

# Two-semester Return Goal Setting

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## Why are we doing this?

- We have dozens of "retention initiatives" and even more "problematic situations" all of which demand assessment
  - >Did this intervention work?
  - Does this situation hurt retention?

And... we didn't want to keep doing one-up research projects, selecting control groups, comparing outcomes for each one!



#### **Predicting return (or graduation) two semesters out**

- 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

actors 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)	4	Point Impact	Student Joe	Prediction
Starting point		-28.13		-28.13
Each year of age		0.646	20	12.92
Each credit earned		1.02	12	12.24
Each point of cumulative GPA		20.22	2	40.44
Each one percent of WU grades out of total grades received		-1.681	0	0
Being female		6.57	0	0
Not completing developmental math requirement		-16.81	0	0
Being full-time		42.42	1	42.42
Registering early		11.37	0	0
Being a continuing student		-10.66	1	-10.66
Being a new student*		49.42	0	0
Being a new transfer student		24.02	0	0
Being an AA degree student		2.72	0	0
Being an AS degree student		13.79	1	13.79
Being an AAS degree student		-6.04	0	0
Not being on a student visa		-18.87	0	0
(Joe's predicted probability of returning Fall 2015)				83.02%
*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**

>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



#### **Other ideas?**

# Other variables? Other approaches? Obvious caution flags?



## Predicted vs. actual by group code

#### How did interventions do?

How did other groups do?

>(Blue is predicted, red is actual)





## Ideas and questions from you

# >(BTW: CUNYfirst group codes not always verified or updated.)

# Still can't tell whether a good result comes from the intervention or the selection.)

≻?



#### Predicted vs. actual by team

#### Some teams did better than predicted

#### Some teams did not

# Some teams did not beat predicted by a significant amount







#### So what?

And what, may I ask, is significance? (Hint: these are not samples.)

>What interventions do you have on your campus?

What would happen if you showed that an intervention did not have a significant impact on retention?



## Fall 2015 Students

➤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	Fall 2015
	Factors	Factors
	Percentage	Percentage
	Point Impact	Point Impact
	(3 semesters	(5 semesters
Factors C	data)	data)
Starting point	-28.13	-6.49
Each year of age	0.646	0
Each credit earned	1.02	0.91
Each point of cumulative GPA	20.22	22.26
Each one percent of attempted equated credits earned	0	0.1695
Each one percent of WU grades out of total grades received	-1.681	-1.28
Being female	6.57	8.58
Not completing developmental math requirement	-16.81	-7.42
Being full-time	42.42	36.33
Registering early	11.37	12.72
Being a continuing student	-10.66	-10.73
Being a new student	49.42	36.68
Being a new transfer student	24.02	31.37
Being an AA degree student	2.72	3.12
Being an AS degree student	13.79	12.19
Being an AAS degree student	-6.04	-3.41
Not receiving financial aid	0	-3.25
Not being on a student visa	-18.87	-23.24

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



### **Questions for YOU!**

#### Can you spot the suspicious variables?

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

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



# How about looking at participation data?

≻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!



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## **Questions for YOU**

# Does this look like an independent variable? (Maybe for continuing students...) (Doesn't help much for freshmen...)

## Visiting Single Stop is beneficial!





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

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



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





# What about seeing a faculty member in a department?

- 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!

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



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## **Drop-outs don't do optional!**

More questions, ideas!

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