



# Two-semester Return Goal Setting

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# Predicting return (or graduation) two semesters out

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- **Stepwise Logistic Regression—A method of combining information on a student to calculate a probability of return.**
- **Goal: Predict the return (or graduation) of Fall 2014 degree students, based on:**
  - **Fall 2012 to Fall 2013 actual**
  - **Spring 2013 to Spring 2014 actual**
  - **Fall 2013 to Fall 2014 actual**

Factors affecting probability of return/grad Fall 2014 to Fall 2015	Percentage	Sample	Joe's
(Based on actual data from Fall 2012, Spring 2013 and Fall 2013)	Point Impact	Student Joe	Prediction
<i>Starting point</i>	-28.13		-28.13
<i>Each year of age</i>	0.646	20	12.92
<i>Each credit earned</i>	1.02	12	12.24
<i>Each point of cumulative GPA</i>	20.22	2	40.44
<i>Each one percent of WU grades out of total grades received</i>	-1.147	0	0
<i>Being female</i>	6.57	0	0
<i>Not completing developmental math requirement</i>	-16.81	0	0
<i>Being full-time</i>	42.42	1	42.42
<i>Registering early</i>	11.37	0	0
<i>Being a continuing student</i>	-10.66	1	-10.66
<i>Being a new student*</i>	49.42	0	0
<i>Being a new transfer student</i>	24.02	0	0
<i>Being an AA degree student</i>	2.72	0	0
<i>Being an AS degree student</i>	13.79	1	13.79
<i>Being an AAS degree student</i>	-6.04	0	0
<i>Not being on a student visa</i>	-18.87	0	0
<b>(Joe's predicted probability of returning Fall 2015)</b>			<b>83.02%</b>

*\*Comparing a new student with a continuing student with a 2.00 GPA and 12 earned credits, the new student is missing 52.68 percentage points and already is behind more than 10 percentage points.*



# Results of fall 2014 predictions

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- **15,935 Fall 2014 Degree Students**
- **Predicted probability of return/graduation: 61.6%**
- **Actual return/graduation rate: 64.3% (accuracy or success?)**
- **100 students with highest probability of return: 85% returned**
- **100 students with lowest probability of return: 28% returned**

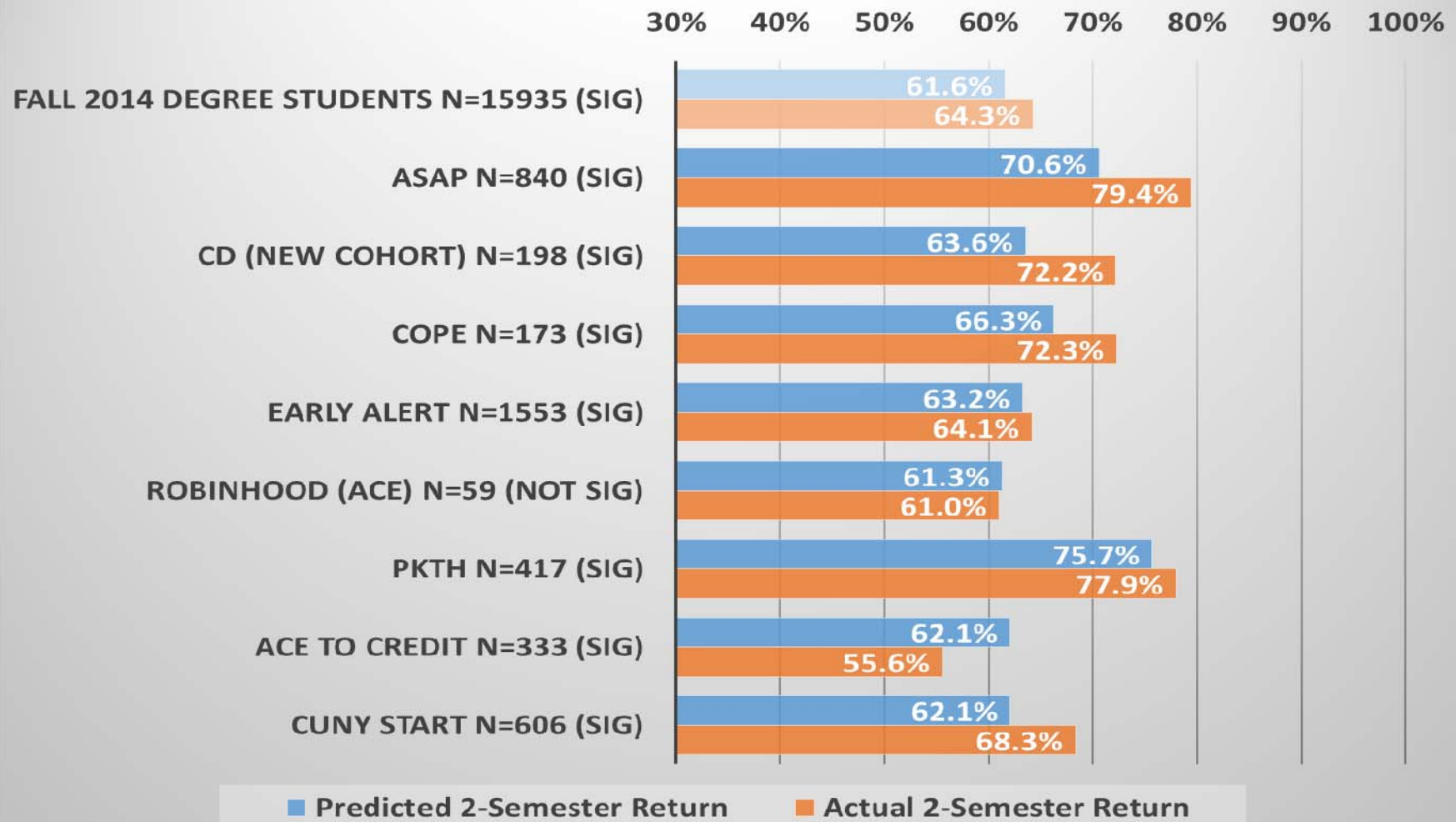


# Predicted vs. actual by group code

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- How did interventions do?
- How did other groups do?
- (Blue is predicted, red is actual)

## Interventions (CUNYfirst "Group" flags)

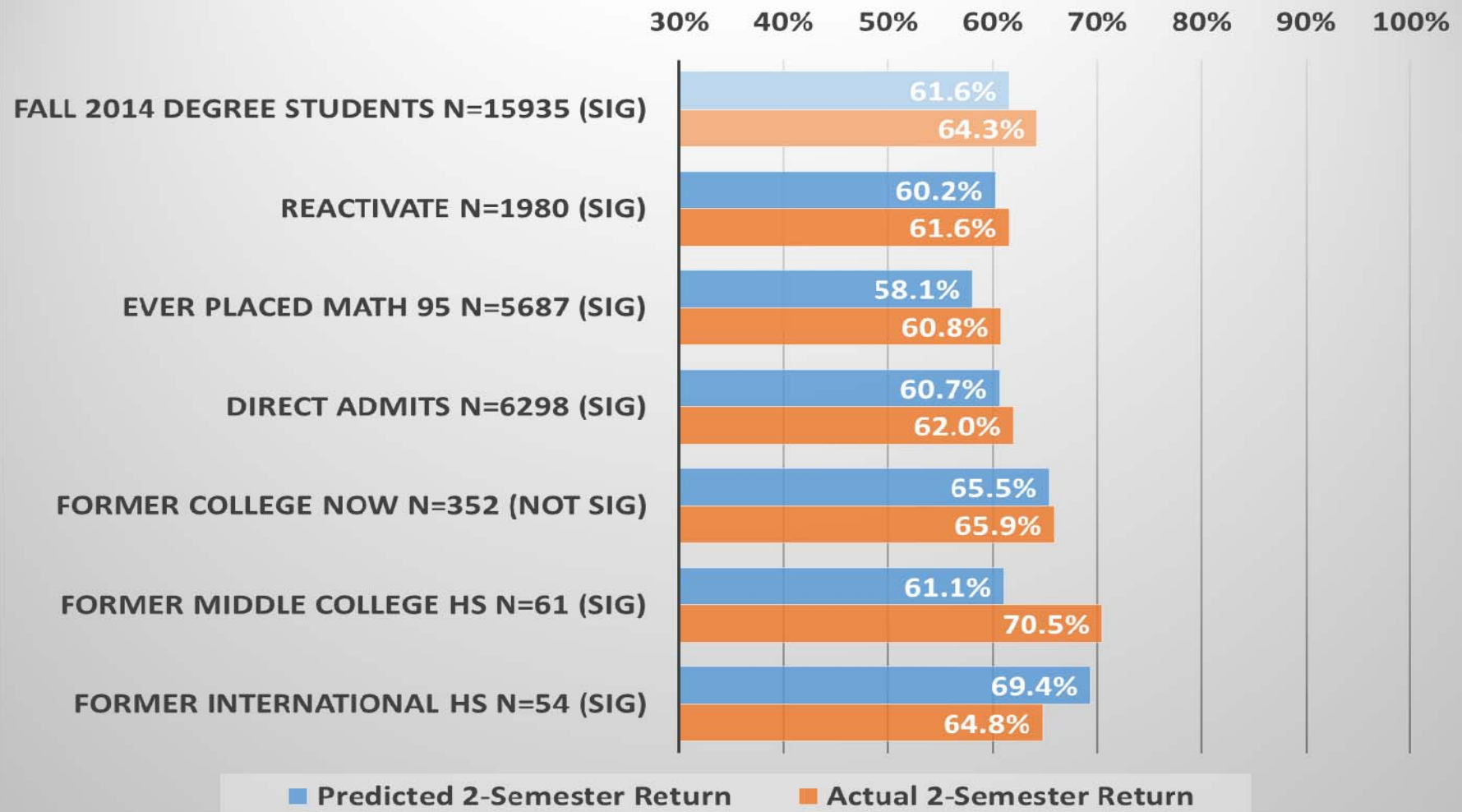


# Interventions effective?

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- **ASAP, College Discovery, COPE, CUNY Start are effective**
- **Early Alert was not effective (may have harmed students)**
- **PKTh did not improve an already high probability much**
- **ACE to Credit and Robinhood (ACE) may not have proper codes???**
  - **(CD based on actual list, not group codes)**

## Other Groups (CUNYfirst "Group" flags)





# Other groups:

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- Most show no intervention effect (as expected)
- Effect of math already considered in equation
- College Now is not an intervention
- High school results are unexpected (perhaps coding errors??)

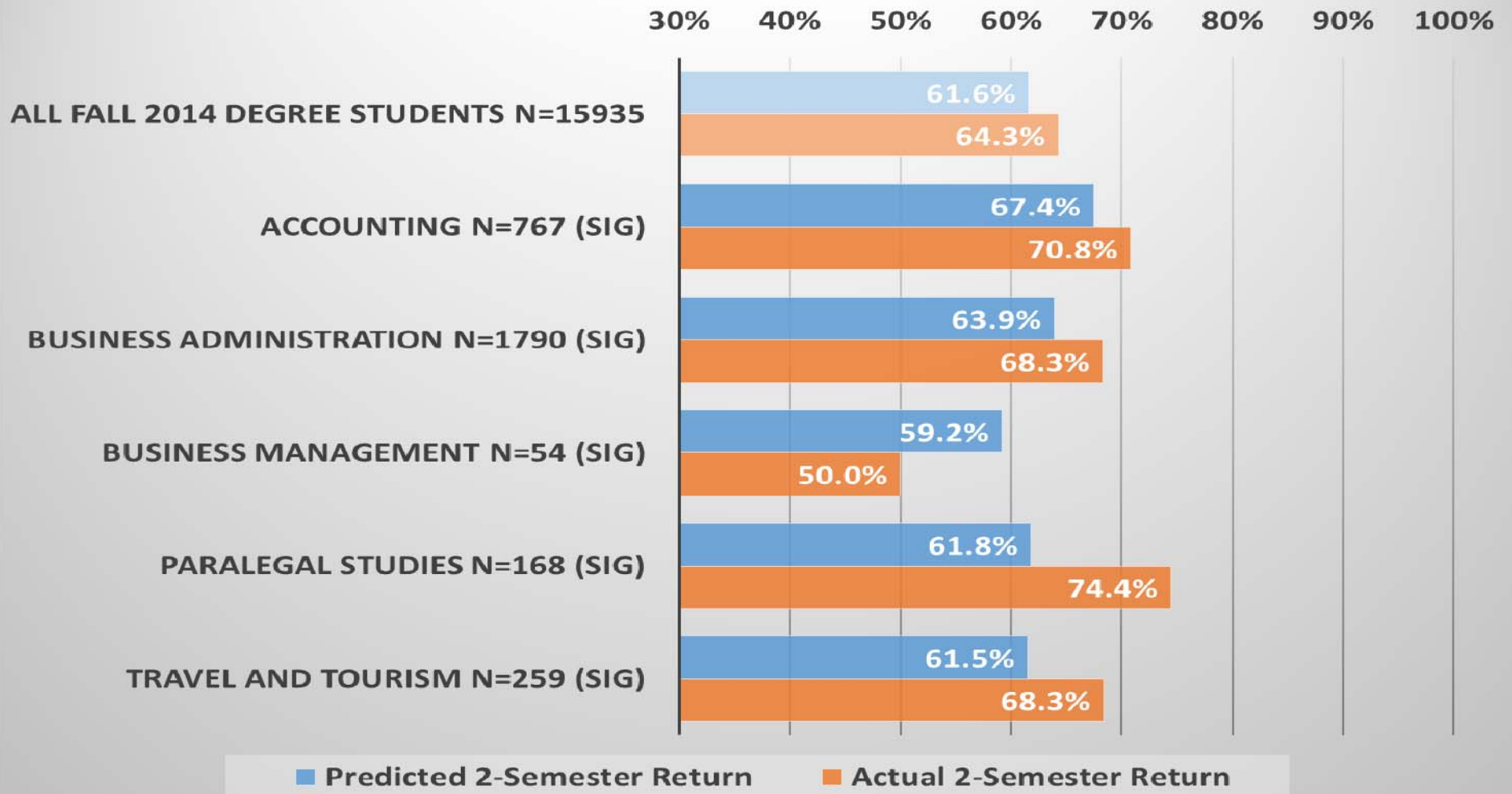


# Predicted vs. actual by team

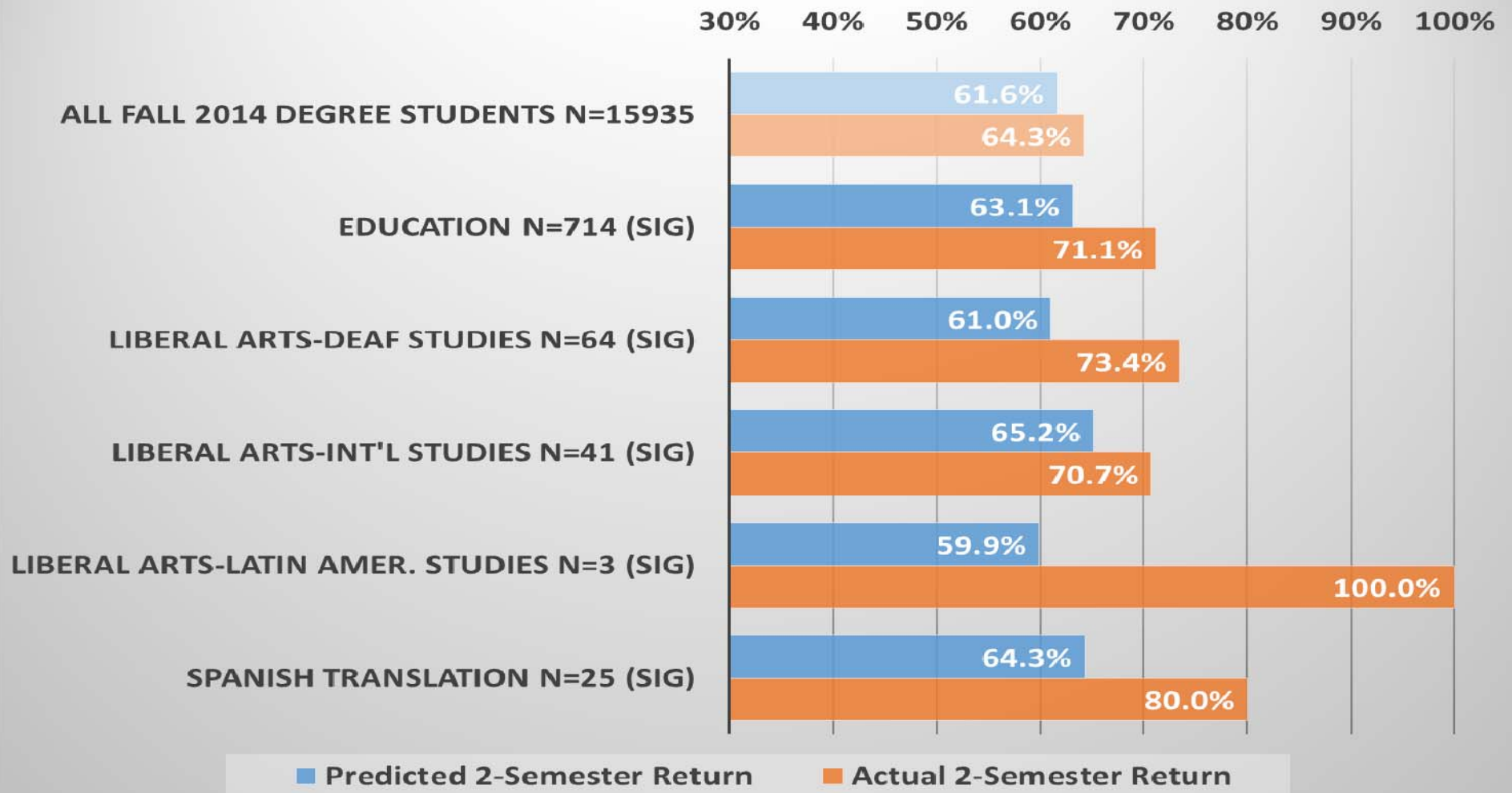
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- **Some teams did better than predicted**
- **Some teams did not**
- **Some teams did not beat predicted by a significant amount**

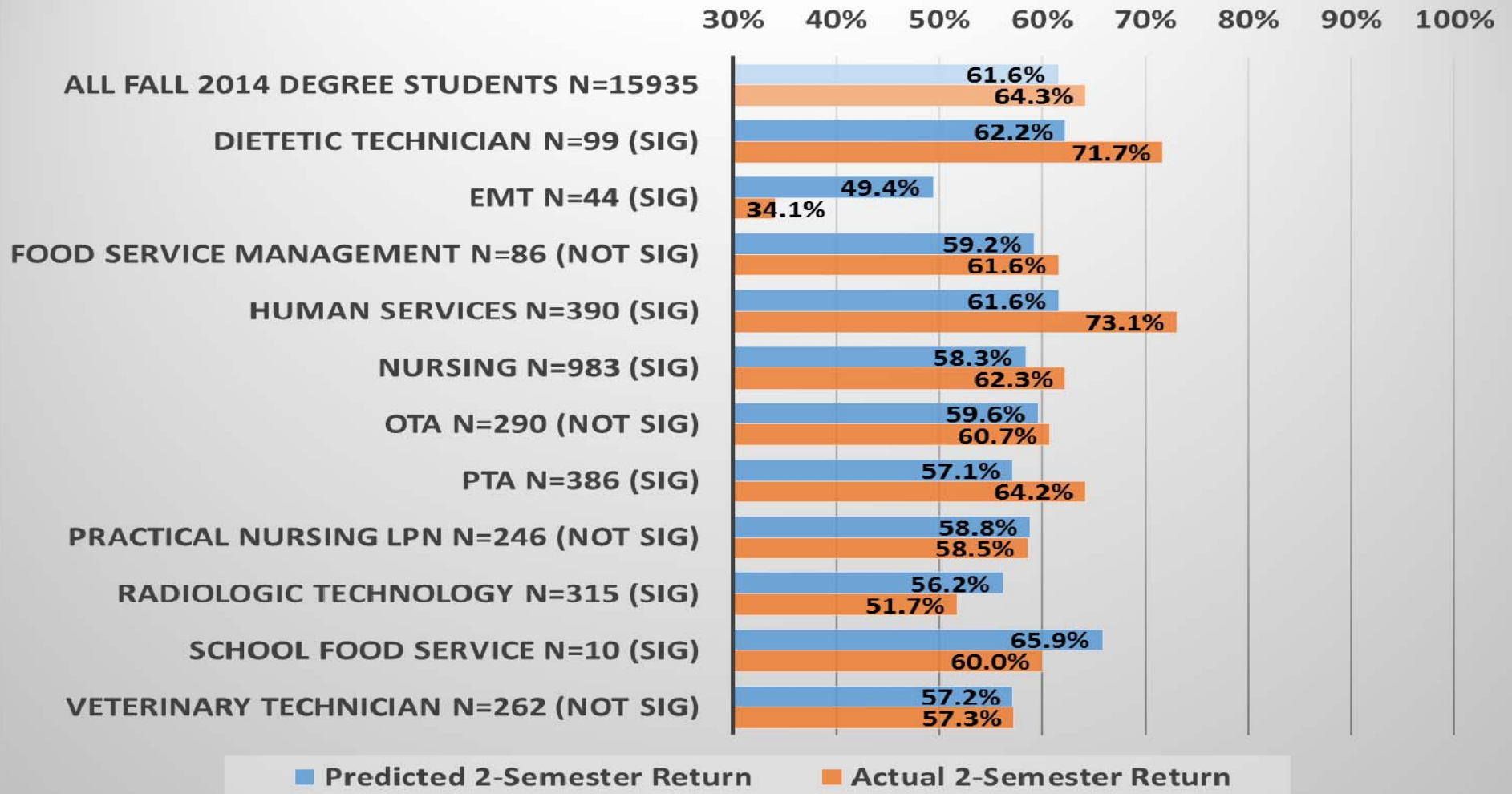
## Business & Technology



## ELA & Education

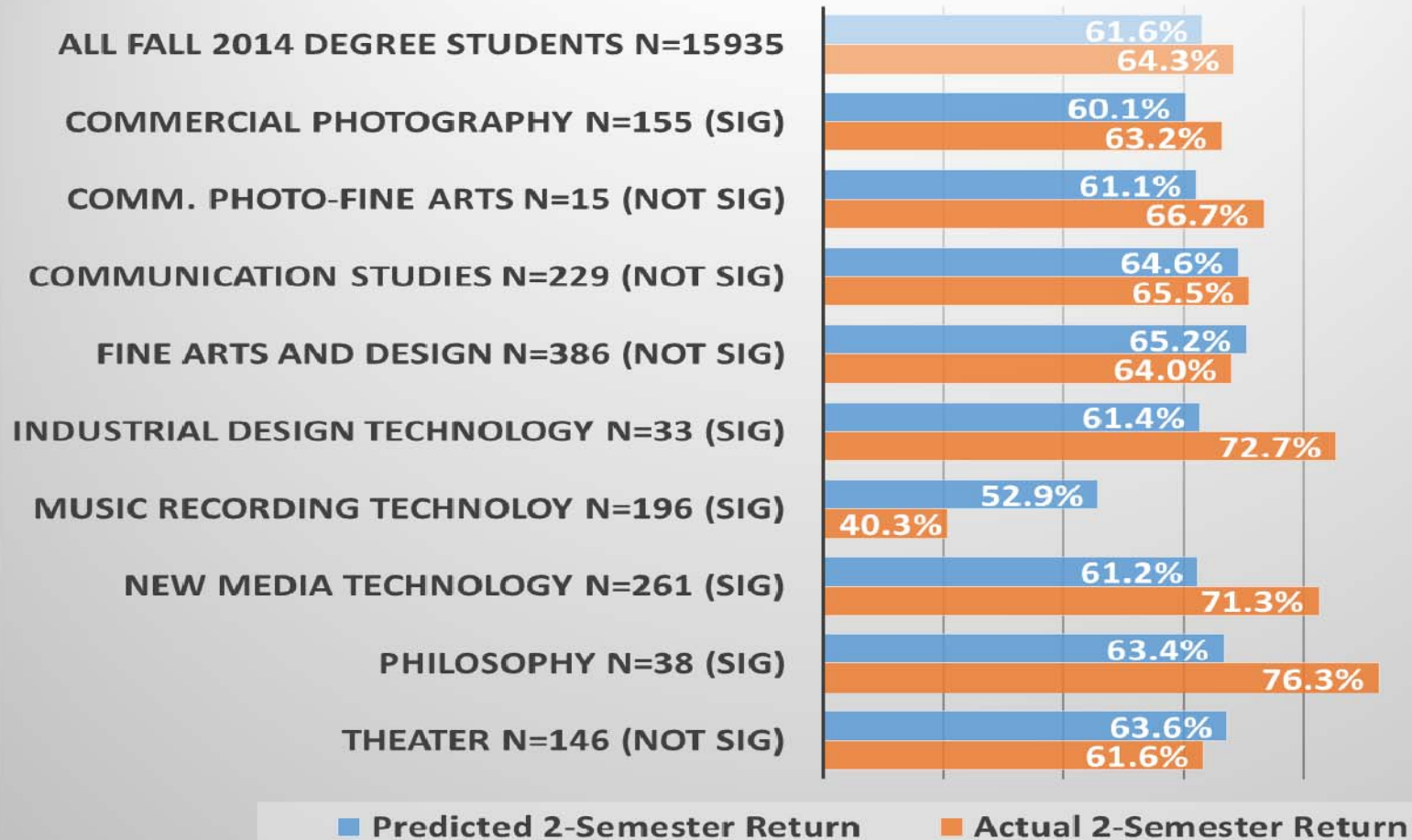


## Health Sciences



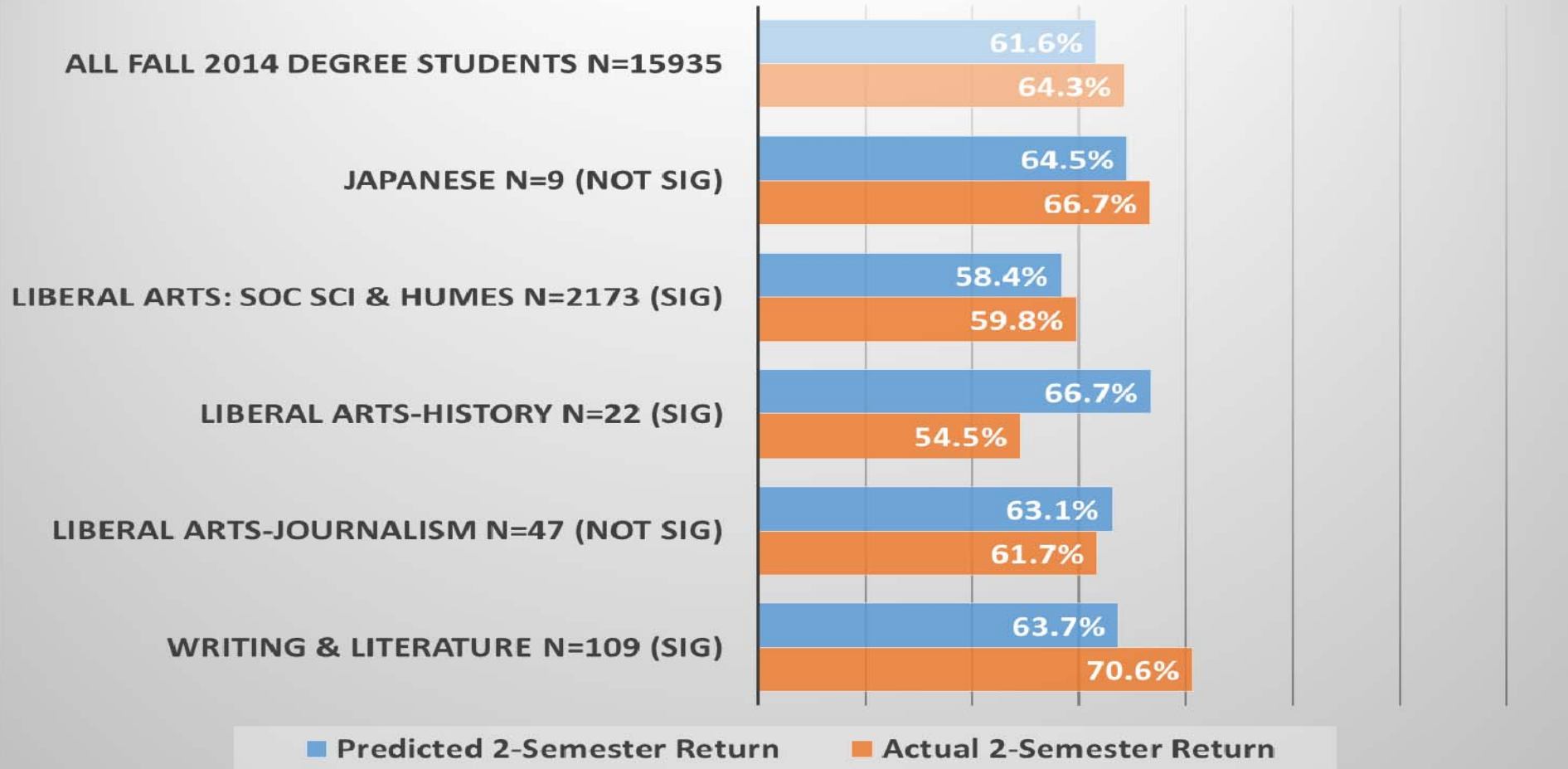
## Humanities

30% 40% 50% 60% 70% 80% 90% 100%



## Liberal Arts

30% 40% 50% 60% 70% 80% 90% 100%





## Social Science

30% 40% 50% 60% 70% 80% 90% 100%

ALL FALL 2014 DEGREE STUDENTS N=15935

61.6%

64.3%

CRIMINAL JUSTICE N=1384 (SIG)

63.2%

64.9%

PSYCHOLOGY N=668 (SIG)

63.5%

67.7%

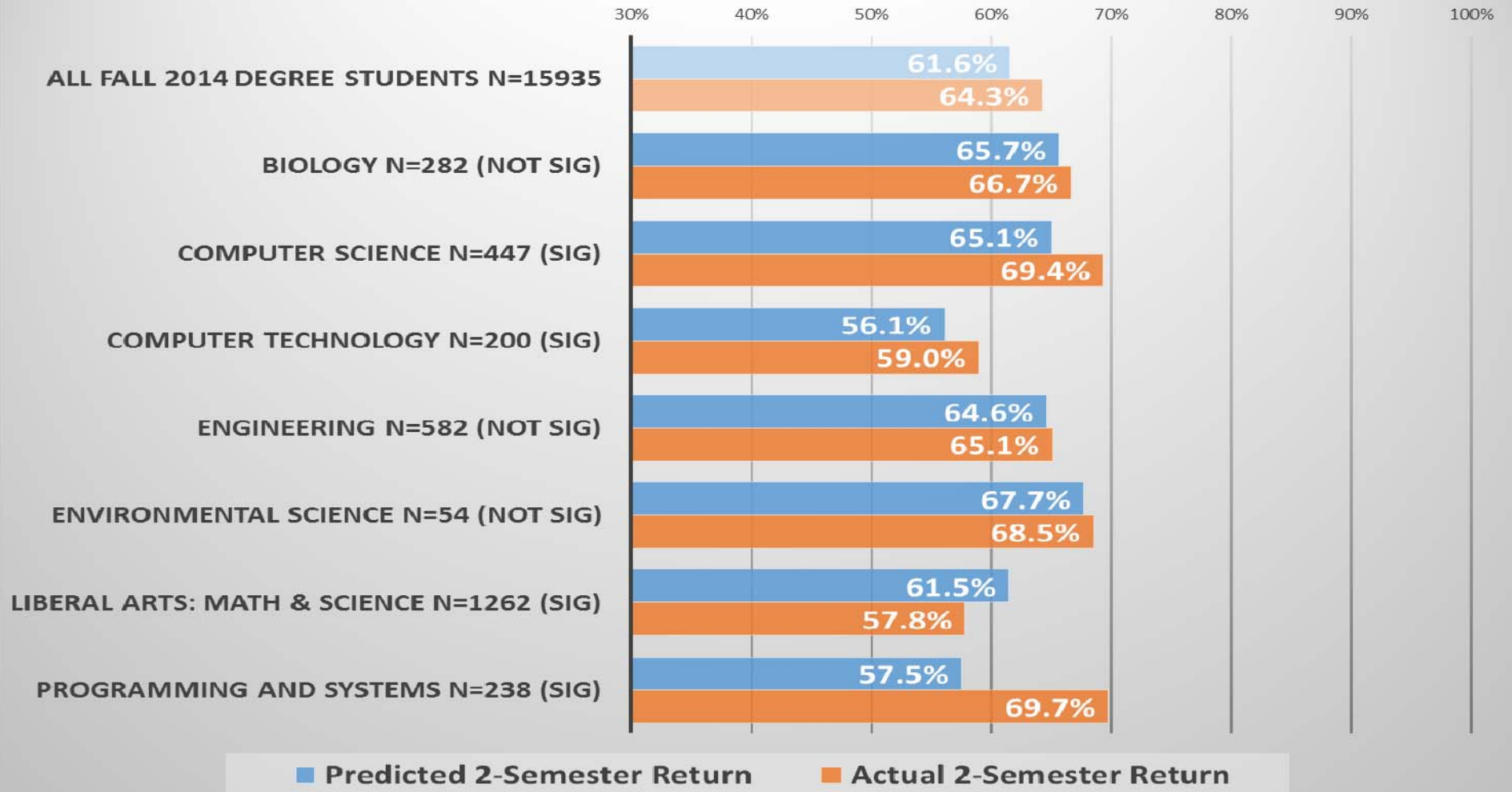
■ Predicted 2-Semester Return

■ Actual 2-Semester Return





## STEM



## Councils

30% 40% 50% 60% 70% 80% 90% 100%

**ALL FALL 2014 DEGREE STUDENTS N=15935**

61.6%  
64.3%

**BUSINESS AND TECHNOLOGY N=3038 (SIG)**

64.4%  
68.9%

**ELA & EDUCATION N=847 (SIG)**

63.1%  
71.7%

**HEALTH SCIENCES N=3111 (SIG)**

58.5%  
61.8%

**HUMANITIES N=1459 (NOT SIG)**

61.9%  
62.6%

**LIBERAL ARTS N=2360 (SIG)**

58.8%  
60.3%

**SOCIAL SCIENCE N=2052 (SIG)**

63.3%  
65.8%

**STEM N=3065 (NOT SIG)**

62.4%  
62.9%

■ Predicted 2-Semester Return

■ Actual 2-Semester Return



# Fall 2015 Students

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- Goals by group
- Goals by team
  - (Goals are predicted return rate plus factor needed for statistical significance)
  
- New prediction model, based on last five semesters of characteristics/factors and two-semester return/graduation

	Fall 2014 Factors	Fall 2015 Factors
<b>Factors</b>	<b>Percentage Point Impact (3 semesters data)</b>	<b>Percentage Point Impact (5 semesters data)</b>
<i>Starting point</i>	-28.13	-6.49
<i>Each year of age</i>	0.646	0
<i>Each credit earned</i>	1.02	0.91
<i>Each point of cumulative GPA</i>	20.22	22.26
<i>Each one percent of attempted equated credits earned</i>	0	0.1695
<i>Each one percent of WU grades out of total grades received</i>	-1.147	-1.28
<i>Being female</i>	6.57	8.58
<i>Not completing developmental math requirement</i>	-16.81	-7.42
<i>Being full-time</i>	42.42	36.33
<i>Registering early</i>	11.37	12.72
<i>Being a continuing student</i>	-10.66	-10.73
<i>Being a new student</i>	49.42	36.68
<i>Being a new transfer student</i>	24.02	31.37
<i>Being an AA degree student</i>	2.72	3.12
<i>Being an AS degree student</i>	13.79	12.19
<i>Being an AAS degree student</i>	-6.04	-3.41
<i>Not receiving financial aid</i>	0	-3.25
<i>Not being on a student visa</i>	-18.87	-23.24

<b>Program</b>	<b>Fall 2015 Enrollment (Group code active after 5/1/15)</b>	<b>Expected 2- Semester Return/Grad Rate</b>	<b>Return/Grad # Goal to Beat (inc. stat sig.)</b>
<b>All Fall 2015 Degree Students</b>	<b>15,504</b>	<b>63.3%</b>	<b>9,853</b>
<b>ASAP</b>	<b>420</b>	<b>70.7%</b>	<b>301</b>
<b>COLLEGE DISCOVERY</b>	<b>515</b>	<b>66.4%</b>	<b>347</b>
<b>ACE FIRST IN THE WORLD GRANT</b>	<b>90</b>	<b>56.9%</b>	<b>53</b>
<b>ACE TO CREDIT</b>	<b>139</b>	<b>56.6%</b>	<b>81</b>
<b>PKT- HONORS SOCIETY - LAGUARDIACC</b>	<b>194</b>	<b>77.2%</b>	<b>152</b>
<b>ACE ROBIN HOOD FOUNDATION GRANT</b>	<b>18</b>	<b>55.4%</b>	<b>11</b>

<b>Business and Technology Teams</b>	<b>Fall 2015 Enrollment</b>	<b>Expected 2- Semester Return/Grad Rate</b>	<b>Return/Grad # Goal to Beat (inc. stat sig.)</b>
<b>All Fall 2015 Degree Students</b>	<b>15,504</b>	<b>63.3%</b>	<b>9,853</b>
<b>Accounting</b>	<b>659</b>	<b>69.7%</b>	<b>466</b>
<b>Business Administration</b>	<b>1,821</b>	<b>65.1%</b>	<b>1,198</b>
<b>Business Management</b>	<b>19</b>	<b>56.9%</b>	<b>12</b>
<b>Paralegal Studies</b>	<b>152</b>	<b>61.6%</b>	<b>98</b>
<b>Travel and Tourism</b>	<b>242</b>	<b>63.3%</b>	<b>158</b>

<b>ELA &amp; Education Teams</b>	<b>Fall 2015 Enrollment</b>	<b>Expected 2- Semester Return/Grad Rate</b>	<b>Return/Grad # Goal to Beat (inc. stat sig.)</b>
<b>All Fall 2015 Degree Students</b>	<b>15,504</b>	<b>63.3%</b>	<b>9,853</b>
<b>Education</b>	<b>683</b>	<b>65.5%</b>	<b>455</b>
<b>Liberal Arts-Deaf Studies</b>	<b>72</b>	<b>63.4%</b>	<b>48</b>
<b>Liberal Arts-International Studies</b>	<b>40</b>	<b>68.1%</b>	<b>29</b>
<b>Liberal Arts-Latin American Studies</b>	<b>2</b>	<b>54.4%</b>	<b>2</b>
<b>Spanish Translation</b>	<b>27</b>	<b>67.6%</b>	<b>20</b>

<b>Health Sciences Teams</b>	<b>Fall 2015 Enrollment</b>	<b>Expected 2- Semester Return/Grad Rate</b>	<b>Return/Grad # Goal to Beat (inc. stat sig.)</b>
<b>All Fall 2015 Degree Students</b>	<b>15,504</b>	<b>63.3%</b>	<b>9,853</b>
<b>Dietetic Technician</b>	<b>82</b>	<b>65.9%</b>	<b>56</b>
<b>EMT</b>	<b>67</b>	<b>53.2%</b>	<b>38</b>
<b>Food Service Management</b>	<b>77</b>	<b>59.6%</b>	<b>49</b>
<b>Human Services</b>	<b>396</b>	<b>64.8%</b>	<b>263</b>
<b>Nursing</b>	<b>1,031</b>	<b>60.2%</b>	<b>629</b>
<b>Occupational Therapy Assistant</b>	<b>262</b>	<b>62.4%</b>	<b>168</b>
<b>Physical Therapy Assistant</b>	<b>375</b>	<b>60.2%</b>	<b>231</b>
<b>Practical Nursing LPN</b>	<b>272</b>	<b>59.1%</b>	<b>165</b>
<b>Radiologic Technology</b>	<b>301</b>	<b>59.3%</b>	<b>183</b>
<b>School Food Service</b>	<b>4</b>	<b>65.7%</b>	<b>3</b>
<b>Veterinary Technician</b>	<b>347</b>	<b>61.2%</b>	<b>217</b>



<b>Humanities Teams</b>	<b>Fall 2015 Enrollment</b>	<b>Expected 2- Semester Return/Grad Rate</b>	<b>Return/Grad # Goal to Beat (inc. stat sig.)</b>
<b>All Fall 2015 Degree Students</b>	<b>15,504</b>	<b>63.3%</b>	<b>9,853</b>
<b>Commercial Photography</b>	<b>129</b>	<b>61.7%</b>	<b>83</b>
<b>Commercial Photography-Fine Arts</b>	<b>7</b>	<b>61.6%</b>	<b>5</b>
<b>Communication Studies</b>	<b>206</b>	<b>64.6%</b>	<b>137</b>
<b>Fine Arts and Design</b>	<b>337</b>	<b>67.6%</b>	<b>233</b>
<b>Industrial Design Technology</b>	<b>52</b>	<b>61.9%</b>	<b>34</b>
<b>Music Recording Technology</b>	<b>163</b>	<b>52.7%</b>	<b>89</b>
<b>New Media Technology</b>	<b>251</b>	<b>60.5%</b>	<b>157</b>
<b>Philosophy</b>	<b>48</b>	<b>61.2%</b>	<b>32</b>
<b>Theater</b>	<b>188</b>	<b>65.0%</b>	<b>126</b>

<b>Liberal Arts Teams</b>	<b>Fall 2015 Enrollment</b>	<b>Expected 2- Semester Return/Grad Rate</b>	<b>Return/Grad # Goal to Beat (inc. stat sig.)</b>
<b>All Fall 2015 Degree Students</b>	<b>15,504</b>	<b>63.3%</b>	<b>9,853</b>
<b>Japanese</b>	<b>10</b>	<b>64.3%</b>	<b>8</b>
<b>Liberal Arts: Social Science &amp; Humanities</b>	<b>1,726</b>	<b>60.8%</b>	<b>1,062</b>
<b>Liberal Arts-History</b>	<b>24</b>	<b>66.3%</b>	<b>17</b>
<b>Liberal Arts-Journalism</b>	<b>41</b>	<b>65.7%</b>	<b>29</b>
<b>Writing &amp; Literature</b>	<b>120</b>	<b>66.0%</b>	<b>82</b>

<b>Social Science Teams</b>	<b>Fall 2015 Enrollment</b>	<b>Expected 2- Semester Return/Grad Rate</b>	<b>Return/Grad # Goal to Beat (inc. stat sig.)</b>
<b>All Fall 2015 Degree Students</b>	<b>15,504</b>	<b>63.3%</b>	<b>9,853</b>
<b>Criminal Justice</b>	<b>1,245</b>	<b>64.8%</b>	<b>817</b>
<b>Psychology</b>	<b>671</b>	<b>65.1%</b>	<b>444</b>

<b>STEM Teams</b>	<b>Fall 2015 Enrollment</b>	<b>Expected 2- Semester Return/Grad Rate</b>	<b>Return/Grad # Goal to Beat (inc. stat sig.)</b>
<b>All Fall 2015 Degree Students</b>	<b>15,504</b>	<b>63.3%</b>	<b>9,853</b>
<b>Biology</b>	<b>285</b>	<b>67.4%</b>	<b>197</b>
<b>Computer Science</b>	<b>534</b>	<b>65.3%</b>	<b>355</b>
<b>Computer Technology</b>	<b>189</b>	<b>57.4%</b>	<b>113</b>
<b>Engineering</b>	<b>628</b>	<b>65.1%</b>	<b>416</b>
<b>Environmental Science</b>	<b>55</b>	<b>68.3%</b>	<b>40</b>
<b>Liberal Arts: Math &amp; Science</b>	<b>1,407</b>	<b>62.8%</b>	<b>895</b>
<b>Programming and Systems</b>	<b>217</b>	<b>60.8%</b>	<b>136</b>

<b>Councils</b>	<b>Fall 2015 Enrollment</b>	<b>Expected 2- Semester Return/Grad Rate</b>	<b>Return/Grad # Goal to Beat (inc. stat sig.)</b>
<b>All Fall 2015 Degree Students</b>	<b>15,504</b>	<b>63.3%</b>	<b>9,853</b>
<b>Business and Technology</b>	<b>2,893</b>	<b>65.7%</b>	<b>1,917</b>
<b>ELA &amp; Education</b>	<b>824</b>	<b>65.5%</b>	<b>548</b>
<b>Health Sciences</b>	<b>3,214</b>	<b>60.8%</b>	<b>1,971</b>
<b>Humanities</b>	<b>1,381</b>	<b>62.7%</b>	<b>878</b>
<b>Liberal Arts</b>	<b>1,921</b>	<b>61.3%</b>	<b>1,191</b>
<b>Social Science</b>	<b>1,916</b>	<b>64.9%</b>	<b>1,256</b>
<b>STEM</b>	<b>3,315</b>	<b>63.7%</b>	<b>2,128</b>

# How about looking at SEMS data?

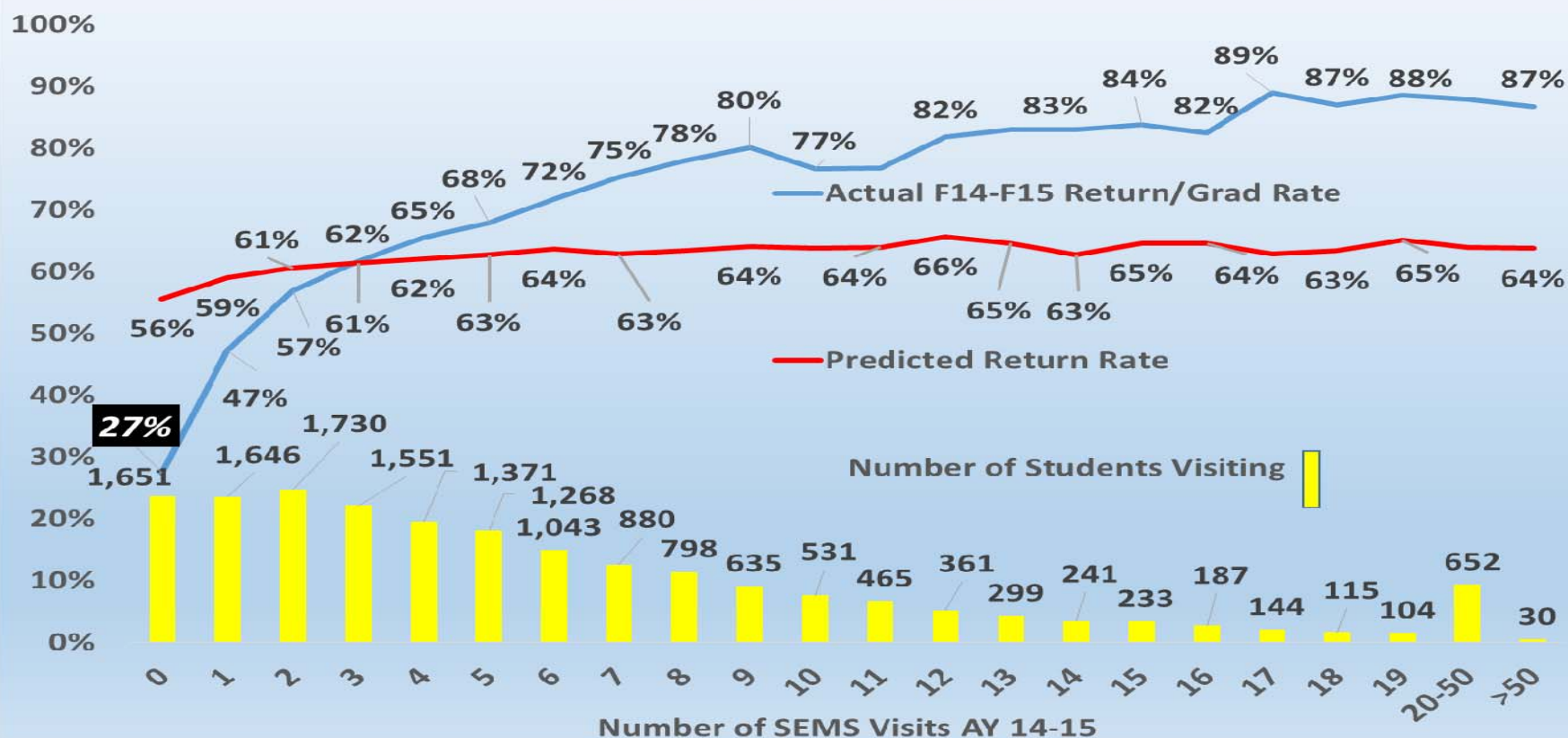
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## ➤ Ask...

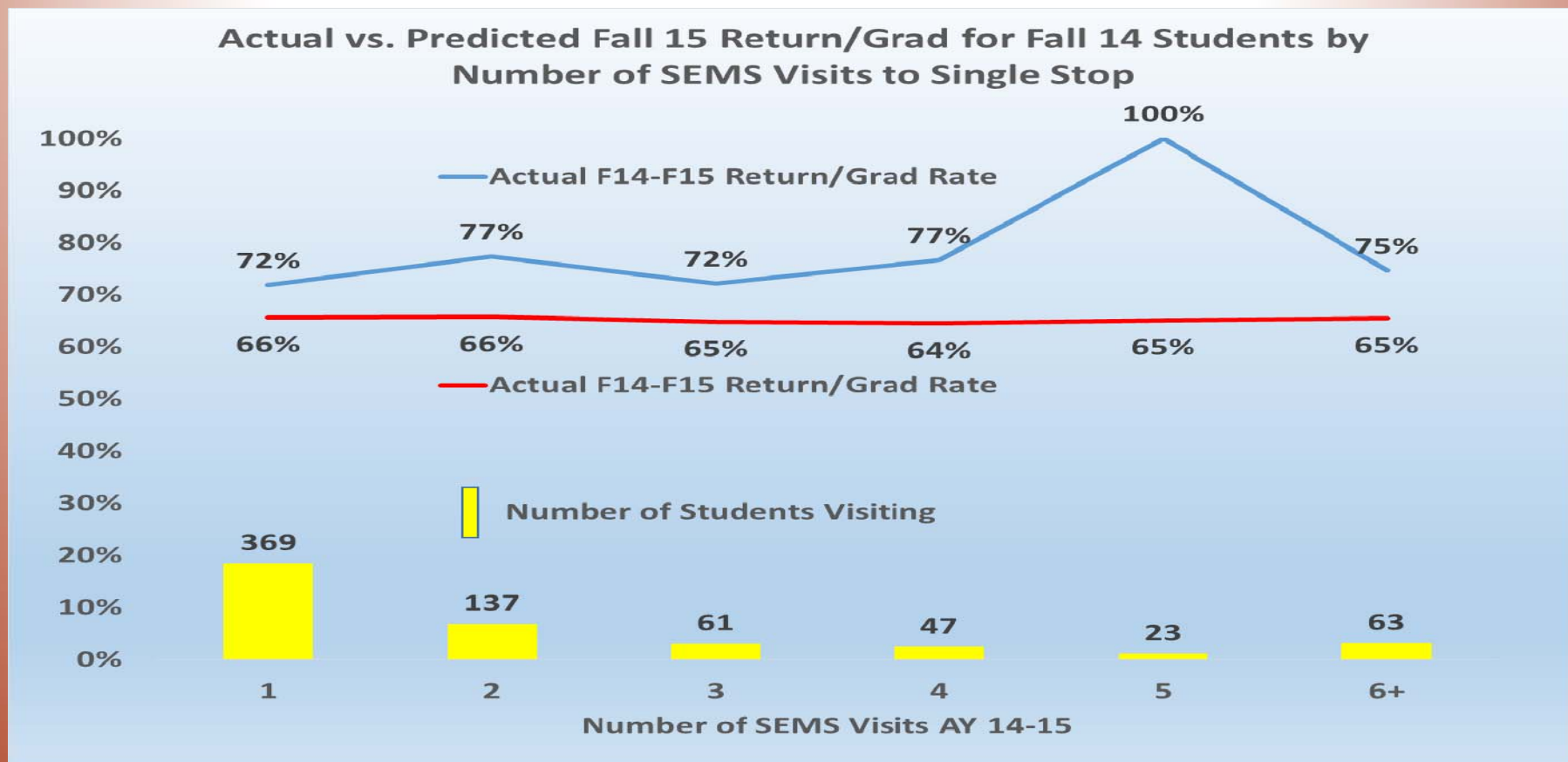
- Does visiting an office improve retention above expectations?
- Does visiting an office more often improve retention above expectations?
- Are some offices better ones to visit?

# Not visiting any office is very, very bad!

Actual vs. Predicted Fall 15 Return/Grad for Fall 14 Students by  
Number of SEMS Visits



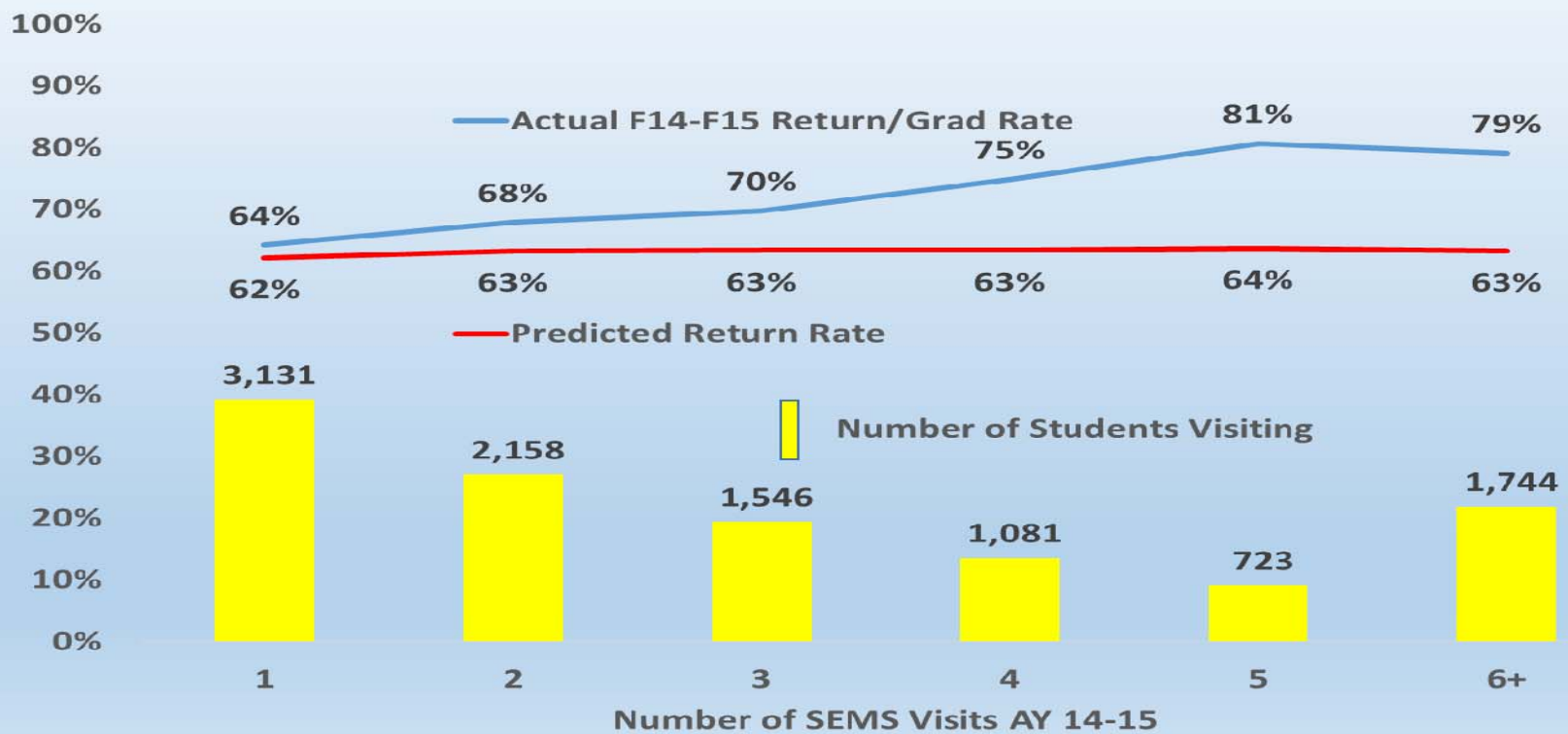
# Visiting Single Stop is beneficial!





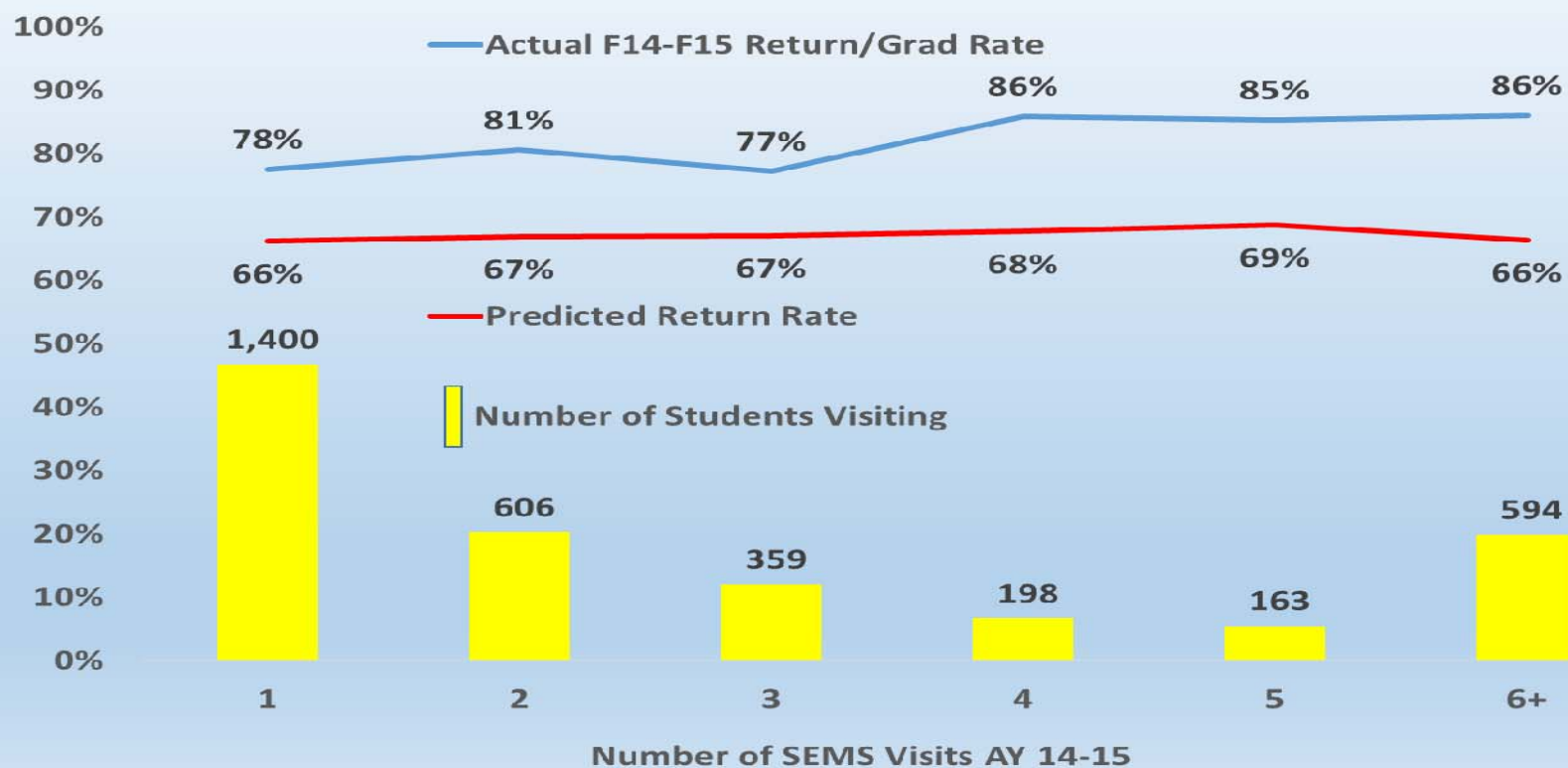
# Visit C-107 Generalists more often!

Actual vs. Predicted Fall 15 Return/Grad for Fall 14 Students by  
Number of SEMS Visits to Generalists



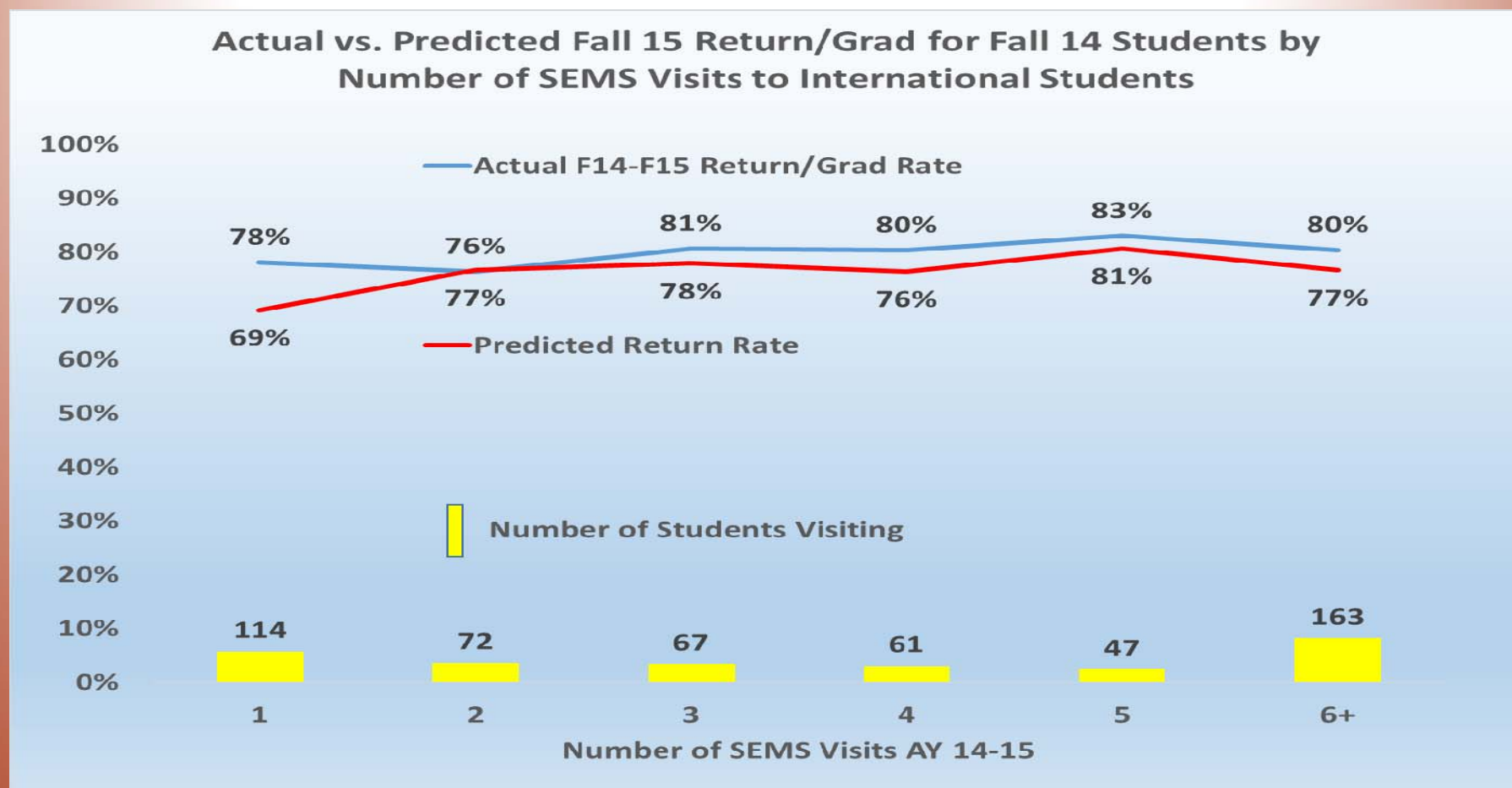
# Visit Special Services at least once!

**Actual vs. Predicted Fall 15 Return/Grad for Fall 14 Students by Number of SEMS Visits to Special Services**



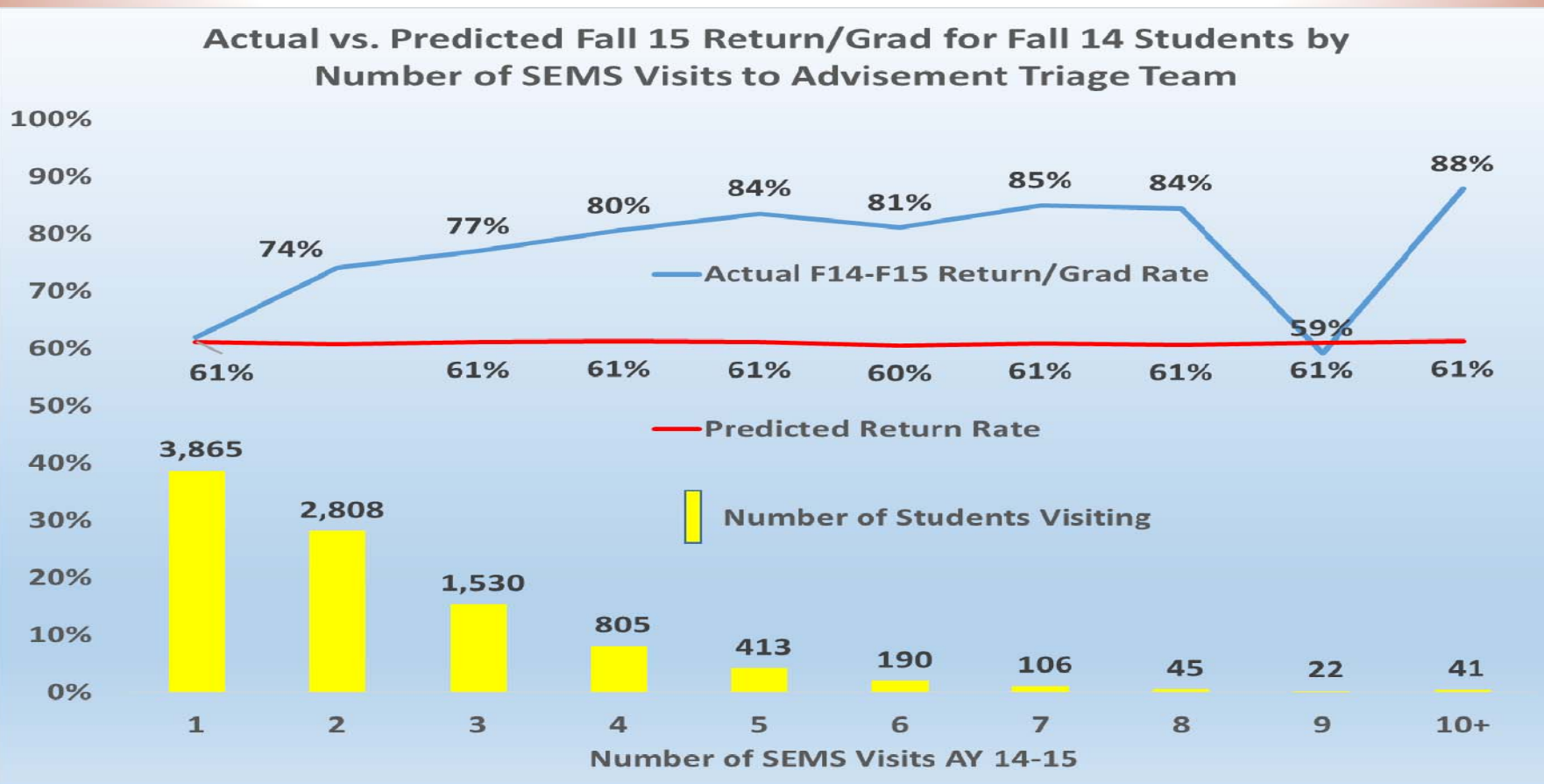


# Being is almost as good as visiting International Students' Office





# Seeing an advisor once is the norm. More than once helps (except not 9 times).





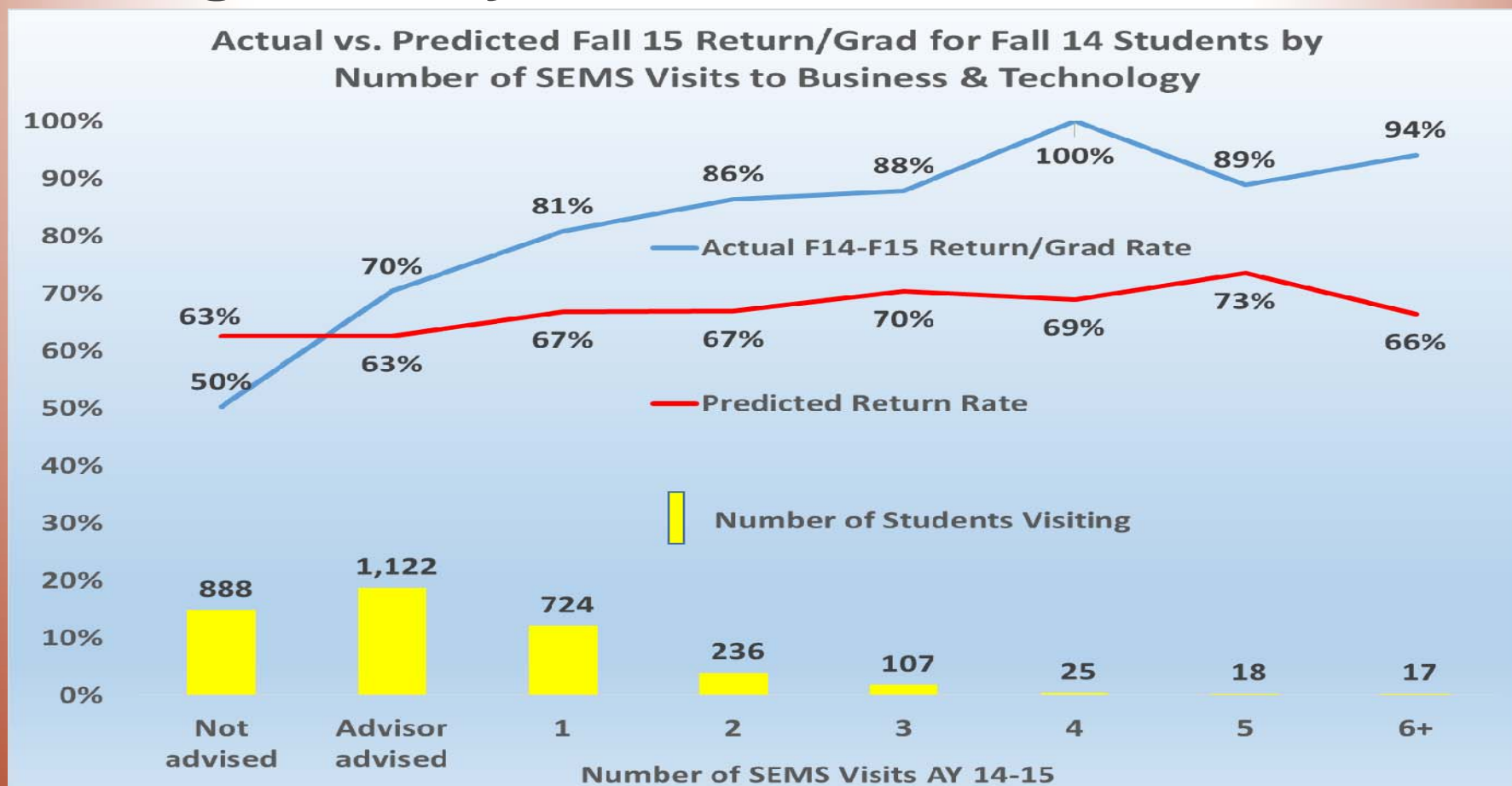
# What about seeing a faculty member in a department?

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- Compared to seeing no one
- Compared to not seeing a faculty member, but going to B-100 at least once
- By the number of times visiting the department (can include students who were not majors in Fall 2014)



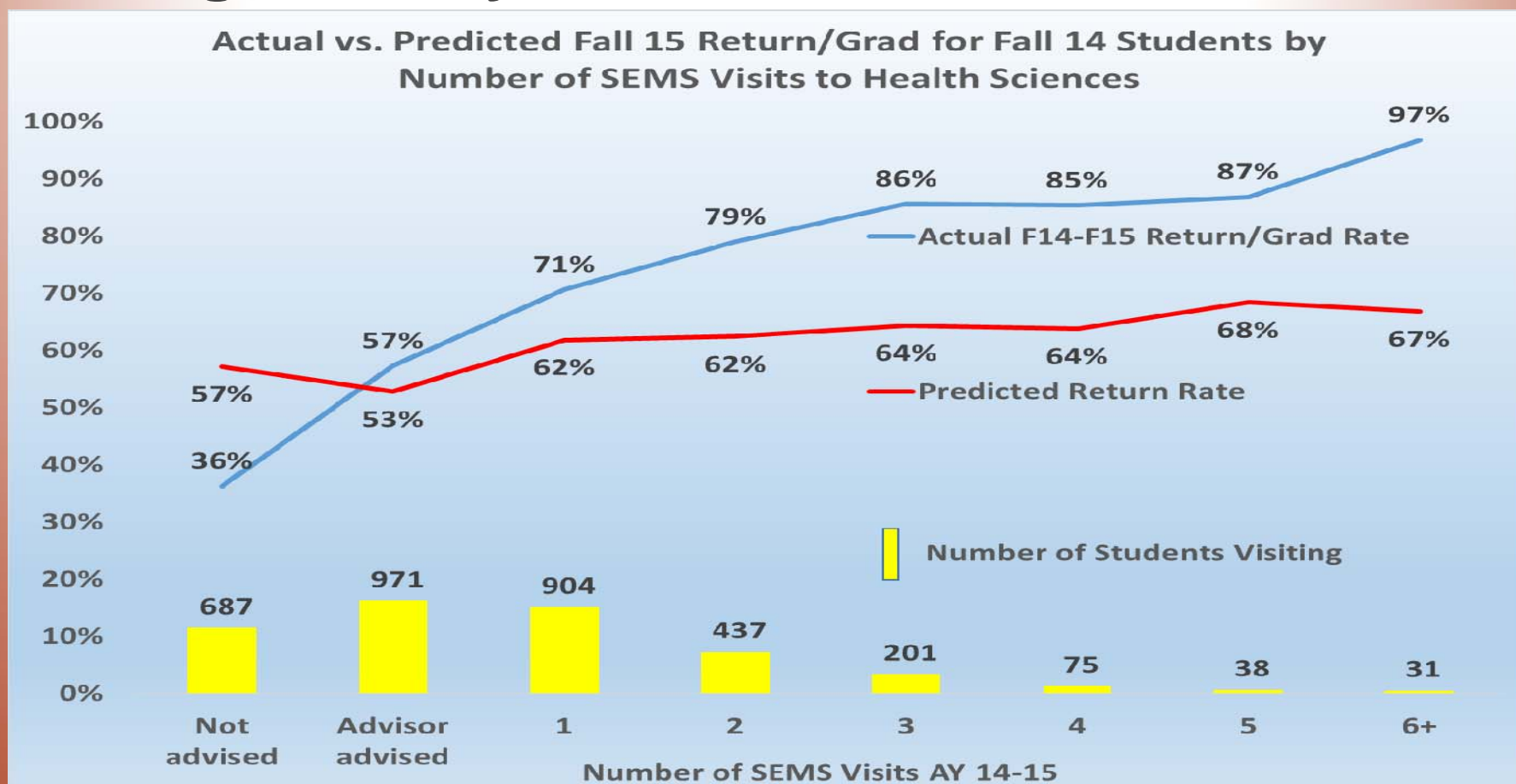
# Seeing an advisor is good; Seeing a faculty member is better!





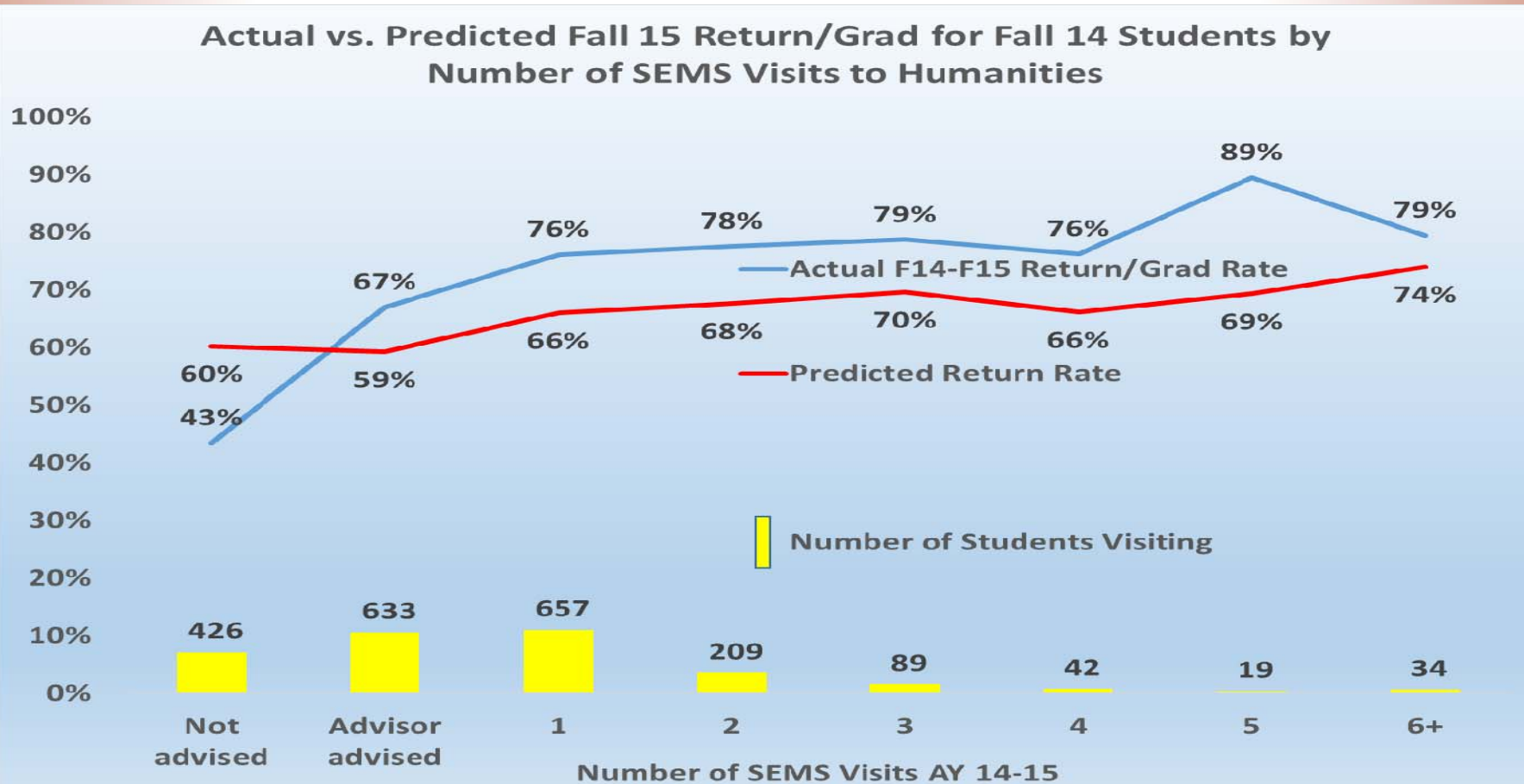


# Seeing an advisor is good; Seeing a faculty member is better!





# Seeing an advisor is good; Seeing a faculty member is better!







# Drop-outs don't do optional!

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