.5%</td>
<td>8.3%</td>
</tr>
<tr>
<td>Comparative Politics, Political Science majors</td>
<td>81.8%</td>
<td>73.9%</td>
<td>25.0%</td>
<td>6.2%</td>
</tr>
<tr>
<td>Music Theory I, Music majors</td>
<td>66.7%</td>
<td>55.5%</td>
<td>12.5%</td>
<td>0.0%</td>
</tr>
</tbody>
</table>
## Student Histories

### Success Progress

#### Academic Summary

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Status</th>
<th>Minimum Performance</th>
<th>Student's Performance</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHEM1211K</td>
<td>Needs attention</td>
<td>Grade: C-</td>
<td>Did not register</td>
</tr>
<tr>
<td>MATH1101 or Higher View details</td>
<td>Needs attention</td>
<td>1 course Grade: B-</td>
<td>Needs 1 more course to complete requirement</td>
</tr>
<tr>
<td>ONE INTRO ENGL View details</td>
<td>Completed</td>
<td>1 course Grade: C</td>
<td>1 course completed</td>
</tr>
</tbody>
</table>

#### Fall Semester 2008

- 2 alerts (2 new alerts)

#### Spring Semester 2009

- 3 alerts (3 new alerts)

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Status</th>
<th>Minimum Performance</th>
<th>Student's Performance</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL2107K</td>
<td>Needs attention</td>
<td>1 course Grade: B-</td>
<td>Did not register for courses</td>
</tr>
<tr>
<td>ENGL1102 or ENGL1103 View details</td>
<td>Completed</td>
<td>1 course Grade: C</td>
<td>1 course completed</td>
</tr>
</tbody>
</table>
MAJOR MATCHING

Predictive Analytics for Courses and Majors
CAREER PATHWAYS
**Biochemist**

Studies the chemical composition of cells and organisms and conducts research using advanced technologies. Studies the chemical interactions involved in biologic processes such as metabolism, reproduction, and growth, or the effect of drugs or hormones.

**Related titles:** Research Manager, Wildlife Biologist, Chemist, Food and Agricultural Scientist / Technologist, Soil / Plant Scientist

**National Hiring Statistics**

Statistics for this career, and its related titles, are derived from nationwide, online job postings from the last 12 months.

**Salary**

$55K - $112K

* From U.S. Bureau of Labor Statistics

**Hiring Demand**

Low

**Education & Experience Requirements**

Minimum education and experience levels typically required by employers.

<table>
<thead>
<tr>
<th>Education</th>
<th>Experience</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bachelor's Degree</td>
<td>&lt;2 years</td>
<td>15%</td>
</tr>
<tr>
<td>Graduate/Prof. Degree</td>
<td>2-5 years</td>
<td>49%</td>
</tr>
<tr>
<td></td>
<td>5-8 years</td>
<td>28%</td>
</tr>
<tr>
<td></td>
<td>&gt;8 years</td>
<td>8%</td>
</tr>
</tbody>
</table>

**Foundation Skills, Most Requested by Employers**

1. Research
2. Communication Skills
3. Writing
4. Organizational Skills
5. Problem Solving
6. Creativity

7. Leadership
8. Detail-Oriented
9. Quality Assurance and Control
10. Planning
11. Multi-Tasking
12. Presentation Skills
What’s Next: Alerts on Personal Devices

From: EAB
To: Kristin Smith

Week at a glance
January 12, 2014

DUE TOMORROW
CHEM 101
Read chapters 1-3, including the “Key Insights” boxes. Solve problem sets: 1.1-1.4, 2.2-2.5, 3.1-3.3, 3.6

Plus three more assignments this week. To view all assignments, click below.

OPEN APP

Monday, February 10, 2014

Work Study
University Library

Reminder
You have a quiz tomorrow in MATH 120. Schedule time to study.

Close
Schedule
RESULTS: KEEPING STUDENTS ON PATH

- University Advisement Center student visits in the last 12 months: 43,422
- Pre-Term Registration Corrections: 2,000+
- Required Advising for Major Changes: 6,945
RESULTS: INCREASED RETENTION

Increased Average First Term Retention
Fall to Spring Retention

- Fall 2010: 83.4%
- Fall 2011: 84.6%
- Fall 2012: 87.9%
- Fall 2013: 89.0%
RESULTS: FASTER PROGRESSION

First Term Earned Credits and Credit Completion Ratio
By First Academic Term

<table>
<thead>
<tr>
<th></th>
<th>Fall 2011</th>
<th>Fall 2012</th>
<th>Fall 2013</th>
</tr>
</thead>
<tbody>
<tr>
<td>Credits</td>
<td>10.98</td>
<td>11.14</td>
<td>11.51</td>
</tr>
<tr>
<td>Completion</td>
<td>86.6%</td>
<td>86.3%</td>
<td>88.1%</td>
</tr>
</tbody>
</table>

First Term Earned Credits | First Term Credit Completion Ratio
RESULTS: REDUCED TIME AND COST

Credit Hours at Completion

Year | All Students | African American Stem Majors
--- | --- | ---
2009-10 | 140 | 151
2010-11 | 140 | 150
2011-12 | 141 | 148
2012-13 | 141 | 150
2013-14 | 138 | 140
The Calculus of Student Success: ROI

1 point increase in Retention = 325 Students

Avg. Student Tuition & Fees Annually = $9,800

ROI for each 1-point increase = $3.18 million/year
GROWING NATIONAL ATTENTION
WHITE HOUSE COLLEGE OPPORTUNITY SUMMIT
GEORGIA STATE DEGREE CONFERMENTS

2008-09:  5,857
2013-14:  7,597

Increase:  1,740 (+30%)
# Bachelor’s Degrees Awarded

<table>
<thead>
<tr>
<th></th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
<th>5-YR Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>African American</td>
<td>1,067</td>
<td>1,001</td>
<td>1,322</td>
<td>1,440</td>
<td>1,550</td>
<td>1,692</td>
<td><strong>59%</strong></td>
</tr>
<tr>
<td>Pell</td>
<td>1,066</td>
<td>1,298</td>
<td>1,648</td>
<td>1,835</td>
<td>2,007</td>
<td>2,058</td>
<td><strong>93%</strong></td>
</tr>
<tr>
<td>Hispanic</td>
<td>153</td>
<td>196</td>
<td>300</td>
<td>328</td>
<td>372</td>
<td>414</td>
<td><strong>171%</strong></td>
</tr>
</tbody>
</table>

5-YR Change indicates the percentage increase from 2009 to 2014.
## Top 100 Degree Producers

### 2012 Bachelor's Degrees Conferred to African Americans Nationally

<table>
<thead>
<tr>
<th>Institutions</th>
<th>State</th>
<th>Total</th>
<th>Grads</th>
<th>%Chg</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Georgia State University</td>
<td>GA</td>
<td>1262</td>
<td>31%</td>
<td>17%</td>
</tr>
<tr>
<td>2. FAMU</td>
<td>FL</td>
<td>1224</td>
<td>94%</td>
<td>5%</td>
</tr>
<tr>
<td>3. North Carolina A &amp; T State University</td>
<td>NC</td>
<td>1172</td>
<td>90%</td>
<td>-6%</td>
</tr>
<tr>
<td>4. Jackson State University</td>
<td>MS</td>
<td>966</td>
<td>94%</td>
<td>4%</td>
</tr>
<tr>
<td>5. Howard University</td>
<td>D.C.</td>
<td>953</td>
<td>93%</td>
<td>-10%</td>
</tr>
<tr>
<td>6. University of Central Florida</td>
<td>FL</td>
<td>939</td>
<td>9%</td>
<td>10%</td>
</tr>
<tr>
<td>7. University of Memphis</td>
<td>TN</td>
<td>862</td>
<td>32%</td>
<td>0%</td>
</tr>
<tr>
<td>8. Troy University</td>
<td>AL</td>
<td>859</td>
<td>32%</td>
<td>4%</td>
</tr>
<tr>
<td>9. University of Florida</td>
<td>FL</td>
<td>859</td>
<td>10%</td>
<td>11%</td>
</tr>
<tr>
<td>10. University of South Florida-Main Campus</td>
<td>FL</td>
<td>845</td>
<td>12%</td>
<td>6%</td>
</tr>
<tr>
<td>11. University of North Texas</td>
<td>TX</td>
<td>835</td>
<td>13%</td>
<td>11%</td>
</tr>
<tr>
<td>12. Temple University</td>
<td>PA</td>
<td>831</td>
<td>15%</td>
<td>-5%</td>
</tr>
<tr>
<td>13. University of Maryland-University College</td>
<td>MD</td>
<td>809</td>
<td>25%</td>
<td>11%</td>
</tr>
<tr>
<td>14. Florida Atlantic University</td>
<td>FL</td>
<td>808</td>
<td>18%</td>
<td>-3%</td>
</tr>
<tr>
<td>15. Virginia Commonwealth University</td>
<td>VA</td>
<td>805</td>
<td>19%</td>
<td>13%</td>
</tr>
</tbody>
</table>

Source: Diverse Issues in Higher Education
Graduation Rates by Race & Ethnicity

- White: 31.6% (Ten Years Ago), 50.4% (Today)
- African American: 25.6% (Ten Years Ago), 56.3% (Today)
- Hispanic: 22% (Ten Years Ago), 54.8% (Today)
Making a Difference

Graduation + National Student Clearinghouse

- White: [VALUE]% [VALUE]% [VALUE]%
- African American: [VALUE]% [VALUE]%
- Hispanic: [VALUE]% [VALUE]%.0%

Ten Years Ago, Today, with Clearinghouse Data Added
MAKING A DIFFERENCE

GRADUATION AND PELL RATES OF URBAN RESEARCH UNIVERSITIES

Georgia State

Graduation Rate

Pell Rate
YOU CAN MAKE A DIFFERENCE