



CSU, CHICO BY THE NUMBERS – January 2021

A publication of the Chico State Office of Institutional Research

Continuation and Retention: Understanding the Timing of Student Attrition

Primary Author: Peter Owens Contributors: Laurie McConville, Diane Ramalia

As a part of the California State University, Chico State is currently involved in the [Graduation Initiative 2025](#), which is a system-wide effort to improve graduation rates and eliminate equity gaps in degree completion. This effort is taking place alongside an increasingly urgent national conversation on the [growing number of Americans who have attended some college, but who have not received a degree](#). While both of these issues have complex roots, they both rest upon a more central question: how can colleges and universities do a better job of keeping students enrolled and making good progress towards their educational goals?

For this month's *By the Numbers* report, we look at two commonly-used indicators of student persistence, **continuation** and **retention**, and how contrasts between these two indicators can provide useful empirical insights on when, and perhaps why, students leave college before degree completion.

Focus on the First Year

To provide context for our discussion of continuation and retention, it is important to understand the timing of student attrition: when do the majority of students who enroll, but do not graduate, leave? Figure 1 displays historical data on attrition for first-time freshmen between the 2010-11 and 2014-15 academic years, and disaggregates total attrition by the timing of student disenrollment. As can be seen, a consistent plurality of students who enrolled but did not graduate left after their first year of study, averaging about 41% of total student attrition between 2010-11 and 2014-15. This proportion decreases to roughly 25% after the second year, to 13% after the third year, and continues to decrease thereafter. We can therefore note that on average, the longer a student stays enrolled at CSU, Chico, the less likely they are to leave before graduating.

Continuation vs. Retention

One area in which the Office of Institutional Research at Chico State frequently provides technical support is *enrollment management*: the recruitment and year-to-

year retention of students enrolled at our university. Our work in enrollment management frequently utilizes two related but distinct variables: **continuation** and **retention**. **Continuation** represents students who were enrolled in a Fall term and also enrolled for a subsequent Spring term (E.G., Fall 2019 to Spring 2020); in contrast, **retention** represents students who were enrolled in a Fall term and also enrolled for a subsequent Fall term (E.G., Fall 2019 to Fall 2020).

Figure 2 projects data on total 1-year student attrition for first-time freshmen between 2010-11 and 2019-20. The bar for each year represents the total number of students who left after the first year; the color shading of each bar distinguishes between the number and proportion of these students who did not continue and were not retained (tan), or who continued but were not retained (red). As can be seen, a consistent majority of first-time freshmen who left after their first year did enroll in a second (Spring) term after their initial (Fall) term, but then did not return for a subsequent Fall term. During this period, these students overall comprised roughly 72% of total first-time freshmen 1-year attrition. Figure 3 further breaks down the data by gender identity and first-generation status, where we see a similar pattern between continuation and retention rates; we can also note that overall 1-year attrition is somewhat higher for first-generation female students than for first-generation male students.

When using both continuation and retention as indicators of continued student enrollment, it is therefore critical to understand the distinct insights that they provide about the timing of student attrition. Specifically, *a relatively high continuation rate (Fall to Spring) for a cohort of first-time freshmen may be misleading when it is used to predict enrollment in a subsequent Fall term*. **Most Chico State students who leave university before graduation do so after the end of their first full year, and not after the end of their first Fall term**. A future *By the Numbers* release will focus on the factors that make clear the importance of closely examining this pattern, including academic performance and support services for students experiencing difficulties in their first year of study.

Academic Year	After 1 Year	% After 1 Year	After 2 Years	% After 2 Years	After 3 Years	% After 3 Years	After 4 Years	% After 4 Years	After 5 Years	% After 5 Years	After 6 Years	% After 6 Years
2010-11	213	42.3%	118	23.4%	53	10.5%	60	11.9%	40	7.9%	20	4.0%
2011-12	281	38.9%	186	25.8%	96	13.3%	86	11.9%	49	6.8%	24	3.3%
2012-13	320	40.0%	202	25.2%	123	15.4%	71	8.9%	56	7.0%	29	3.6%
2013-14	257	37.2%	190	27.5%	86	12.4%	66	9.6%	67	9.7%	25	3.6%
2014-15	429	44.1%	232	23.9%	125	12.9%	82	8.4%	68	7.0%	36	3.7%
Grand Total	1,500	40.7%	928	25.1%	483	13.1%	365	9.9%	280	7.6%	134	3.6%

Figure 1. Timing of First-Time Freshmen Attrition by Academic Year, 2010-11 through 2014-2015

Note: Darker shading indicates a larger concentration of students.

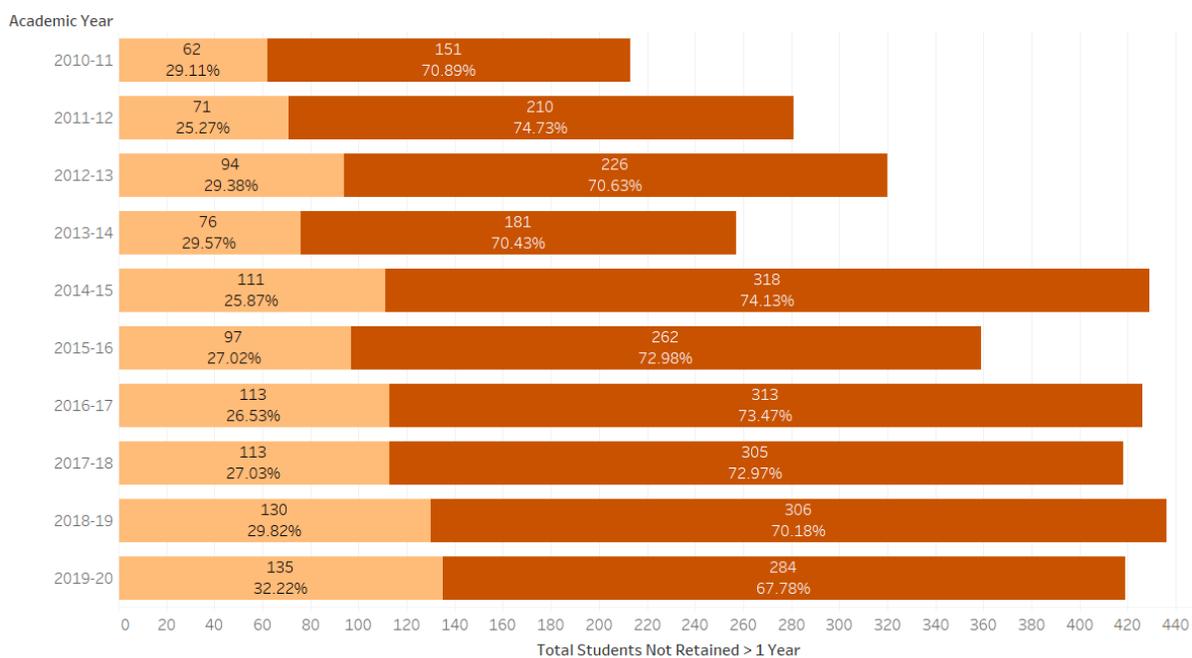


Figure 2. First-Time Freshmen 1-Year Attrition by Continuation and Retention Status, AY 2010-11 through 2019-20

Note: Tan shading indicates students who did not continue and were not retained, whereas red shading indicates students who did continue but were not retained.

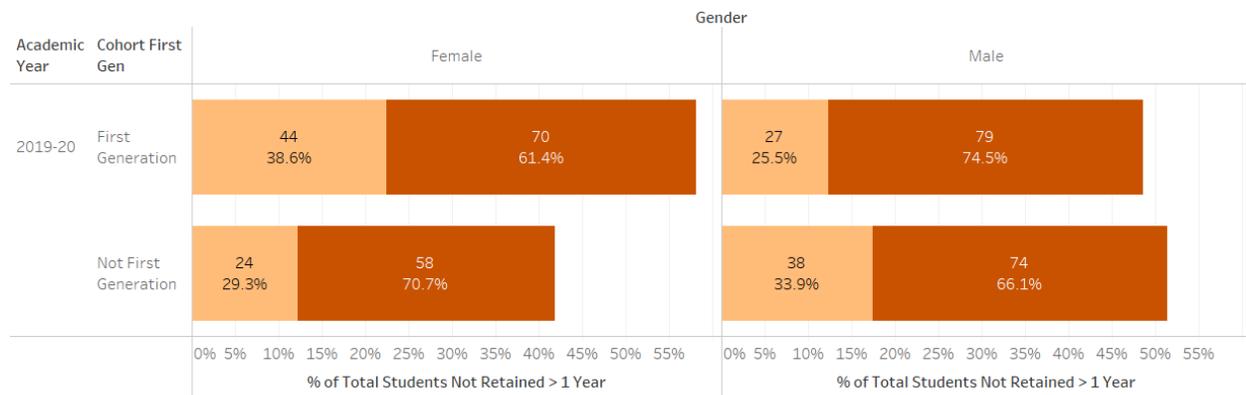


Figure 3. First-Time Freshmen 1-Year Attrition by Continuation/Retention Status, First-Generation Status, and Gender Identity, AY 2019-20.