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DATA LITERACY FOR EQUITY

A monthly newsletter to engage you more closely with equity gaps through data visualization

DEFINING HEADCOUNT, ENROLLMENT, AND RETENTION RATES

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The focus of this newsletter is to examine *retention rates*. To fully comprehend retention rates, we would like to define two other terms first: *headcount* and *enrollment*.

Headcount is the number of students taking at least one class. If a student takes three classes, that student counts as 1 in the headcount. Mt. SAC keeps records of every student. The table below shows the disaggregated headcount for Fall semester of the last five academic terms.

Academic Year	2016-2017		2017-2018		2018-2019		2019-2020		2020-2021	
	Count	Percent	Count	Percent	Count	Percent	Count	Percent	Count	Percent
American Indian or Alaska Native	42	0.14%	38	0.13%	40	0.13%	45	0.15%	37	0.13%
Asian	5655	18.97%	5646	18.65%	5661	19.00%	5848	19.34%	5609	19.67%
Black or African American	1147	3.85%	1110	3.67%	1095	3.67%	1085	3.59%	1071	3.76%
Hispanic, Latino	18637	62.52%	19253	63.59%	19006	63.77%	19332	63.94%	18051	63.31%
Native Hawaiian or Other Pacific Islander	103	0.35%	87	0.29%	75	0.25%	77	0.25%	67	0.23%
Two or More Races	931	3.12%	943	3.11%	932	3.13%	947	3.13%	903	3.17%
Unreported	95	0.32%	60	0.20%	39	0.13%	4	0.01%	1	0.00%
White	3201	10.74%	3138	10.36%	2954	9.91%	2897	9.58%	2774	9.73%
Total	29811	100.00%	30275	100.00%	29802	100.00%	30235	100.00%	28513	100.00%

Enrollment, on the other hand, is the headcount in each course on campus. Therefore, enrollment will be *significantly higher* than headcount because a student can be enrolled in multiple classes. The table below shows the enrollment count by modality in Fall 2019, disaggregated by Division.

Modality	Face to Face		Hybrid		Online		Other		Total	
	Enrollments	%	Enrollments	%	Enrollments	%	Enrollments	%	Enrollments	%
ARTS	6,167	89.2%			716	10.4%	33	0.5%	6,916	100.0%
ATHS	5,162	87.2%			678	11.5%	77	1.3%	5,917	100.0%
BUS	8,159	72.2%	1,232	10.9%	1,859	16.4%	56	0.5%	11,306	100.0%
HSS	25,129	81.4%	912	3.0%	4,828	15.6%	0	0.0%	30,869	100.0%
KIN	5,605	91.3%	85	1.4%	425	6.9%	21	0.3%	6,136	100.0%
LR	491	74.5%			168	25.5%			659	100.0%
NS	20,441	96.0%	356	1.7%	398	1.9%	99	0.5%	21,294	100.0%
SS	1,091	97.4%	29	2.6%					1,120	100.0%
Total	72,245	85.8%	2,614	3.1%	9,072	10.8%	286	0.3%	84,217	100.0%



Course Enrollment is defined as a student who was enrolled in a course and received an end-of-term grade notation displayed on official transcript. Therefore enrollment count is the number of enrollments with grade of A,B,C,D,F,P,NP,I*,IPP,INP,FW,W,or DR. Students who are not included in the course enrollment are those that received an EW, MW, or dropped before first census date.

What do all those letters mean? (from CCCCCO Data Mart)

- A = Received a letter grade of "A"
- B = Received a letter grade of "B"
- C = Received a letter grade of "C"
- D = Received a letter grade of "D"
- F = Failing (in a letter graded course)
- P = Pass
- NP = No Pass
- I* = Incomplete where "*" indicates the default grade to be received by the student if the incomplete is not completed within one year.
- IPP = Incomplete Pass
- INP = Incomplete No Pass
- FW = Withdrawn without permission & without having achieved a final pass grade
- W = Withdrew (after last day to drop)
- DR = Drop, on or after first census date and before withdraw date
- EW = Excused Withdrawal
- MW = Military Withdrawal

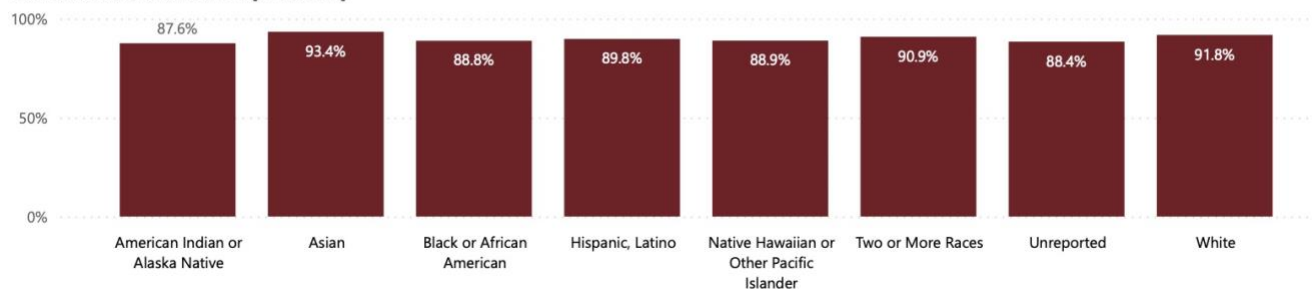
Retention Rate is defined by the percentage of students who did not receive a W (withdrew) in the course or section. Think of retention rate as an equation

$$\text{Retention rate} = \frac{\text{\# of students receiving A, B, C, D, F, P, NP, I*, IPP, INP}}{\text{Total course enrollment}}$$

Now, let's look at **Retention Rate Disaggregated by Ethnicity** in the past five academic years at Mt. SAC:

Academic Year Ethnicity + Gender	2016-2017		2017-2018		2018-2019		2019-2020		2020-2021	
	Enrollments	Retention Rates	Enrollments	Retention Rates	Enrollments	Retention Rates	Enrollments	Retention Rates	Enrollments	Retention Rates
American Indian or Alaska Native	269	85.9%	224	82.6%	261	82.8%	226	89.4%	196	100.0%
Asian	40,988	91.0%	40,277	91.1%	40,773	91.4%	38,864	94.3%	35,993	100.0%
Black or African American	7,694	87.0%	7,644	85.5%	7,071	85.8%	6,331	89.3%	5,283	99.9%
Hispanic, Latino	118,889	86.8%	121,287	86.7%	120,804	86.8%	108,288	91.1%	92,023	99.9%
Native Hawaiian or Other Pacific Islander	761	87.6%	669	85.8%	513	83.6%	530	92.8%	352	99.4%
Two or More Races	6,315	88.2%	6,373	88.1%	6,101	88.7%	5,385	91.5%	4,820	99.9%
Unreported	540	88.7%	325	90.5%	206	83.5%	28	92.9%	5	100.0%
White	20,356	88.8%	19,961	88.9%	19,251	90.0%	16,877	93.2%	15,654	100.0%
Total	195,812	88.0%	196,760	87.9%	194,980	88.1%	176,529	92.0%	154,326	99.9%

Overall Retention Rates by Ethnicity



The first thing you might notice in reading the table is that retention rates for 2020-21 were phenomenal. While true, the data does NOT include students who chose EW (excused withdrawal). In other words, any student who chose EW for a section was unaccounted in the equation (that's both in the numerator and the denominator of the equation). Similarly, the 2019-2020 academic year also had better retention rates than previous years, as EW was introduced Spring 2020 when the pandemic began.

If we focus on academic years 2016-17, 2017-18, and 2018-19, we see that retention rates were consistent for ethnic groups with enrollment counts higher than 5,000. We also see that there is a percentage gap between ethnic groups. Recall the success percentage gaps between and among groups in the first newsletter. Once again, we witness gaps between Asian and White students (higher than 90%), and students of Indigenous, Alaskan, Latinx, Black, African American, Native Hawaiian, or other Pacific Islander backgrounds (lower than 90%).

Why is retention important? Isn't 88% good?

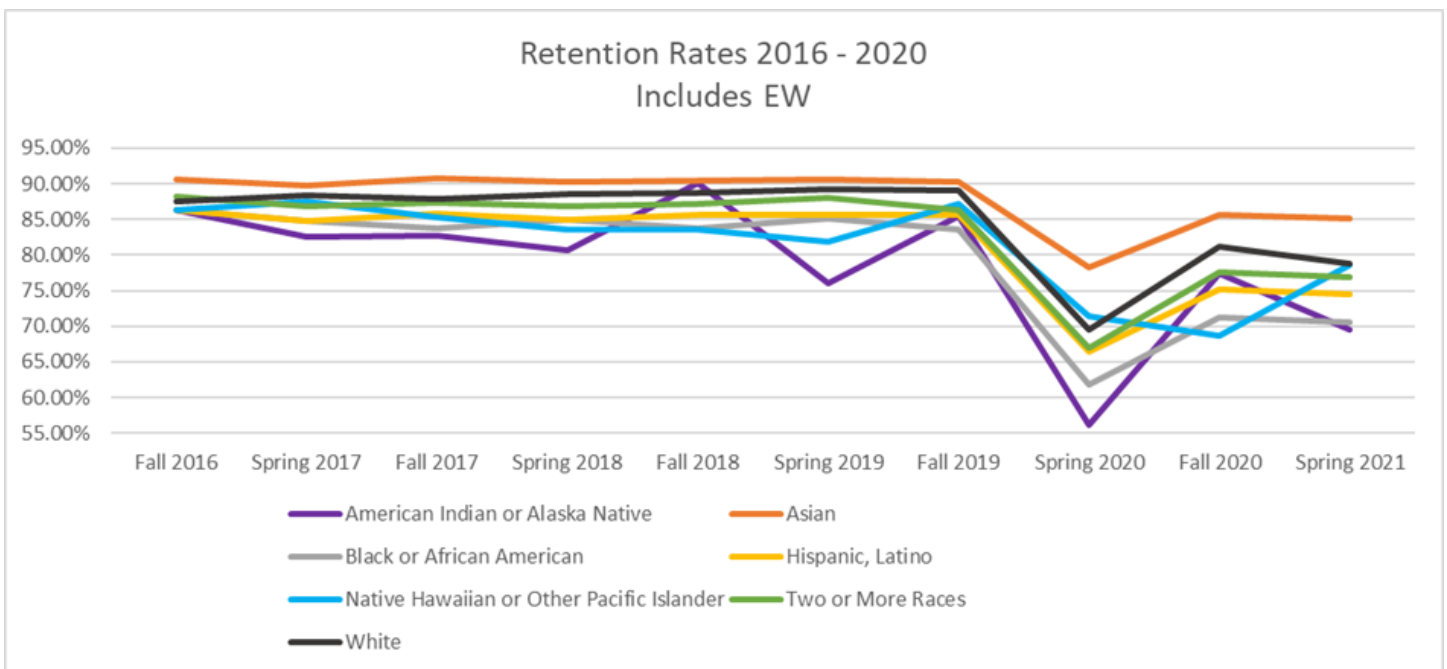
A couple of percentage point gaps don't look so bad, right?

Instead of thinking of the 80+% enrollments were retained, let's think about the 10-20% enrollments who were not. In other words, students who have dropped, or withdrew from class. Why have they stopped, or dropped out? 88% might not seem bad (2016-17), but if we think of the number of enrollments not retained in an academic year, that's **more than 23,000 enrollments lost!**

Now, let's re-consider what happened during the pandemic with EWs. If EWs were to be included in the calculation, the equation would be as follows:

$$\begin{array}{c} \text{Retention rate} \\ \text{including students} \\ \text{who received EW} \end{array} = \frac{\begin{array}{c} \# \text{ of students receiving A, B, C, D, F, P, NP, I}^*, \text{ IPP, INP} \end{array}}{\begin{array}{c} \text{Total course enrollment} + \text{EW} \end{array}}$$

To illustrate the impact of COVID and EWs on retention rates, we graphed the retention rates of each ethnic group over a five-year period (by semester).



This line graph highlights the dramatic drop in retention rates in Spring 2020, Fall 2020, and Spring 2021, and it underscores the gap between and among ethnic groups in the last three full terms. While the percentage gap between the highest and lowest groups was never more than 10% prior to Spring 2020, the gap widened significantly in Spring 2020, with a difference of 20% between Asian and American Indian or Alaska Native students. Additionally, the gap continues to be greater than 10% in subsequent terms.

We present this data to emphasize the need for equity-minded practices.

There are many reasons for attrition, for example: social isolation, mismatch between student expectation and early experiences, irrelevance of curriculum, uncertainties about long-term goals, difficulties managing transition to college, finance, and the list goes on.

So, what can we do to motivate students to stay in the course?

In the ACUE course, we learned a few techniques, and we'd like to share them with you.

Module Roadmap Provide students with a printable module roadmap that contains clear lists of module tasks, time estimates, due dates, and resources needed to complete the tasks. Include assignment directions with the appropriate grading rubric in the same location.

Weekly Work Plan Help students to create customized and realistic work plans to accomplish weekly tasks.

Regular Reminders Send announcements or emails two to three times a week with encouraging and motivating reminders to help keep students on task. Many learning management systems (LMS) platforms allow these announcements to be scheduled ahead of time and sent automatically on specific dates and times.

Taken from LE4: Implementation Resources for Online Instructional Practices, contributors Judith V. Boettcher, PhD, Flower Darby, Mar-Elise Hill, Andrea Hogan, and Lisa Palladino Kim.

If these techniques interest you, check out more useful tips and information from one of the [Title V equity-minded courses and resources](#):

[ACUE \(American Association of College and University Educators\)](#)

[CORA Equity Certificates](#)

[Data Literacy](#): new course begins October 21st. [Sign-up now via POD!](#)

[DEISA \(Diversity, Equity, Inclusion, Social Justice, and Anti-Racism\)](#)

[Mountie Money Management Center](#): Invite your students to join the [Canvas Community Hub!](#)

Last, we, the data coaches, are always available to share your personal course-level disaggregated data during our weekly office hours on Thursdays between 3 and 4pm, Zoom link on POD Calendar.

*We hope you've enjoyed the second issue of our newsletter. Next month we will explain **persistence!***

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