Transforming Student Success through Data and Analytics

Timothy M. Renick, Ph.D.
Sr. Vice President for Student Success
twitter: @tim_renick
The Challenge in Front of Us

Baccalaureate Degree Attainment by Age 24 by Family Income Quartile

- **Top Income Quartile**: 82.4%
- **Third Income Quartile**: 40.2%
- **Second Income Quartile**: 14.9%
- **Bottom Income Quartile**: 6.2%

Percent of Low-Income Students in Public Schools

United States

Mississippi 71%
N. Mexico 68%
Louisiana 65%
Arkansas 61%
Oklahoma 61%
Texas 60%
Georgia 60%
Utah 59%
Florida 59%
S. Carolina 58%

51%

Tennessee 58%
Alabama 58%
California 55%
N. Carolina 53%
W. Virginia 52%
Delaware 51%
Nevada 51%
Arizona 51%
Hawaii 51%
Illinois 50%

Source: Southern Education Fund
Changing Demographics

PERCENT OF LOW INCOME STUDENTS IN U.S. PUBLIC SCHOOLS 2013
National Average: 51%

Data Source: U.S. Department of Education, National Center for Education Statistics, Common Core of Data

SOUTHERN EDUCATION FOUNDATION | SOUTHERNEDUCATION.ORG
• 32,500 Students on the Atlanta campus
• Research University status achieved in 1995
• 50,000+ Students as of 2016 with Perimeter College Consolidation
Graduation Rates by Race & Ethnicity

Where we were: 2003

- **WHITE**: 31.6%
- **AFRICAN AMERICAN**: 25.6%
- **HISPANIC**: 22%
Changing Demographics: Race & Ethnicity

Minorities

- Fall 2008: 53%
- Fall 2009: 54%
- Fall 2010: 56%
- Fall 2011: 59%
- Fall 2012: 60%
- Fall 2013: 63%
- Fall 2014: 65%
- Fall 2015: 66%
- Fall 2016: 67%
- Fall 2017: 67%
Low-Income Students

Percent of Georgia State Undergraduates on PELL

- Fall 2007: 31%
- Fall 2008: 32%
- Fall 2009: 40%
- Fall 2010: 48%
- Fall 2011: 51%
- Fall 2012: 56%
- Fall 2013: 58%
- Fall 2014: 59%
- Fall 2015: 59%
- Fall 2016: 59%
- Fall 2017: 59%
SAT SCORES

-33 points
Appropriations Cuts

-$40 million
Are We the Problem?
Summer Melt

Fall 2015

Confirmed GSU Freshman Who Never Attended Any College: 278

- Non-white: 76%
- First Generation: 45%
- Low Income: 71%
- Avg. High School GPA: 3.34
The Hidden Obstacles to Enrollment

- Federal Financial Aid Application
- Verification Request
- State of Georgia Immunization Proof
- Taking Placement Exams
- Registering for Classes
Personalized Interactions Before Enrollment

Help us get to know David...

- I work more than 20 hrs. per week
- I'm first in my family to attend college
- English is my second language
- I'm a parent
- I'm a veteran
- I have a disability

next

In high school, what was your...

- favorite class?
- hardest class?

art
english/writing
history
geography

math
music
phys. ed
science

What are you interested in?

community service
finance & business
food & cooking
music & arts
professional development

science & technology
sports
Which resources matter most to you?

- Select any of our student services that interest you, and we'll add appropriate information to your path.

A Few Recommendations:

- Child Care
  On campus and nearby child care options to help while you are in class.

- First Generation to Attend College
  Resources to help new students learn the ropes and lingo of college.

- Commuting Services
  Learn the different ways you can get to and from campus.

- Student Technologies
  Get help with all apps, gadgets, and sites that can enhance your campus experience.

All Student Services:

- Tutoring & Academic Support
  A great resource for help outside the classroom for your work inside the classroom.

- Career Guidance
  Helping you find the right career path and prepare you for the job market. It's never too early to start!

- Housing Services
  Resources to help you find a place to stay near campus.

- Clubs and Activities
  Grow and have fun! Get involved in one of our many on-campus activities.

- Disability Services
  Providing support and equipment to qualified students with physical, mental, or educational needs.
24/7 Responses Using a Chat Bot on Smart Devices

Which parent do I use on the FAFSA?
Jan 19 2017 6:39:23 PM

For info on which parent’s information to use on the FAFSA, reply with the option that best describes your parents’ marital status: Never Married Unmarried and both parents living together Married Remarried Divorced/Separated Widowed If none of these options are applicable, check out 1.usa.gov/1OpfTcg

Divorced
Jan 19 2017 6:39:40 PM

If your parents are divorced, the custodial parent (or the one you lived with the most in the past 12 months) is usually responsible for filling out the FAFSA. Check out this website to learn more: 1.usa.gov/1OpfTcg

OK and when is it due?
Jan 19 2017 6:39:07 PM

The FAFSA is available starting Oct. 1. Fill it out ASAP! (Use last year’s tax info.) Some aid is first-come, first-served, so don’t delay! fafsa.gov
Reminder
You have a quiz tomorrow in MATH 120. Schedule time to study.

Close Schedule

201,000
One-Year Drop in Summer Melt: 22%

+324 Students
Challenge: Getting Off to a Good Start
The Human Cost of Inaction

50%

First-Year Retention Rates for Academically At-Risk Freshmen in 2011
Success Academy

400 highest risk freshmen by academic analytics
Summer session before freshman fall with 7 credit hours of bachelor’s-level work
Intensive advisement
Academic skills
Financial literacy training
Team/mindset building
Retention Rate of Success Academy Students

87%

+170 students

Graduation Rate

62%
Challenge:

Choosing An Academic Path
Overwhelming Choices

- Lost
- Confused
- Unsure
- Unclear
- Perplexed
- Disoriented
- Bewildered
Academic Guides with Live Job Data

Program Picker
Take control of your future! Explore majors and certificates that work for you.

<table>
<thead>
<tr>
<th>You chose this...</th>
<th>Would you consider...</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Nursing A.S.</strong></td>
<td><strong>Medical Office</strong></td>
</tr>
<tr>
<td><strong>Learn More</strong></td>
<td><strong>Assistant Certificate</strong></td>
</tr>
<tr>
<td><strong>Classes/Credits</strong></td>
<td><strong>Radiologic Technology</strong></td>
</tr>
<tr>
<td>20 classes / 60 credits</td>
<td><strong>A.A.S</strong></td>
</tr>
<tr>
<td><strong>Time to Complete</strong></td>
<td><strong>Health Studies A.S.</strong></td>
</tr>
<tr>
<td>2 years</td>
<td><strong>Learn More</strong></td>
</tr>
<tr>
<td><strong>Financial Aid</strong></td>
<td><strong>May not be Financial Aid eligible</strong></td>
</tr>
<tr>
<td>[✓ Selected]</td>
<td>[✓]</td>
</tr>
<tr>
<td><strong>Total Tuition</strong></td>
<td><strong>$9,176 in state</strong></td>
</tr>
<tr>
<td>$9,176 in state</td>
<td><strong>$3,641 in state</strong></td>
</tr>
<tr>
<td><strong>Outcomes</strong></td>
<td><strong>$8,850 in state</strong></td>
</tr>
<tr>
<td>High rate of transfer to 4-year colleges</td>
<td><strong>$9,427 in state</strong></td>
</tr>
<tr>
<td><strong>Average Salary</strong></td>
<td><strong>Students seek employment or another stackable certificate</strong></td>
</tr>
<tr>
<td>$38,500</td>
<td><strong>Most students seek employment post-graduation</strong></td>
</tr>
<tr>
<td>$51,100 with BA degree</td>
<td><strong>High rate of transfer to 4-year colleges</strong></td>
</tr>
<tr>
<td><strong>Hiring Demand</strong></td>
<td><strong>$29,129</strong></td>
</tr>
<tr>
<td>129 job posts</td>
<td><strong>$37,819</strong></td>
</tr>
<tr>
<td>[✓ Selected]</td>
<td><strong>$42,774</strong></td>
</tr>
<tr>
<td></td>
<td><strong>$51,553 with BS degree</strong></td>
</tr>
</tbody>
</table>

Find more options

Est. Time:
Freshman Learning Communities & Meta Majors

Freshman Learning Communities with block schedules of 5 to 6 courses: 95% of non-Honors freshmen (Opt-out model)

1st Year GPA

<table>
<thead>
<tr>
<th></th>
<th>No FLC</th>
<th>FLC</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st Year 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</td>
<td>81%</td>
<td>85%</td>
</tr>
</tbody>
</table>
Choice Architecture: Meta Majors

Business
Education
Exploratory
STEM
Humanities & Arts
Health Professions
Policy/Social Science
Meta Majors

Major Changes in 2013: 2,718
Major Changes in 2015: 1,853
2-Year Change: -32%
Challenge:
Gateway
Courses
Strengthening Math Pathways

Pre-Calculus, College Algebra, Intro to Statistics

• DFW Prior to Change: 43%
  DFW Today: 28% (35% drop)

• Number of Students enrolled in courses taught through the MILE, 2016-17: 8,500

+1,275 Students Passing
### Adaptive Learning at Scale

<table>
<thead>
<tr>
<th>Course</th>
<th>Subject</th>
<th>Students</th>
<th>Sections</th>
<th>DFW</th>
</tr>
</thead>
<tbody>
<tr>
<td>POLS 1101</td>
<td>American Government</td>
<td>4694</td>
<td>55</td>
<td>16.3%</td>
</tr>
<tr>
<td>MATH 1070</td>
<td>Elementary Statistics</td>
<td>2701</td>
<td>76</td>
<td>25.2%</td>
</tr>
<tr>
<td>ECON 2105</td>
<td>Principle of Macroeconomics</td>
<td>2340</td>
<td>38</td>
<td>19.2%</td>
</tr>
<tr>
<td>PSYC 1101</td>
<td>Introduction to General Psychology</td>
<td>2252</td>
<td>26</td>
<td>21.8%</td>
</tr>
<tr>
<td>POLS 2401</td>
<td>Global Issues</td>
<td>2250</td>
<td>35</td>
<td>18.9%</td>
</tr>
<tr>
<td>FILM 2700</td>
<td>History of the Motion Picture</td>
<td>2226</td>
<td>59</td>
<td>15.2%</td>
</tr>
<tr>
<td>ECON 2106</td>
<td>Principles of Microeconomics</td>
<td>2122</td>
<td>31</td>
<td>24.7%</td>
</tr>
<tr>
<td>MATH 1101</td>
<td>Introduction to Mathematical Modeling</td>
<td>2019</td>
<td>56</td>
<td>26.5%</td>
</tr>
<tr>
<td>MATH 1111</td>
<td>College Algebra</td>
<td>1540</td>
<td>45</td>
<td>20.2%</td>
</tr>
<tr>
<td>SOCI 1101</td>
<td>Introductory Sociology</td>
<td>1432</td>
<td>29</td>
<td>20.2%</td>
</tr>
<tr>
<td>MATH 1113</td>
<td>Pre-calculus</td>
<td>1289</td>
<td>34</td>
<td>27.5%</td>
</tr>
<tr>
<td>CHEM 1211</td>
<td>Principles of Chemistry I</td>
<td>1096</td>
<td>37</td>
<td>17.2%</td>
</tr>
<tr>
<td>BIOL 1103</td>
<td>Introductory Biology I</td>
<td>1051</td>
<td>48</td>
<td>24.8%</td>
</tr>
</tbody>
</table>
Eliminating Bottlenecks: Peer Tutors

Supplemental Instruction (SI)

<table>
<thead>
<tr>
<th></th>
<th>BIOL</th>
<th>POLS</th>
<th>PHIL</th>
<th>CHEM</th>
<th>ACCT</th>
<th>PHYS</th>
<th>CRJU</th>
</tr>
</thead>
<tbody>
<tr>
<td>No SI</td>
<td>2.41</td>
<td>2.60</td>
<td>2.68</td>
<td>2.55</td>
<td>2.15</td>
<td>2.06</td>
<td>1.89</td>
</tr>
<tr>
<td>SI</td>
<td>2.82</td>
<td>3.24</td>
<td>2.93</td>
<td>2.74</td>
<td>2.74</td>
<td>2.73</td>
<td>2.26</td>
</tr>
</tbody>
</table>

Course GPA
- No SI: 2.41
- SI: 2.91

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

Students: 9,700
Challenge:
Stop Outs
Likelihood that a college student who stops out for financial reasons will ever complete degree at the institution < 30%
Who were we dropping

- Seniors
- Academically on track
- Balance below $1,500
Panther Retention Grants

Graduated: 86.5%

Grant Recipients Graduated 2016-17: 1,321
Panther Retention Grants

11,027 Grants awarded since 2011
Challenge:

Staying On Track
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 be at risk from a cursory transcript review

The “All-Stars”
Straight As and Bs
Probable Graduates

Academic Performance
GPA
2.0

GPA
3.0
New Advising Structures

- All students assigned an advisor
- New University Advising Center with 70 Advisors
- Advisors trained by meta majors
- Coordinated tracking and notes
- Common training, HR, salary structures
- 6 Transition Advisors
Advisement: GPS Advising

Predictive Analytics Project with EAB

10 YEARS OF DATA | 2.5 MILLION GRADES | 800+ ANALYTICS-BASED ALERTS

144,000 STUDENT RECORDS | 30,000 STUDENTS TRACKED DAILY
### Academic Program Maps: B.S. in Chemistry

<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>• Maintain a cumulative GPA of 2.25 or Better</td>
<td>• Maintain a cumulative GPA of 2.25 or Better</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SEMESTER 3</th>
<th>SEMESTER 4</th>
</tr>
</thead>
<tbody>
<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>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SEMESTER 5</th>
<th>SEMESTER 6</th>
</tr>
</thead>
<tbody>
<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>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SEMESTER 7</th>
<th>SEMESTER 8</th>
</tr>
</thead>
<tbody>
<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 RPG Data

Graduation Rate in Major by Introductory Course Grade

**Introduction to Chemistry**
Natural Science majors
- A: 70.0%
- B: 66.7%
- C: 39.5%
- D/F: 8.3%

**Comparative Politics**
Political Science majors
- A: 81.8%
- B: 73.9%
- C: 25.0%
- D/F: 6.2%

**Music Theory I**
Music majors
- A: 66.7%
- B: 55.5%
- C: 12.5%
- D/F: 0.0%
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: Decline in Time to Degree

Credit Hours at Completion: All Bachelors Students

<table>
<thead>
<tr>
<th>Year</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>2009-10</td>
<td>140</td>
</tr>
<tr>
<td>2010-11</td>
<td>140</td>
</tr>
<tr>
<td>2011-12</td>
<td>141</td>
</tr>
<tr>
<td>2012-13</td>
<td>141</td>
</tr>
<tr>
<td>2013-14</td>
<td>138</td>
</tr>
<tr>
<td>2014-15</td>
<td>135</td>
</tr>
<tr>
<td>2015-16</td>
<td>133</td>
</tr>
</tbody>
</table>
ROI for Students

$18 million

Savings to the Class of 2018 in tuition and fees when compared to the Class of 2012
Confounding Expectations

STEM Degrees Conferred Since 2011 (enrollment change)

- Black: +114% (14%)
- Black Male: +153% (15%)
- Hispanic: +275% (24%)
Impacts
Growing Recognition
The Cost of Inaction

The Calculus of Student Success: ROI

1-point increase in retention = 325 students

Average student tuition & fees annually/student = $9,800

ROI for each 1-point increase = $3.18 million/year
Georgia State Undergraduate Degrees Awarded

2010-11: 4,222 | 2016-17: 7,047

INCREASE: +2,825 (+67%)
# Bachelor’s Degrees Awarded Annually

<table>
<thead>
<tr>
<th></th>
<th>2009-10</th>
<th>2016 - 17</th>
<th>6-Year Change</th>
<th>% Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>African American</td>
<td>1,001</td>
<td>2,040</td>
<td>+1,039</td>
<td>+103%</td>
</tr>
<tr>
<td>Pell</td>
<td>1,298</td>
<td>2,957</td>
<td>+1,659</td>
<td>+128%</td>
</tr>
<tr>
<td>Hispanic</td>
<td>196</td>
<td>509</td>
<td>+313</td>
<td>+160%</td>
</tr>
</tbody>
</table>
Graduation Rates by Race & Ethnicity

- **White**
  - 2003: 31.6%
  - Today: 50.4%
  - Today, with Clearinghouse Data Added: 76.4%

- **African American**
  - 2003: 25.6%
  - Today: 58.4%
  - Today, with Clearinghouse Data Added: 77.5%

- **Hispanic**
  - 2003: 22.0%
  - Today: 57.6%
  - Today, with Clearinghouse Data Added: 76.7%
#1 in Degrees Conferred to African Americans

Top 100 Degree Producers: Non-Profit Universities

2016 African-American Bachelor's - All Disciplines Combined

<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>1805</td>
<td>38%</td>
<td>8%</td>
</tr>
<tr>
<td>2 FAMU</td>
<td>FL</td>
<td>1584</td>
<td>95%</td>
<td>6%</td>
</tr>
<tr>
<td>3 University of Maryland-University College</td>
<td>MD</td>
<td>1409</td>
<td>26%</td>
<td>19%</td>
</tr>
<tr>
<td>4 University of Central Florida</td>
<td>FL</td>
<td>1316</td>
<td>10%</td>
<td>1%</td>
</tr>
<tr>
<td>5 North Carolina A &amp; T State University</td>
<td>NC</td>
<td>1196</td>
<td>80%</td>
<td>7%</td>
</tr>
<tr>
<td>6 Howard University</td>
<td>D.C.</td>
<td>1160</td>
<td>90%</td>
<td>-6%</td>
</tr>
<tr>
<td>7 Florida Atlantic University</td>
<td>FL</td>
<td>1087</td>
<td>19%</td>
<td>7%</td>
</tr>
<tr>
<td>8 Florida International University</td>
<td>FL</td>
<td>1020</td>
<td>11%</td>
<td>11%</td>
</tr>
<tr>
<td>9 University of Memphis</td>
<td>TN</td>
<td>1011</td>
<td>33%</td>
<td>3%</td>
</tr>
<tr>
<td>10 The University of Texas at Arlington</td>
<td>TX</td>
<td>992</td>
<td>13%</td>
<td>-7%</td>
</tr>
</tbody>
</table>

Source: Diverse Issues in Higher Education
Overwhelming Choices