

Seamless Transitions?

Credit Transfer and Success in
Subsequent Coursework

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Driven to DiscoverSM

Previous Study

- Looked at 4-year grad/retention rates of transfer students.
 - Some indications as to their difficulties
 - Successes/failures of MN Xfer Curriculum?
 - Declaring their major too early?
- Chemistry example:
 - Previous grades predict next advanced course
 - Suggestion of non-seamless transition



Selection criteria

- Transfer Students
 - Took non-PSEO college courses at other university (transfer in at least 6 credits).
 - U of M granted U credit for other university course and then student took subsequent, “more advanced” U course in same field.
- Non-transfer Students
 - Took course at U and in subsequent term took more advanced course in same field [math/english]



Variables in the Equations

- Previous course grade
- Delay
- Xfer-Institution characteristics
 - Private, MnSCU
- Student Characteristics
 - Gender/Ethnicity
 - Major in Course-College [IT/CLA]
 - Financial Aid
- Killer Courses



NAS Math

- PASS_ABCS: N=1,349
 - 69.2%, model = 69.9%, nkR2 = 0.117

NHS Math

- PASS_ABCS: N=6,351
 - 73.4%, model = 76.1%, nkR2 = 0.229



Regression Coefficients of Interest

Model	NAS		NHS	
	PASS_ABCS		PASS_ABCS	
PC_COURSE_GRADE	+0.54****		+0.94****	
IT			+0.37****	
DELAY_SQ	+0.02*		-0.07*	
FEMALE			+0.20***	
ASIAN			-0.38****	
UNDER_REP_MIN			-0.29**	
FY2002			+0.36**	
CRS_CALC1			-0.71****	
CRS_CALC2	-0.82*		-1.89****	
CRS_COL_ALG	-0.73**			
CRS_LINALG_DIFQ_IT*	+0.62**			
CRS_PRECALC2	-0.45*		-0.27**	
CRS_SHRT_CALC	-0.64**		-0.78****	

*p<0.10; **p<0.05; ***p<0.01; ****p<0.001



NAS Math

- PASS_ABCS: N=1,349
 - 69.2%, model = 69.9%, nkR2 = 0.117
- PASS_AB: N=1,357
 - 56.2% (predict 0 not 1), model = 66.5%, nkR2 = 0.192

NHS Math

- PASS_ABCS: N=6,351
 - 73.4%, model = 76.1%, nkR2 = 0.229
- PASS_AB: N=6,351
 - 56.5% (predict 0 not 1), model = 72.8%, nkR2 = 0.327



Regression Coefficients of Interest

Model	NAS		NHS	
	PASS_ABC S	PASS_AB	PASS_ABCS	PASS_AB
PC_COURSE_GRADE	+0.54****	+0.75****	+0.94****	+1.20****
IT			+0.37****	+0.37****
DELAY				+0.42****
DELAY_SQ	+0.02*		-0.07*	-0.07*
FEMALE			+0.20***	+0.32****
ASIAN			-0.38****	-0.31***
UNDER_REP_MIN			-0.29**	-0.22*
PVT*		+0.41**		
FY2001		-0.59**		+0.49***
FY2002			+0.36**	+0.80****
FY2003				+0.76****
FY2004				+0.75****
FY2005				+0.58****
CRS_CALC1		-0.77****	-0.71****	-0.89****
CRS_CALC2	-0.82*		-1.89****	-2.13****
CRS_COL_ALG	-0.73**	-1.15****		-1.25***
CRS_LINALG_DIFQ_IT*	+0.62**	+0.67***		
CRS_PRECALC2	-0.45*		-0.27**	-0.66****
CRS_SHRT_CALC	-0.64**	-1.06****	-0.78****	-1.01****

*pvt not in NHS, difq not in nhs, it_calc not in nas

*p<0.10; **p<0.05; ***p<0.01; ****p<0.001



NAS English

- PASS_ABCS: N=909
 - 85.5%, model = 85.4%, nkR2 = 0.105

NHS English

- PASS_ABCS: N=1,892
 - 90.5%, model = 90.5%, nkR2 = 0.088



Regression Coefficients of Interest

Model	NAS			NHS		
	PASS_ABCS			PASS_ABCS		
PC_COURSE_GRADE				+0.53****		
CLA				+0.31*		
DELAY	-0.21***					
DELAY_SQ	+0.11**					
UNDER_REP_MIN	-1.09***					
CRS_SURV_AM_LIT1	-0.99***			-0.83***		
CRS_SURV_AM_LIT2				-0.61*		
CRS_SURV_BRIT_LIT1	-1.33***			-1.41****		
CRS_SURV_BRIT_LIT2	-1.05**			-1.18***		
CRS_SHKSPR				-0.56**		

*p<0.10; **p<0.05; ***p<0.01; ****p<0.001



NAS English

- PASS_ABCS: N=909
 - 85.5%, model = 85.4%, nkR2 = 0.105
- PASS_AB: N=909
 - 72.1%, model = 72.6%, nkR2 = 0.099

NHS English

- PASS_ABCS: N=1,892
 - 90.5%, model = 90.5%, nkR2 = 0.088
- PASS_AB: N=1,892
 - 78.3%, model = 78.5%, nkR2 = 0.107



Regression Coefficients of Interest

Model	NAS		NHS	
	PASS_ABC S	PASS_AB	PASS_ABCS	PASS_AB
PC_COURSE_GRADE		+0.33***	+0.53****	+0.38****
CLA			+0.31*	
DELAY	-0.21***			-0.35***
DELAY_SQ	+0.11**			
UNDER_REP_MIN	-1.09***	-0.69**		
FY2004				-0.42**
FY2005		-0.56**		-0.52***
CRS_TXT_ANLY		+0.60**		
CRS_SURV_AM_LIT1	-0.99***	-0.58**	-0.83***	-0.92****
CRS_SURV_AM_LIT2			-0.61*	-0.90****
CRS_SURV_BRIT_LIT1	-1.33***	-1.07***	-1.41****	-1.62****
CRS_SURV_BRIT_LIT2	-1.05**	-0.81**	-1.18***	-0.88***
CRS_SHKSPR			-0.56**	-0.35**

*p<0.10; **p<0.05; ***p<0.01; ****p<0.001



NAS English

- PASS_ABCS: N=909
 - 85.5%, model = 85.4%, nkR2 = 0.105
- PASS_AB: N=909
 - 72.1%, model = 72.6%, nkR2 = 0.099
- PASS_A: N=909
 - 70.2% (predict 0 not 1), model = 70.8%, nkR2 = 0.115

NHS English

- PASS_ABCS: N=1,892
 - 90.5%, model = 90.5%, nkR2 = 0.088
- PASS_AB: N=1,892
 - 78.3%, model = 78.5%, nkR2 = 0.107
- PASS_AB: N=1,892
 - 59.0% (predict 0 not 1), model = 64.3%, nkR2 = 0.129



Regression Coefficients of Interest

Model	NAS			NHS		
	PASS_ABC S	PASS_AB	PASS_A	PASS_ABCS	PASS_AB	PASS_A
PC_COURSE_GRADE		+0.33***	+0.46****	+0.53****	+0.38****	+0.72****
CLA			+0.67***	+0.31*		
DELAY	-0.21***				-0.35***	-0.19*
DELAY_SQ	+0.11**					+0.18*
FEMALE						
PVT*			+0.50**			
PELL			+0.64***			-0.39**
FAFSA			-0.38**			+0.20*
UNDER_REP_MIN	-1.09***	-0.69**				
FY2001			-0.75**			
FY2002			-0.86**			-0.49**
FY2004					-0.42**	
FY2005		-0.56**	-0.71***		-0.52***	-0.40***
CRS_TXT_ANLY		+0.60**				
CRS_SURV_AM_LIT1	-0.99***	-0.58**	-0.76***	-0.83***	-0.92****	-0.72****
CRS_SURV_AM_LIT2			-0.62*	-0.61*	-0.90****	-1.11****
CRS_SURV_BRIT_LIT1	-1.33***	-1.07***	-1.02**	-1.41****	-1.62****	-1.80****
CRS_SURV_BRIT_LIT2	-1.05**	-0.81**	-0.76*	-1.18***	-0.88***	-0.82***
CRS_SHPKSPR				-0.56**	-0.35**	-0.58****

*p<0.10; **p<0.05; ***p<0.01; ****p<0.001



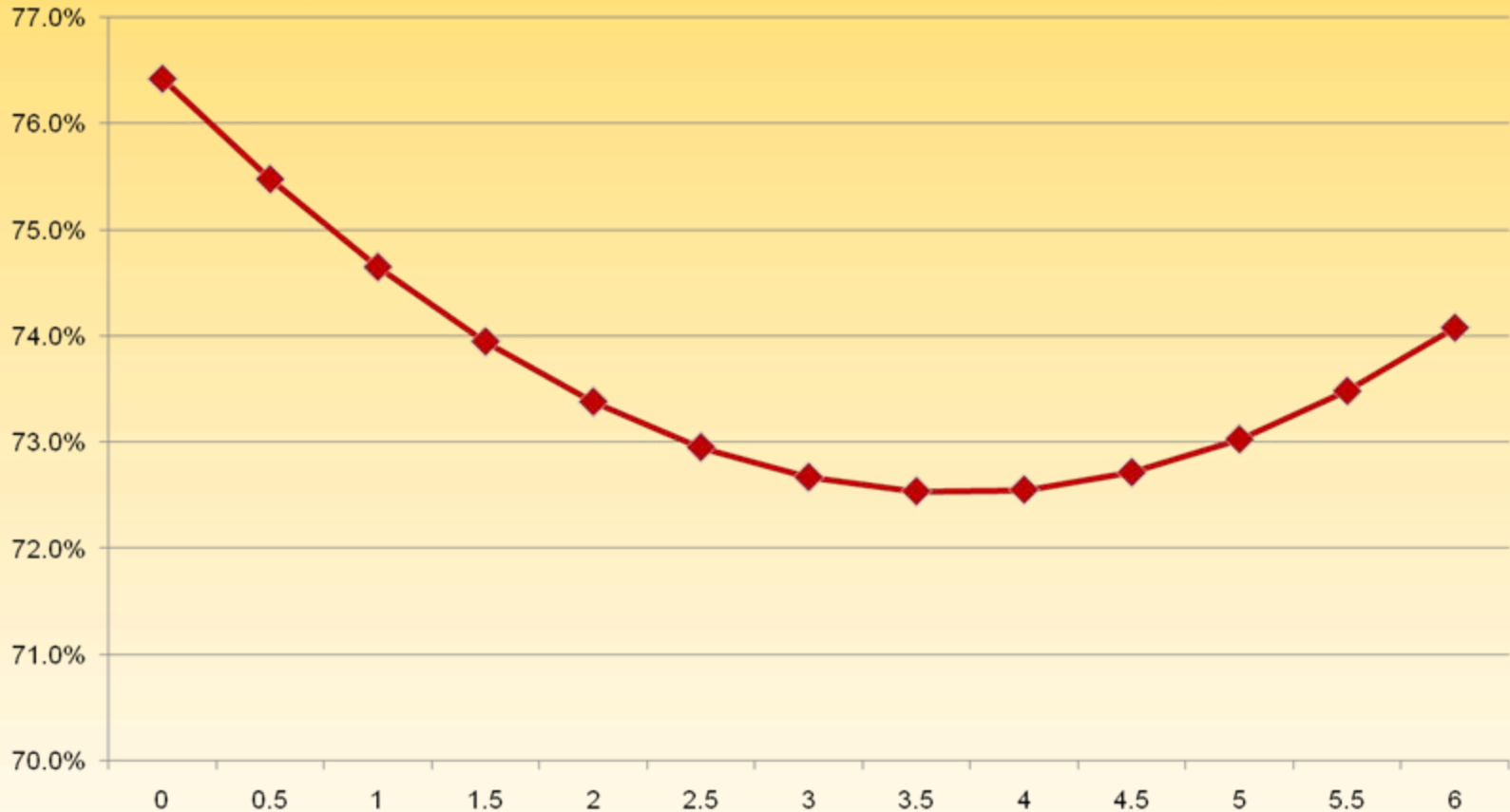
Baseline vs. Alternative Results

Math: NAS - ABCS

	Baseline	Alternative	Pass ABCS NAS	% Change from Baseline NAS	Pass ABCS NHS	% Change from Baseline NHS
PC_Course_Grade	3	4	84.7%	+8.3%	92.9%	+9.3%
Calculus 2	0	1	58.8%	-17.7%	43.4%	-40.2%
College Algebra	0	1	60.9%	-15.5%		
Lin/Diff-Eq_it	0	1	85.7%	+9.3%		
Pre-Calculus 2	0	1	67.3%	-9.1%	79.5%	-4.0%
Short Calculus	0	1	63.0%	-13.4%	70.0%	-13.6%
Delay	0	See next slide				
Baseline		76.4%			83.6%	



Likelihood of ABCS in Math with increasing delay



Baseline vs. Alternative Results

Math: NAS - AB

	Baseline	Alternative	Pass ABCS NAS	% Change from Baseline NAS	Pass ABCS NHS	% Change from Baseline NHS
PC_Course_Grade	3	4	69.0%	+17.8%	72.1%	+28.2%
PVT	0	1	61.1%	+10.0%		
Calculus 1	0	1	32.6%	-18.5%	24.3%	-19.5%
Calculus 2	0	1	34.1%	-17.1%	8.5%	-35.4%
College Algebra	0	1	25.0%	-26.2%	18.3%	-25.6%
Lin/Diff-Eq_it	0	1	67.2%	+16.0%		
Short Calculus	0	1	26.6%	-24.6%	22.1%	-21.7%
Baseline		51.2%			43.8%	



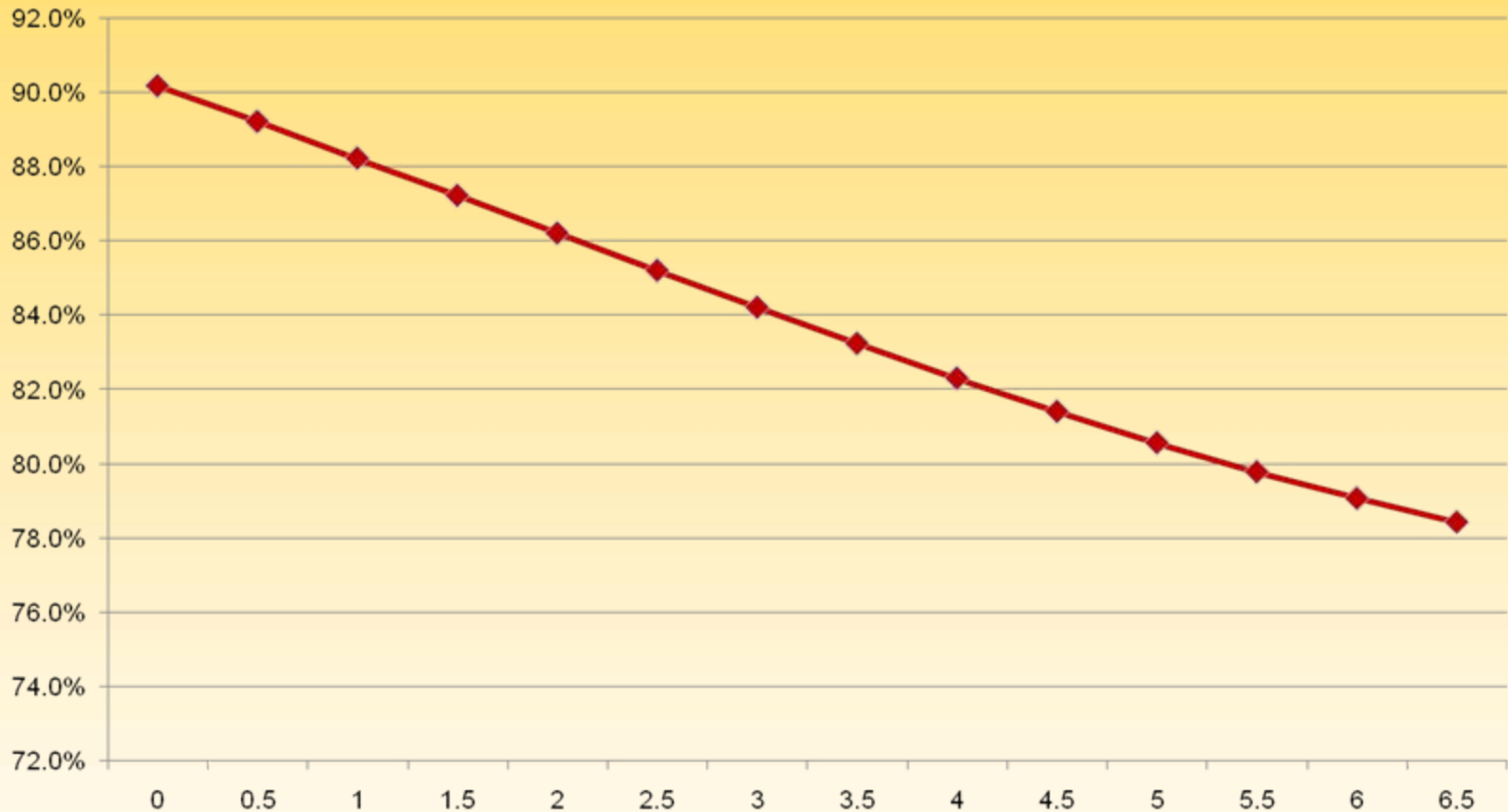
Baseline vs. Alternative Results

English: NAS - ABCS

	Baseline	Alternative	Pass ABCS NAS	% Change from Baseline NAS	Pass ABCS NHS	% Change from Baseline NHS
PC_Course_Grade	3	4	n/s		96.5%	+2.3%
Under Rep Min	0	1	75.6%	-14.6%	91.0%	-3.2%
American Lit 1	0	1	77.3%	-12.9%	87.7%	-6.5%
American Lit 2	0	1	87.5%	-2.6%	89.9%	-4.3%
British Lit 1	0	1	70.8%	-19.4%	80.0%	-14.2%
British Lit 2	0	1	76.2%	-14.0%	83.4%	-10.3%
Delay	0	See next slide				
Baseline		90.2%			94.2%	



Likelihood of ABCS in English with increasing delay



Implications

- Almost no impact from institutional effects
- Differences between Math and English
- Slightly lower success rate for transfer students
- Previous course work and course selection have big impact on likelihood of success

