Miami University's Data Literacy Institute

Analyzing Retention Rates through Different Lenses

Project Overview – Student Success Measures

- KPI of Choice: Retention Rate

- Curated Data Set: Full-Time, First-Time cohorts as reported to IPEDS for past three years.

- Primary Focus for Each Group
  - Group One: First Generation & Pell Eligibility
  - Group Two: Initial Major & Academic Division
  - Group Three: Gender & Race/Ethnicity

- Freedom to Add Layer for Each Group

DLI Sponsor

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Group 1

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Group 2

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Roger Justus - Data Services Librarian; King Library
Michael Light – Associate Director; Institutional Research & Effectiveness
Sarah Meaney – Associate Director of Residential Academic Initiatives
Chelsia Potts – Assistant Dean for Undergraduate Education
Ellen Yezierski – Director & Professor; Center of Teaching Excellence

Retention Rates by Group

Miami University's overall rate of retention is high (90%).

Students who are Pell-Eligible (PE) or First Generation (FG) are less likely to be retained (88% and 85% respectively) than their counterparts who are neither (91%).

Those who are both Pell-Eligible and First Generation have an even lower likelihood of being retained (81%).

Group	Oxford Campus Retention Rate
Neither PE nor FG	91%
All Students	90%
Pell-Eligible	88%
First-Gen	85%
PE and FG	81%

Retention Rates by Major

Division	Major Name	FirstYrRetention	Cohorts Total	
Arts and Science	Geology	100.0%	18	Top3
	Speech Path & Audiology	94.9%	138	Top3
	Public Administration	94.4%	18	Top3
	Economics	78.8%	85	Bottom3
	English: Literature	78.8%	33	Bottom3
	Media and Culture	77.8%	45	Bottom3
	CAS Total	**87.6%**	**5,090**	
Creative Arts	Communication Design	94.4%	54	Top3
	Art Education	94.4%	18	Top3
	Games + Simulation	94.4%	89	Top3
	Emerging Tech:Business&Design	85.6%	97	Bottom3
	Music Performance	85.4%	48	Bottom3
	Major Undeclared	80.5%	41	Bottom3
	CCA Total	**90.9%**	**778**	
Education, Health, and Society	Integrated Science Education	95.2%	21	Top3
	Integrated Eng Lang Arts Edu	94.9%	59	Top3
	Undeclared - Education	94.4%	36	Top3
	Kinesiology	89.2%	360	Bottom3
	Sport Leadership & Management	85.7%	245	Bottom3
	Integrated Social Studies Edu	82.7%	52	Bottom3
	CEHS Total	**89.4%**	**1,312**	
Engineering and Computing	Biomedical Engineering	96.4%	112	Top3
	Chemical Engineering	90.9%	110	Top3
	Software Engineering	90.0%	70	Top3
	Mechanical Engineering	85.5%	324	Bottom3
	Electrical Engineering	78.7%	61	Bottom3
	General Engineering	75.0%	16	Bottom3
	CEC Total	**88.2%**	**1,400**	
Business	Information Systems &Analytics	100.0%	20	Top3
	Business Analytics	93.9%	115	Top3
	Finance	93.5%	826	Top3
	Undeclared - Business	91.9%	825	Bottom3
	Marketing	91.3%	689	Bottom3
	Business Economics	90.1%	547	Bottom3
	FSB Total	**92.1%**	**3,536**	
		89.5%	**12,367**	

- Overall average retention rate for the institution - 90%

- Farmer School of Business (FSB) - bottom three majors are above the overall retention rate for the institution

- All other divisions bottom majors fall below the institution's retention rate

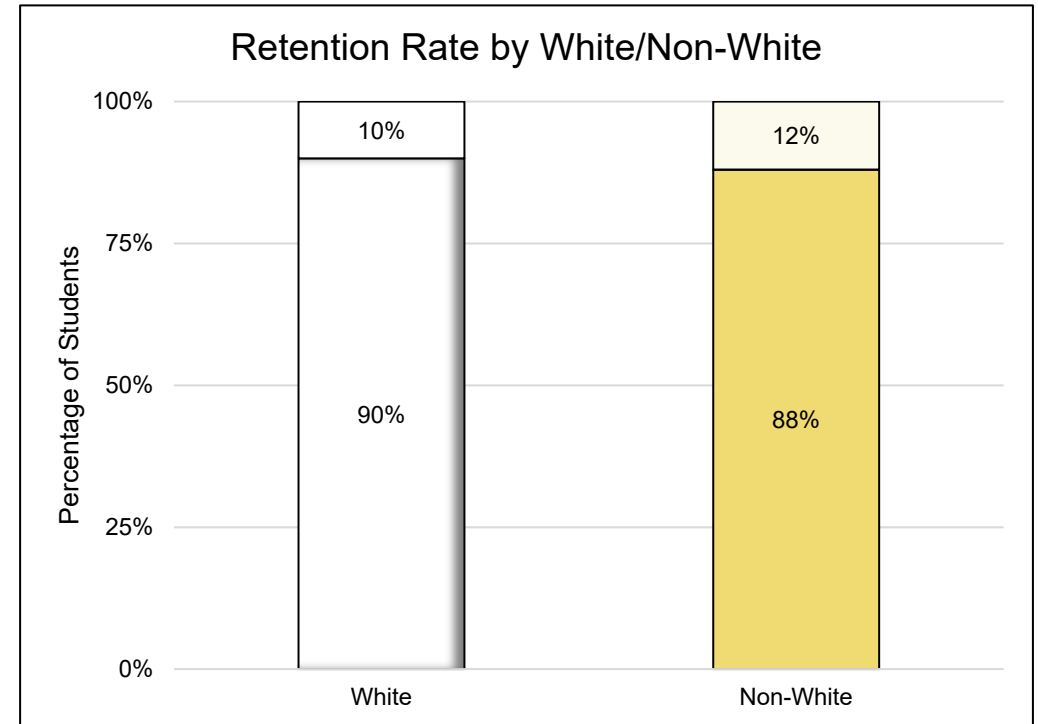- FSB and College of Creative Arts (CCA) were above the institution's retention rate
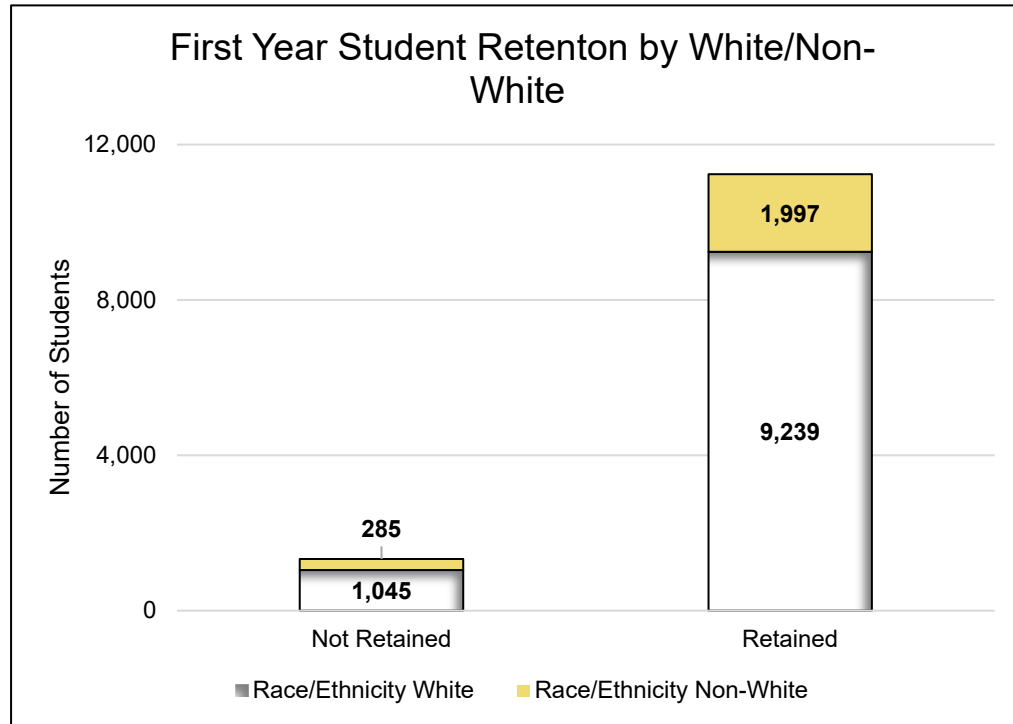
Retention by IPEDS Gender
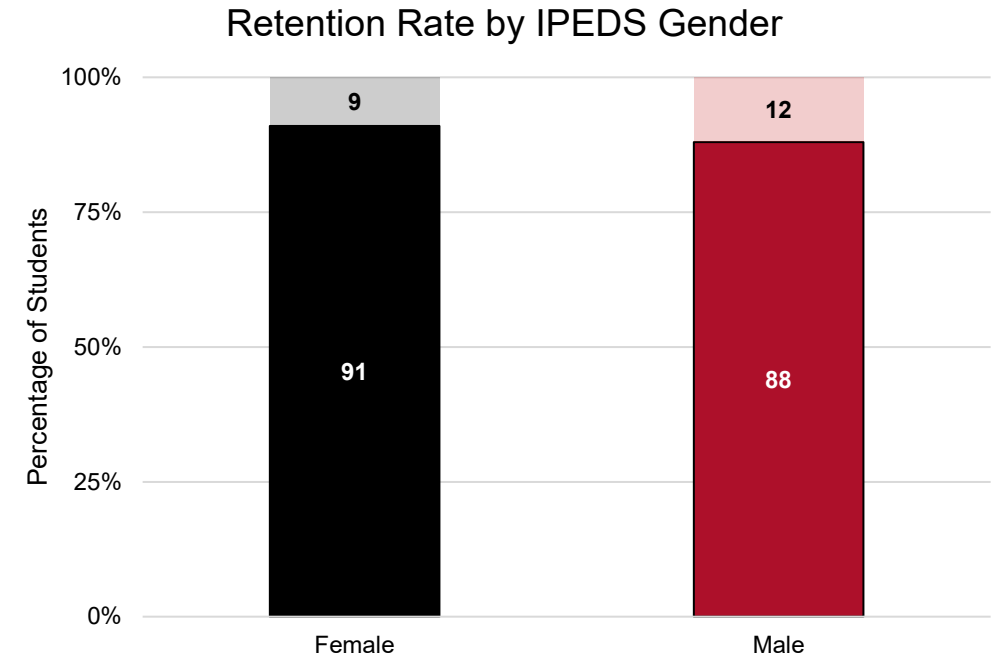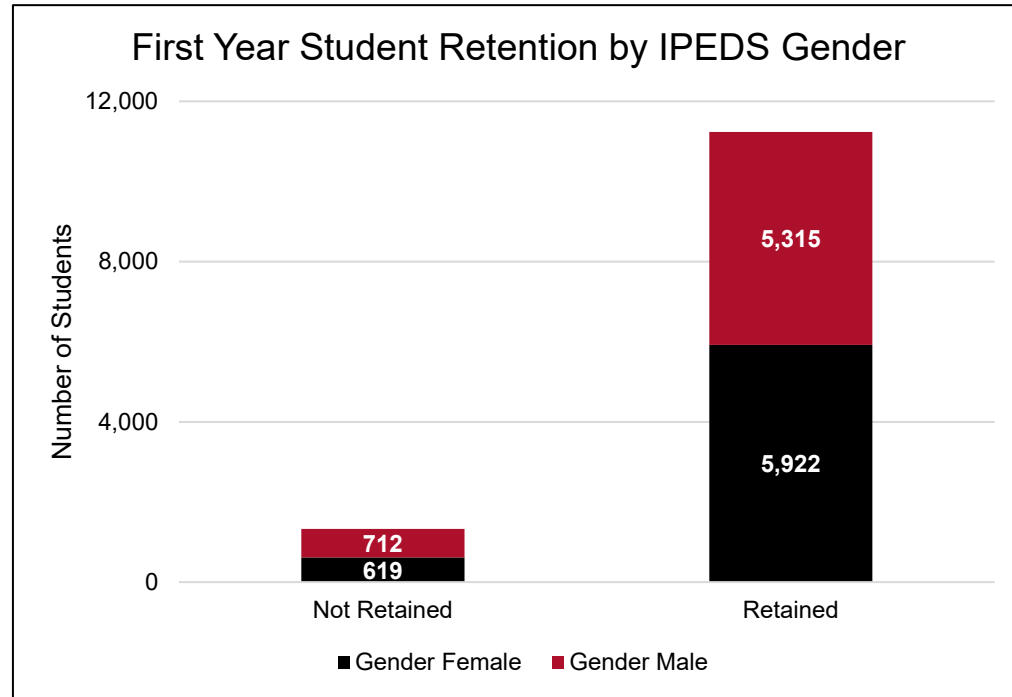
First Year Student Retention by IPEDS Gender

Number of Students

- Gender Female
- Gender Male

Not Retained: 712, 619
Retained: 5,315, 5,922

Retention Rate by IPEDS Gender

Percentage of Students

Female: 9, 91
Male: 12, 88

Two-way contingency table analysis yielded a statistically significant but *weak* relationship between Retention and Gender (only 4% variance shared)
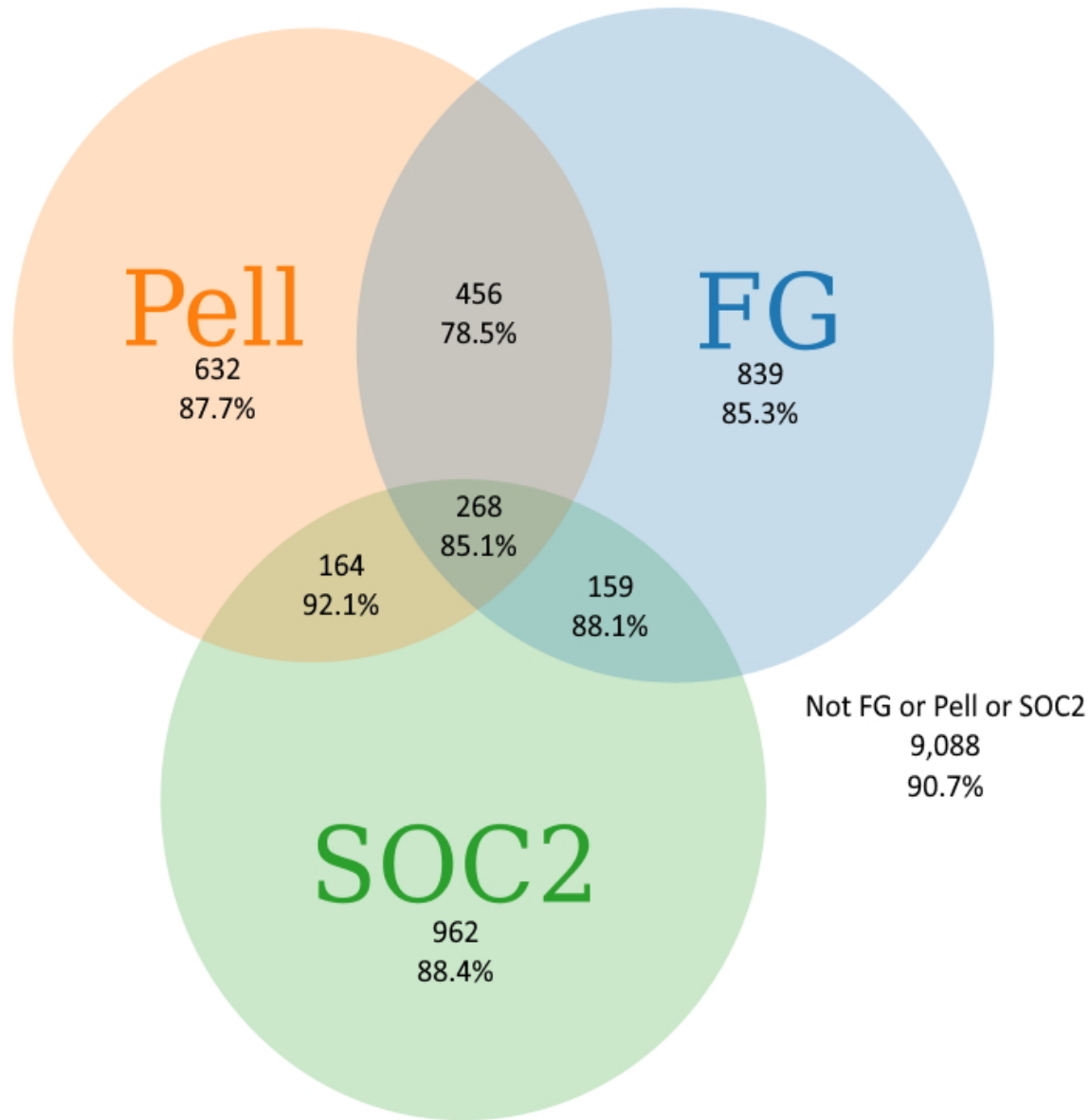
Retention by IPEDS Race/Ethnicity

First Year Student Retenton by White/Non-White

- Not Retained: Race/Ethnicity Non-White 285, Race/Ethnicity White 1,045
- Retained: Race/Ethnicity Non-White 1,997, Race/Ethnicity White 9,239

Y-axis: Number of Students (0 to 12,000)

Legend: ■ Race/Ethnicity White ■ Race/Ethnicity Non-White

Retention Rate by White/Non-White

- White: 90% (retained), 10% (not retained)
- Non-White: 88% (retained), 12% (not retained)

Y-axis: Percentage of Students (0% to 100%)

- Two-way contingency table analysis yielded a statistically significant but *weak* relationship between Retention and Race/Ethnicity (only 3% variance shared)
- The variability in retention is not shared with either gender or race/ethnicity categorizations of students.
- **Need an examination of constructs and metrics that are more deeply associated with retention and student success, such as belongingness.**

Pell
632
87.7%

456
78.5%

FG
839
85.3%

268
85.1%

164
92.1%

159
88.1%

Not FG or Pell or SOC2
9,088
90.7%

SOC2
962
88.4%

Overall average retention rate for the institution - 89.5%

Overall Retention through an Intersectional Lens

- First-generation status (FGS), Pell eligible, and students of color (SOC2, does not include Asian students) had an 85.1% retention rate versus students not holding these identities are at 90.7%.

- The lowest retention rate at the institution are FGS and Pell-eligible students with a retention rate of 78.5%.

- FGS and Pell-eligible students at all divisions had the lowest retention rates, except for CCA (90.9%)

Retention of First Generation and Pell by Division

- Miami University's overall rate of retention is high (90%).

- Students who are Pell-Eligible (PE) or First Generation (FG) are less likely to be retained than those who are not, across all Oxford divisions.

- In FSB, First Gen students are less likely to be retained than those who are Pell-eligible, which is the opposite of the other four colleges.

- In the College of Creative Arts (CCA), PE students are retained at a lesser rate than those who are both PE and FG which is the opposite of the other four colleges.
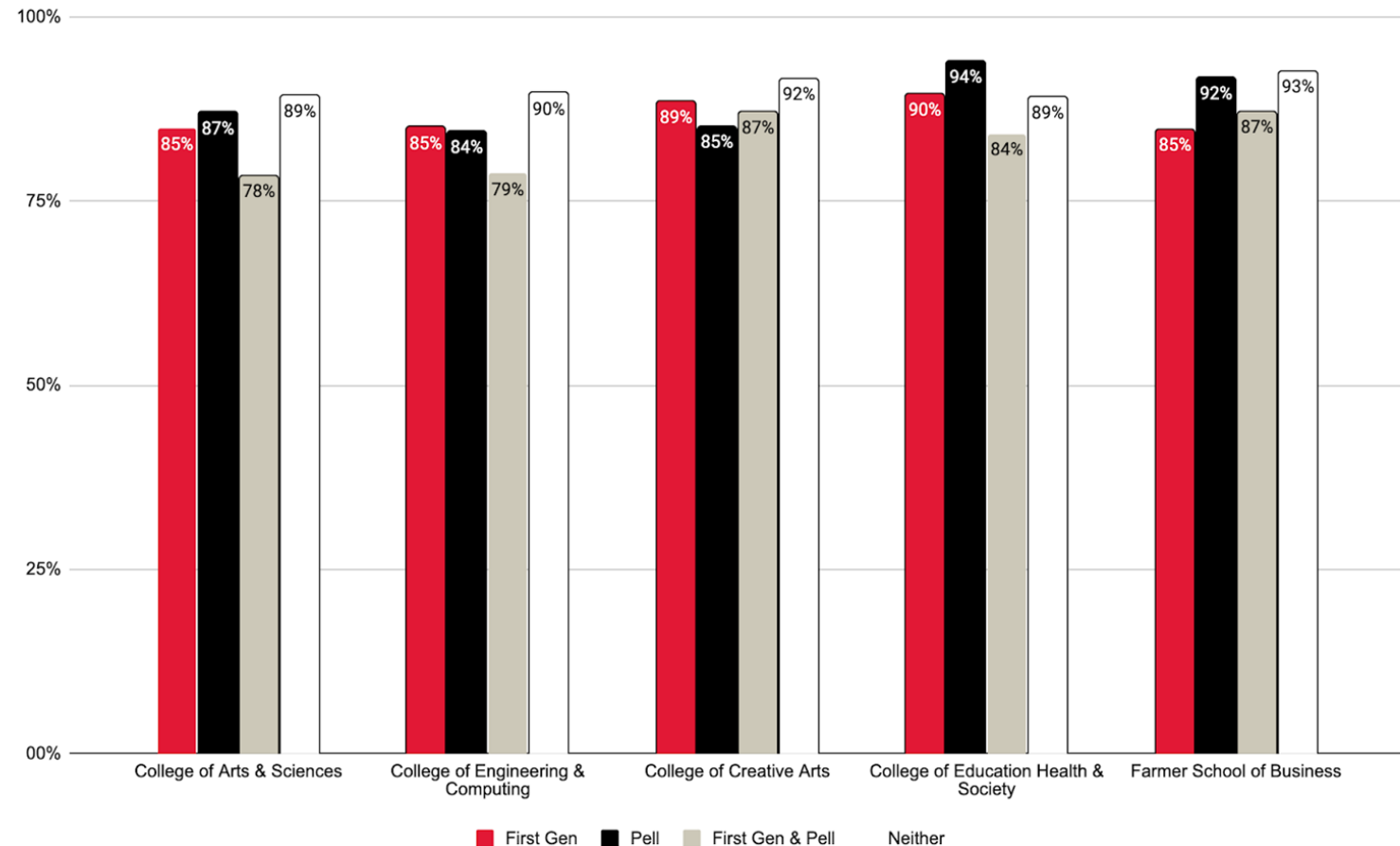
Students who completed less than 67% of attempted credit hours in First Year Retention Rate by Division

Of those who do not complete 67% of their coursework, retention rates dip far below the university and divisional average with high variability between divisions.

Even though CEC had higher percentages of non-completing students their retention rates were stronger than other divisions for some groups.

Lack of consistency requires more data.
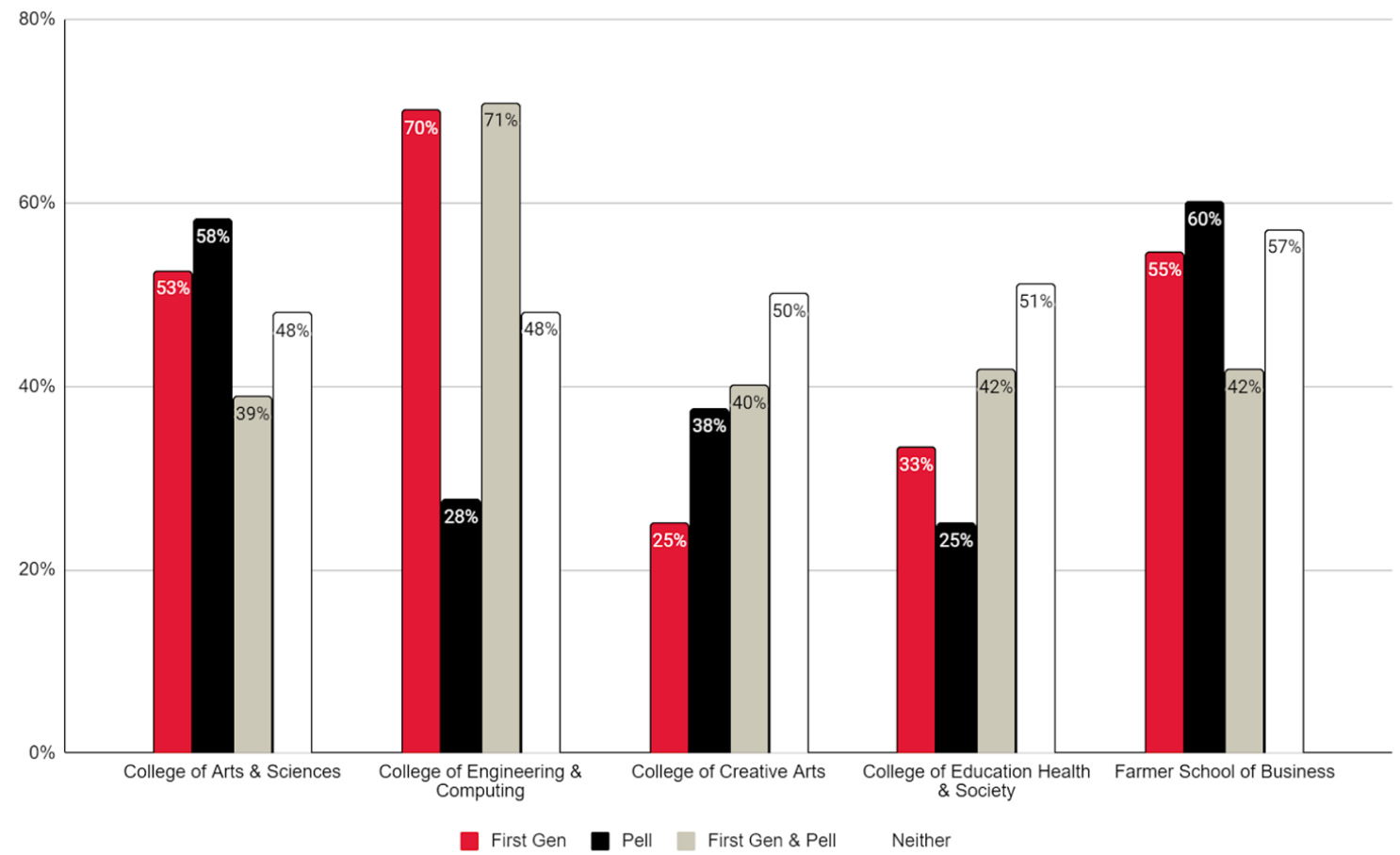
Retention Rate for Students Who Earn Below a 2.0 in 1ˢᵗ Academic Year

Even though First Gen students outperformed others in CAS and CCA, students with low GPAs there were less likely to be retained than those in almost every other group.

In CEC and EHS, the retention rates for first generation students (whether PE or not) far exceed the retention rates of others.

FSB retains students who are neither PE nor FG at a higher rate, although their first generation students who are not PE are retained at a similar, though lower, rate.
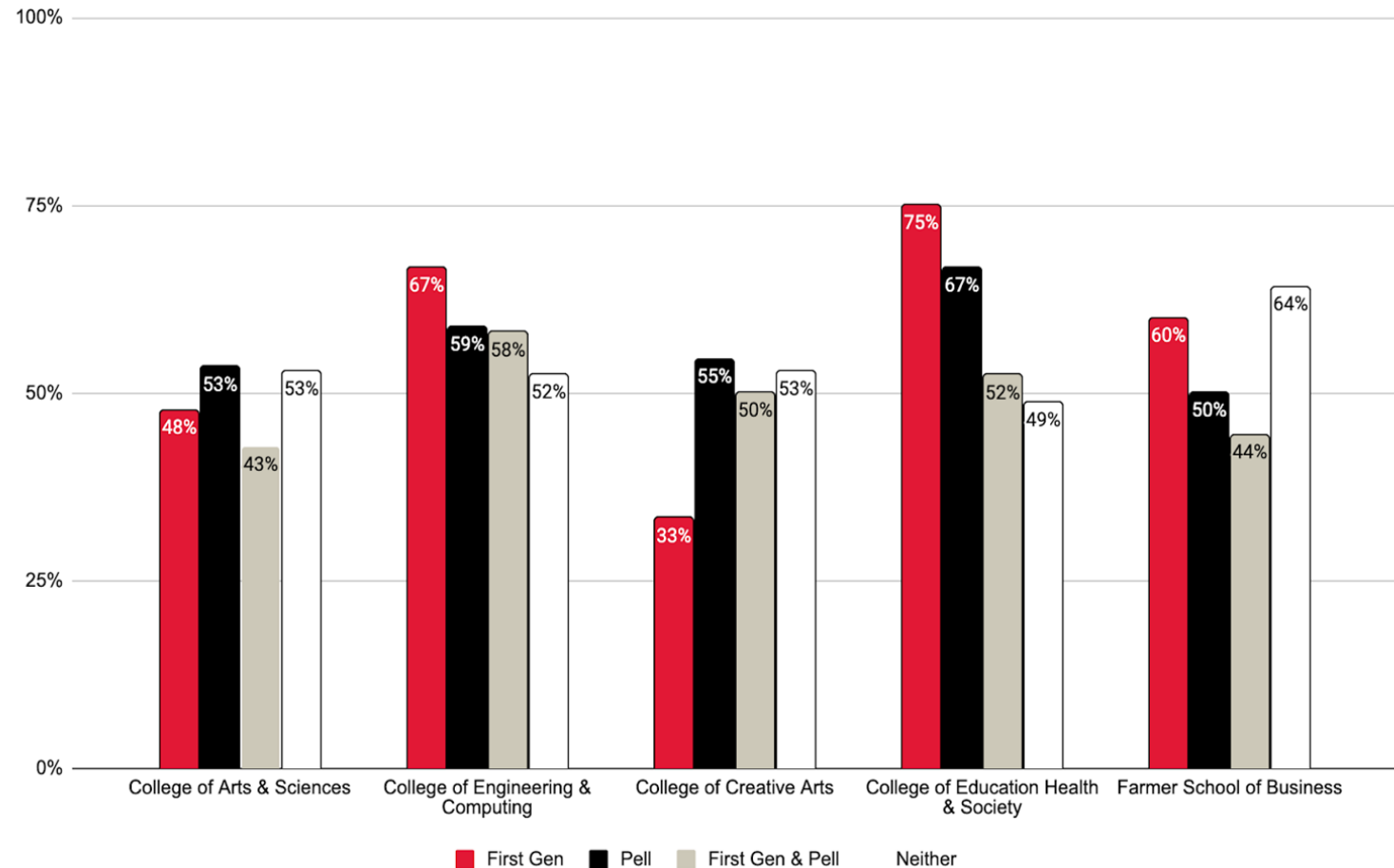
Data Literacy Wrap Up Meeting

- Energy around Collaboration

- Need for Further Study
  - Satisfactory Academic Progress
  - Possible Constructs Associated with Retention

- College-Ready Students VS Student-Ready College