A Tale of Three Models: What Contributes to Student Persistence

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OUTLINE

- Explanation of models
    - 1st to 2nd year
    - 1st to 3rd year
    - 1st to 4th year
- Model results
- Descriptive statistics: 2008, 2009, 2010 cohorts
- Putting the data to use

PURPOSE

- Provide decision support with regard to the development of an enrollment management plan and help around the issues of retention and graduation to forward our effort to obtain the 2020 Strategic Plan goal of a 60% graduation rate in 2020.

- Identify a return on the investment of national surveys.

ESTABLISHING THE COHORTS

Entering Cohort Year (1st Fall)	Cohort Size*	Retained 2nd Fall	Retained 3rd Fall	Retained 4th Fall	Percent of Cohort Retained – 4th Fall
2008	1,738	1,351	1,178	1,066	61%
2009	1,701	1,338	1,160	1,060	62%
2010	1,578	1,243	1,070	975	62%

*Note: The cohort size was determined by the number of students in the Graduation Rate Survey (GRS) cohort who responded to 4 specific questions that were similar on both the BCSSE (2008) and the CIRP (2009, 2010).

Methodology

Creation of the Third Model (1st to 4th Fall)

- Binary Logistic Regression

- Cut point: 67% - represents the proportion of students in the fall 2008 and fall 2009 cohorts returning in the 4th fall (fall 2011 and fall 2012 respectively)

- Stepwise regression: backward elimination

Comparison of variables: the three models

SIGNIFICANT VARIABLES

1ST Fall to 2ND Fall (First Model)

- Distance from home
- First generation
- Number of days from application to admission
- First-semester cumulative GPA (end of first fall semester)

1ST Fall to 3RD Fall (Second Model)

- First-Year cumulative GPA
- Second-Year cumulative GPA
- At least one grade of 'W'
- At least 50% of general education courses complete
- Change in academic standing
- Participation in Greek activities

1ST Fall to 4TH Fall (Third Model)

- Any grade of 'D', 'F', or 'W'
- College-ready in mathematics
- 2nd fall and 3rd fall GPA of 2.5 or greater
- Lost financial aid from 1st fall to 2nd fall
- Lost financial aid from 2nd fall to 3rd fall
- Retained 3rd fall

ACCURACY OF PREDICTIONS

1ST Fall to 2ND Fall
(First Model)

- 80.2% overall
- 70.5% on those not returning
- 82.8% on those who did return

1ST Fall to 3RD Fall
(Second Model)

- 80.7% overall
- 80.5% on those not returning
- 80.8% on those who did return

1ST Fall to 4TH Fall
(Third Model)

- 85.0% overall
- 93.8% on those not returning
- 90.8% on those who did return

HISTORICAL RETENTION AND PERSISTENCE RATES

Entering Freshmen Cohort (Full-Time)		Retention Rates[1]		Persistence Rates[2]			
Year	N	After First Year	After Second Year	After Third Year	After Fourth Year	After Fifth Year	After Sixth Year
1999	2,289	72.3%	55.4%	49.8%	46.8%	44.3%	45.0%
2000	2,238	72.0%	59.0%	54.0%	50.0%	47.0%	48.0%
2001	2,212	75.2%	62.3%	56.1%	54.2%	51.6%	50.7%
2002	2,212	77.1%	64.1%	59.5%	55.5%	52.0%	53.1%
2003	2,199	75.5%	64.9%	60.3%	55.2%	54.2%	54.6%
2004*	2,307	76.5%	64.9%	60.2%	55.5%	55.4%	55.0%
2005	2,256	78.1%	65.4%	61.3%	55.6%	55.7%	56.1%
2006	2,383	78.0%	66.6%	63.5%	58.5%	58.1%	57.5%
2007	2,527	77.7%	66.8%	62.4%	57.8%	58.2%	58.6%
2008	2,548	78.5%	68.2%	63.3%	59.7%	57.8%	
2009	2,441	77.7%	66.2%	61.4%	57.5%		
2010	2,512	77.7%	65.4%	60.7%			
2011	2,511	77.1%	65.9%				
2012	2,645	77.9%					

Descriptive Statistics (Third Model)

DESCRIPTIVE STATISTICS

Entering Cohort	Applied as an 'undecided' major		Total
	Yes	No	
2008	459	1,279	1,738
2009	501	1,200	1,701
2010	441	1,137	1,578

Entering Cohort	Enrolled as an 'undecided' major		Total
	Yes	No	
2008	444	1,294	1,738
2009	482	1,219	1,701
2010	505	1,073	1,578

DESCRIPTIVE STATISTICS

Entering Cohort	Enrolled with more than 15 pre-college credits		Total
	Yes	No	
2008	115	1,623	1,738
2009	176	1,525	1,701
2010	146	1,432	1,578

Number of days from application to admissions									
Entering Cohort	#	Mean	Minimum	Percentiles					Maximum
				10th	25th	50th	75th	90th	
2008	1,738	259	76	192	224	262	294	325	613
2009	1,701	269	61	200	231	274	307	335	693
2010	1,578	263	70	196	224	266	301	327	551

DESCRIPTIVE STATISTICS

Entering Cohort	Entered UofL college ready in mathematics		Total
	Yes	**No**	
2008	1,446	292	1,738
2009	1,421	280	1,701
2010	1,351	227	1,578
Total	4,218	799	5,017

Entering Cohort	Entered UofL college ready in English		Total
	Yes	**No**	
2008	1,529	209	1,738
2009	1,490	211	1,701
2010	1,412	166	1,578
Total	4,431	586	5,017

DESCRIPTIVE STATISTICS

Entering Cohort	Entered UofL college ready in reading		Total
	Yes	No	
2008	1,553	185	1,738
2009	1,505	196	1,701
2010	1,411	167	1,578
Total	**4,469**	**548**	**5,017**

Entering Cohort	Any grade of D, F, or W		Total
	Yes	No	
2008	1,057	681	1,738
2009	1,373	328	1,701
2010	1,155	423	1,578

DESCRIPTIVE STATISTICS

Entering Cohort	Lost financial aid money from 1st to 2nd fall		Total
	Yes	No	
2008	895	843	1,738
2009	1,004	697	1,701
2010	919	659	1,578

Entering Cohort	Lost financial aid money from 2nd to 3rd fall		Total
	Yes	No	
2008	609	1,129	1,738
2009	550	1,151	1,701
2010	574	1,004	1,578

FOR THOSE NOT RETAINED IN THE 4TH FALL…

Entering Cohort	Subsequent enrollment in another institution		Total
	2-year	4-year	
2008	199	152	351
2009	200	174	374
2010	188	110	298
Total	587	436	1,023

Entering Cohort	Subsequent enrollment in another institution		Total
	Private	Public	
2008	69	282	351
2009	46	328	374
2010	41	257	298
Total	156	867	1,023

MOST POPULAR MAJORS

Top five majors at UofL	Entering cohort			Total
	2008	2009	2010	
Undecided	444	482	505	1,431
Biology	144	176	149	469
Nursing	154	135	122	411
Psychology	74	82	83	239
Mechanical Engineering	63	62	49	174

Top five majors of those than transferred to another institution	Entering cohort			Total
	2008	2009	2010	
Undecided	44	36	38	118
Nursing	6	9	6	21
Associate in Science	7	4	5	16
Criminal Justice	4	5	7	16
Business Administration	6	2	7	15

FOR THOSE NOT RETAINED IN THE 4TH FALL…

Top five transfer institutions	Entering cohort			Total
	2008	2009	2010	
Jefferson Community and Technical College	114	98	120	332
Indiana University Southeast	30	28	17	75
University of Kentucky	15	17	18	50
Elizabethtown Community College	13	16	17	46
Northern Kentucky University	7	22	9	38

Top five institutions of those that transferred and earned at least one grade of D, F, or W at UofL	Entering cohort			Total
	2008	2009	2010	
Jefferson Community and Technical College	56	91	98	245
Indiana University Southeast	15	26	8	49
University of Kentucky	5	12	11	28
Elizabethtown Community College	4	16	13	33
Northern Kentucky University	3	19	6	28

FOR THOSE NOT RETAINED IN THE 4TH FALL…

Entering Cohort	Earned a degree at another institution		Total
	Associate	Bachelor	
2008	33	55	88
2009	17	58	75
2010	9	3	12
Total	59	116	175

Implementing the results

PUTTING THE DATA TO USE…

- Justified establishing a consultancy agreement with AACRAO to assess the institutional enrollment management plan including institutional fit and issues of affordability
- Promoted the expanded and applied use of the national student engagement surveys (i.e., NSSE, FSSE, BCSSE)
- Prompted the re-examination of the institutional advising model based on national best practices
- Identified problematic 'gate keeper' courses that adversely impact student persistence to develop academic and non-academic support strategies
- Examined course sequencing within academic programs in relation to student enrollment patterns
- Identified under-utilized high impact practices for growth opportunities (e.g., learning communities, international service opportunities, etc.)

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THANK YOU!

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