Demystifying Evidence-Based Student Success Research

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Georgia State University
What are the components of a good study?

1. The intervention tries to solve a well-defined, important problem
2. There is evidence that the intervention works
3. The data needed to further assess the intervention is available or attainable
4. The evaluation approach is sound and appropriate
5. The intervention is scalable
Improving an existing intervention: Advising
5,760 Students Who Dropped Out Of Georgia State in 2011
Georgia State: GPS Advising

Predictive Analytics Project with EAB

10 years of data | 2.5 million grades | 144,000 student records | 800+ analytics-based alerts | 30,000 students tracked daily
Performance in ‘Marker’ Courses

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%
# Registration Tracking and Academic Maps

## B.S. in Chemistry

<table>
<thead>
<tr>
<th>SEMESTER 1</th>
<th>SEMESTER 2</th>
</tr>
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<tbody>
<tr>
<td>• Complete 1 of ENGL 1101, ENGL 1102 or ENGL 1103 (C or Better)</td>
<td></td>
</tr>
<tr>
<td>• Complete MATH 1113 or Higher (B- or Better)</td>
<td></td>
</tr>
<tr>
<td>• Complete CHEM 1211K (B- or Better)</td>
<td></td>
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<tr>
<td>• Complete ENGL 1102 or 1103 (C or Better)</td>
<td></td>
</tr>
<tr>
<td>• Complete MATH 2211 or Higher (B- or Better)</td>
<td></td>
</tr>
<tr>
<td>• Complete CHEM 1212K (B- or Better)</td>
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</tr>
<tr>
<td>• Maintain a cumulative GPA of 2.25 or Better</td>
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<thead>
<tr>
<th>SEMESTER 3</th>
<th>SEMESTER 4</th>
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<tbody>
<tr>
<td>• Complete CHEM 2400 (B- or Better)</td>
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<tr>
<td>• Complete MATH 2212 (C or better)</td>
<td></td>
</tr>
<tr>
<td>• Complete PHY 2211k (C or better)</td>
<td></td>
</tr>
<tr>
<td>• Complete CHEM 3410 (C or better)</td>
<td></td>
</tr>
<tr>
<td>• PHY 2212k (B- or Better) (C or better)</td>
<td></td>
</tr>
<tr>
<td>• Maintain a cumulative GPA of 2.25 or Better</td>
<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>SEMESTER 5</th>
<th>SEMESTER 6</th>
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<tbody>
<tr>
<td>• Complete CHEM 4000 with a C or Better</td>
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<tr>
<td>• Complete CHEM 4110 with a C or Better</td>
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<tr>
<td>• Complete CHEM 4010 with a C or Better</td>
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<tr>
<td>• Complete CHEM 4120 with a C or Better</td>
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<thead>
<tr>
<th>SEMESTER 7</th>
<th>SEMESTER 8</th>
</tr>
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<tbody>
<tr>
<td>• Complete CHEM 4160 with a B- or better</td>
<td></td>
</tr>
<tr>
<td>• Complete CHEM 4190 with a C or Better</td>
<td></td>
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</table>
Outcomes since launch of new advising model

4-Year Graduation Rate
Since 2011: +13 Points

2010-11: 4,222
2019-20: 7,758

INCREASE: 3,536 (+84%)
# Bachelor’s Degrees Awarded by Group

<table>
<thead>
<tr>
<th></th>
<th>2009-10</th>
<th>2019-2020</th>
<th>Change</th>
<th>% Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>African American</td>
<td>1,001</td>
<td>2,213</td>
<td>+1,212</td>
<td>+121%</td>
</tr>
<tr>
<td>Pell</td>
<td>1,298</td>
<td>3,626</td>
<td>+2,328</td>
<td>+179%</td>
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<tr>
<td>Hispanic</td>
<td>196</td>
<td>654</td>
<td>+458</td>
<td>+234%</td>
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</table>
How do we show causation?
MAAPS

- $8.9 Million “First in the World” Grant
- 10,000+ Low Income and First Generation Students Tracked
- Random Control Trial and Implementation Study Using Independent Evaluator
• Arizona State University
• Georgia State University
• Iowa State University
• Michigan State University
• The Ohio State University
• Oregon State University
• Purdue University
• University of California-Riverside
• University of Central Florida
• University of Kansas
• University of Texas at Austin
MAAPS Advising Components

- Regular Monitoring of Students for Analytics-Based Risk Factors
- Personalized Academic Degree Planners (Maps)
- Proactive Advising Interventions
- Control Group received “business as usual” advising
MAAPS Data Collection

Uniform Tracking of the Advising Interventions
And Student Outcomes
The Impacts of Proactive Advising: MAAPS

MAAPS RCT Impacts at Georgia State

After Six Academic Years

Graduation Rate of Treatment Group: \( +7 \) percentage points

Graduation Rate of Black Students in Treatment Group: \( +15 \) percentage points

Source: Ithaka S+R, 2023
What does the Initiative entail?

Scaling a new technology: Chatbots
19%

Percent of Confirmed Freshmen Who Did Not Enroll Summer 2015
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
A.I.-enhanced Chatbot: 24/7 Help

Which parent do I use on the FAFSA?
Jan 19 2017 6:38:13 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/10gfTcg

Approved by AdmitHub AI

Divorced
Jan 19 2017 6:38:40 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/10gfTcg

Approved by AdmitHub AI

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

Approved by AdmitHub AI
185,000
One-Year Drop in Summer Melt (RCT):

-21%

Gains mostly from underrepresented groups
Continuing Students
Randomized Control Trial results

Students who started the semester with a balance: -49%

Students with Account Balance Who Opened a ticket with Financial Aid: +33%

Students meeting with Advisor within one week of being contacted: +28.5%
Chatbot in Academic Courses
Fall 2021 RCT in American Government

Grade of “B” or higher: +16%

Final grades: +7 points

Final grades for first-generation students: +11 points

Overall Fall GPA: +0.28 points
Assessing a financial intervention: Completion Grants
The Hidden Obstacles to Enrollment

1,000+
Number of Fully Registered Students Being Dropped Each Semester for Non-Payment in 2010-2011
Financial Stop Outs

30% eventually graduate

Many with small balances, $300 or less

Seniors at greatest risk
Panther Retention Grants

- Students close to graduating
- Making good progress
- Exhausted aid
- No application needed

AVERAGE GRANT $900

Grants Awarded since 2011: 19,000
80+% graduated
## Graduation Rates by Financial Stop-Out Status, 2013-2021

<table>
<thead>
<tr>
<th>Term</th>
<th>Dropped Status</th>
<th># Students</th>
<th>1yr Graduated</th>
<th>2yr Graduated</th>
<th>3yr Graduated</th>
<th>4yr Graduated</th>
<th>5yr Graduated</th>
<th>6yr Graduated</th>
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<tbody>
<tr>
<td><strong>Fall 2013</strong></td>
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<td></td>
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<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Financial</td>
<td>Drop</td>
<td>276</td>
<td>6%</td>
<td>12%</td>
<td>18%</td>
<td>21%</td>
<td>24%</td>
<td>25%</td>
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<tr>
<td>No Drop</td>
<td></td>
<td>24583</td>
<td>23%</td>
<td>40%</td>
<td>53%</td>
<td>63%</td>
<td>67%</td>
<td>71%</td>
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<tr>
<td><strong>Fall 2014</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Financial</td>
<td>Drop</td>
<td>324</td>
<td>3%</td>
<td>8%</td>
<td>11%</td>
<td>15%</td>
<td>16%</td>
<td>18%</td>
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<tr>
<td>No Drop</td>
<td></td>
<td>24950</td>
<td>23%</td>
<td>40%</td>
<td>54%</td>
<td>64%</td>
<td>67%</td>
<td>71%</td>
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<tr>
<td><strong>Fall 2015</strong></td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Financial</td>
<td>Drop</td>
<td>334</td>
<td>5%</td>
<td>10%</td>
<td>17%</td>
<td>22%</td>
<td>25%</td>
<td>28%</td>
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<tr>
<td>No Drop</td>
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<td>24638</td>
<td>24%</td>
<td>41%</td>
<td>55%</td>
<td>65%</td>
<td>68%</td>
<td>71%</td>
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<tr>
<td>Term</td>
<td>Dropped Status</td>
<td># Students</td>
<td>1yr Graduated</td>
<td>2yr Graduated</td>
<td>3yr Graduated</td>
<td>4yr Graduated</td>
<td>5yr Graduated</td>
<td>6yr Graduated</td>
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<tr>
<td>Fall 2013</td>
<td>Fin Drop</td>
<td>110</td>
<td>12%</td>
<td>23%</td>
<td>27%</td>
<td>30%</td>
<td>31%</td>
<td>31%</td>
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<tr>
<td></td>
<td>PRG Recipient</td>
<td>80</td>
<td>59%</td>
<td>68%</td>
<td>71%</td>
<td>74%</td>
<td>75%</td>
<td>76%</td>
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<tr>
<td></td>
<td>Not Dropped</td>
<td>9024</td>
<td>56%</td>
<td>72%</td>
<td>77%</td>
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<td>79%</td>
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<tr>
<td>Fall 2014</td>
<td>Fun Drop</td>
<td>107</td>
<td>8%</td>
<td>17%</td>
<td>22%</td>
<td>25%</td>
<td>27%</td>
<td>31%</td>
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<tr>
<td></td>
<td>PRG Recipient</td>
<td>277</td>
<td>73%</td>
<td>80%</td>
<td>84%</td>
<td>85%</td>
<td>86%</td>
<td>87%</td>
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<tr>
<td></td>
<td>Not Dropped</td>
<td>8591</td>
<td>58%</td>
<td>72%</td>
<td>77%</td>
<td>79%</td>
<td>80%</td>
<td>80%</td>
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<tr>
<td>Fall 2015</td>
<td>Fin Drop</td>
<td>109</td>
<td>14%</td>
<td>21%</td>
<td>29%</td>
<td>33%</td>
<td>35%</td>
<td>35%</td>
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<tr>
<td></td>
<td>PRG Recipient</td>
<td>382</td>
<td>79%</td>
<td>85%</td>
<td>86%</td>
<td>88%</td>
<td>89%</td>
<td>88%</td>
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<tr>
<td></td>
<td>Not Dropped</td>
<td>8338</td>
<td>59%</td>
<td>73%</td>
<td>78%</td>
<td>79%</td>
<td>80%</td>
<td>81%</td>
</tr>
</tbody>
</table>
Quasi-experimental analysis that seeks to determine the causal effects of an intervention by assigning a cutoff above or below which an intervention is assigned.

- Typically requires large data sets
- Provides less confident findings than an RCT
- Can be ethically preferable/necessary
Panther Retention Grants

85%
Senior grant recipients graduating

-$3,700
Average Debt at Graduation of Panther Retention Recipients Compared to Non-Recipients in the Comparison Group

Source: Ithaka S+R, 2023
What are the components of a good study?

1. The intervention tries to solve a well-defined, important problem
2. There is evidence that the intervention works
3. The data needed to further assess the intervention is available or attainable
4. The evaluation approach is sound and appropriate
5. The solution is scalable
6. You partner with the right independent evaluator

An independent evaluator is a third party specializing in research methods that

• Helps design the research methodology for the proposal
• Helps implement the assessment portions of the study
• Helps determine conclusions and write progress reports and the final study