

Improving Student Persistence: Co-requisite Education

CPT Change Score Comparison

MATH	COMPARED TO	FALL	ENROLLED		CHANGE SCORE				t	P-VAL**
			N CASL	N (IA)	N CASL	N (IA)	AVG (CASL)	AVG (IA)		
College Level* with Supplemental Lab (CASL)	Intermediate Algebra (IA)	2015	111	133	72	97	22.2	11.5	3.474	< 0.001
	Intermediate Algebra (IA)	2016	106	106	73	65	15.0	18.7	-1.254	0.894
	Intermediate Algebra (IA)	2017	196	45	132	33	12.0	16.6	-1.861	0.968
ENGLISH			N FCSL	N (DW)	N FCSL	N (DW)	AVG (FCSL)	AVG (DW)	t	P-VAL
Freshman Comp I with Supplemental Lab (FCSL)	Developmental Writing (DW)	2015	30	97	26	73	19.1	13.9	1.685	0.045
	Developmental Writing (DW)	2016	78	52	73	36	11.8	12.7	0.323	0.374
	Developmental Writing (DW)	2017	66	44	52	38	12.3	7.6	1.709	0.045

*College Algebra or Applied Mathematics

**P-value for CASL > IA, FCSL > DW

Statistically significant at $\alpha = 0.05$

Pass Rate Comparison

MATH	COMPARED TO	FALL	ENROLLED		PASS RATE - COMPLETED CLASS				z	P-VAL
			N CASL	N (IA/CL)	N CASL	N (IA/CL)	% (CASL)	% (IA/CL)		
College Level* with Supplemental Lab (CASL)	Intermediate Algebra (IA)	2015	82	114	74	89	90.2	78.1	2.399	0.008
	College Level (CL)*		82	481	74	395	90.2	82.1	2.188	0.014
	Intermediate Algebra (IA)	2016	87	89	74	59	85.1	66.3	2.978	0.002
	College Level (CL)*		87	503	74	429	85.1	85.3	-0.056	0.522
	Intermediate Algebra (IA)	2017	170	42	148	35	87.1	83.3	0.591	0.277
	College Level (CL)*		170	455	148	403	87.1	88.6	-0.508	0.694
ENGLISH			N FCSL	N (DW/FC)	N FCSL	N (DW/FC)	% (FCSL)	% (DW/FC)	z	P-VAL
Freshman Comp I with Supplemental Lab (FCSL)	Developmental Writing (DW)	2015	27	82	27	69	100.0	84.1	3.931	< 0.001
	Freshman Comp I (FC)		27	600	27	529	100.0	88.2	8.974	< 0.001
	Developmental Writing (DW)	2016	76	40	73	35	96.1	87.5	1.504	0.066
	Freshman Comp I (FC)		76	596	73	549	96.1	92.1	1.581	0.057
	Developmental Writing (DW)	2017	53	41	46	35	86.8	85.4	0.198	0.422
	Freshman Comp I (FC)		53	587	46	522	86.8	88.9	-0.442	0.671

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**P-value for CASL > IA/CL, FCSL > DW/FC

Statistically significant at $\alpha = 0.05$

Retention Rate Comparison

MATH	COMPARED TO	FALL	ENROLLED		RETURN	RETENTION RATE				z	P-VAL
			N CASL	N (IA/CL)		N CASL	N (IA/CL)	% (CASL)	% (IA/CL)		
College Level* with Supplemental Lab (CASL)	Intermediate Algebra (IA)	2015	111	133	2016	60	69	54.1	51.9	0.339	0.367
	College Level (CL)*		111	581		60	354	54.1	60.9	-1.336	0.909
	Intermediate Algebra (IA)	2016	106	106	2017	55	62	51.9	58.5	-0.969	0.834
	College Level (CL)*		106	624	55	386	51.9	61.9	-1.907	0.972	
ENGLISH			N FCSL	N (DW/FC)	RETURN	N FCSL	N (DW/FC)	% (FCSL)	% (DW/FC)	z	P-VAL
Freshman Comp I with Supplemental Lab (FCSL)	Developmental Writing (DW)	2015	30	97	2016	16	51	53.3	52.6	0.073	0.471
	Freshman Comp I (FC)		30	657		16	390	53.3	59.4	-0.648	0.741
	Developmental Writing (DW)	2016	78	52	2017	39	23	50.0	44.2	0.647	0.259
	Freshman Comp I (FC)		78	646	39	390	50.0	60.4	-1.735	0.959	

*College Algebra or Applied Mathematics

**P-value for CASL > IA/CL, FCSL > DW/FC

Statistically significant at $\alpha = 0.05$

Oklahoma's partnership with Complete College America requires that 75% of all students requiring developmental education be involved in a co-requisite approach. In 2015, NSU piloted a co-requisite model for Mathematics and English.

Co-Requisite Education: students meeting the following requirements are given the option of enrolling in the developmental course, OR the college level course with a co-requisite lab:

- ACT sub-scores < 19
- English CPT 60-79, Math CPT 44-74

Key Findings

Ha 1: Co-req Change Scores > Developmental Change Scores

CASL change scores significantly greater than IA for 2015 only. However, average IA change scores were actually higher than those for CASL in 2017. FCSL change scores were significantly greater than DW in 2015 and 2017.

Ha 2: Co-req Pass rates > Developmental Pass Rates; Co-req Pass Rates > College Level Pass Rates

In 2015, CASL students had significantly higher pass rates than both IA and CL. The pass rate for CASL was also significantly higher than IA in 2016. Similarly FCSL pass rates were higher than both DW and FC in 2015. It was encouraging that the pass rates for the co-req groups were comparable to the pass rates for the college level math and Freshman Comp I students even though significant differences weren't detected.

Ha 3: Co-req Retention Rate > Developmental Retention Rate; Co-req Retention Rates > College Level Retention Rates

No significant differences between CASL and IA retention rates nor between FCSL and DW rates were found. However, the retention rates for both college level math and Freshman Comp I tended to be higher in both years.

NEXT STEPS

1. We will continue to refine the logistics of the co-requisite offerings.
2. To better understand the lower than expected retention rates, we plan to modify the data file to include students who enrolled the following fall at another institution.