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Access, Enrollment, and Success in Transfer-Level English and Math in the California Community College System

Fall 2015 to Fall 2018 Statewide Analysis

September 2019

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Executive Summary

Project Overview

The California Community College (CCC) system is preparing for changes to its assessment and placement processes with the upcoming implementation of Assembly Bill (AB) 705. While many inititiatives were already underway to increase students' completion of their education, including Guided Pathways and the Student Centered Funding Formula, AB 705 focuses on colleges maximizing student completion of transfer-level English and math within one year[1]. In anticipation of AB 705, numerous CCCs throughout the state began adjusting English and math assessment and placement in fall 2018[2] to facilitate direct entry into and success in transfer-level courses aligned with their degree or transfer goals.

In order to begin understanding how the mandates of AB 705 could impact enrollment and success over time, the Research and Planning Group for California Community Colleges (RP) and the Educational Results Partnership (ERP)[3] have conducted a statewide analysis of student outcomes from fall 2015 to fall 2018. The areas of inquiry in this report include access to and enrollment in transfer-level English and math courses, student success and performance in these courses, and throughput rates from first starting level through transfer-level. Although the findings represent only early indicators, **these findings offer insight into how the full implementation of AB 705 might impact CCCs and their students.**

It is important to note that this analysis examines data from four fall semesters: fall 2015, fall 2016, fall 2017, and fall 2018. **However, it looks particularly closely at changes that occurred between fall 2017 and fall 2018, the time period during which colleges began to substantially increase access to transfer-level courses.** Doing so helps distinguish between changes that are a part of broader, ongoing trends and changes that are more likely due to reforms in assessment, placement, and student support processes.

Research Questions

While not all colleges began to initiate assessment changes in fall 2018 in anticipation of AB 705, many colleges chose to use the 2018-19 academic year as a pilot period to test changes prior to full implementation of the law in fall 2019. To better understand the relationships between AB 705 reforms and student outcomes, this report explores research questions pertaining to three key areas:

- Access and enrollment into transfer-level English and math courses;

[1] http://bit.ly/2m5bQxW
[2] http://bit.ly/2m4wb6o
[3] Key support for this project was also provided by the California Community Colleges Chancellor's Office.

- Success and performance in transfer-level English and math classes when the course is the first in which students enrolled in the discipline between fall 2015 and fall 2018, including the distribution of letter grades awarded in each course in the discipline and success rates by high school grade point average (GPA) as defined in the AB 705 default placement rules; and

- Throughput rates through a transfer-level English or math course based on the level in which students first enrolled in the discipline.

Access and enrollment and success and performance and throughput rates are disaggregated by race/ethnicity, gender, and DSPS status. Transfer-level math is disaggregated by Statistics-Liberal Arts math (SLAM) and Business-Science, Technology, Engineering and Math (B-STEM).

Methodology

The data used in this report were provided to the Multiple Measures Assessment Project (MMAP) research team from CalPASS Plus. It included all California Community Colleges (N= 115, with the addition of Los Angeles ITV/Weekend College submitting to the Management Information Systems (MIS) system. The data included students enrolled between fall 2015 and fall 2018. The math (N = 6,053,421) and English (N = 5,892,788) samples included all students who attended a California Community College anywhere in the system and enrolled in one or more credit English or math courses.

English courses were defined by the Taxonomy of Program (TOP) code 1501.00 (English). Math courses were defined by the TOP code 1701.00 (Mathematics) as well as specific "non-math math" courses in other TOP code areas including: 0103.00 (Plant Science), 0501.00 (Business), 0505.00 (Business Administration), 0506.00 (Business Management), 0707.10 (Computer Programming), 1799.00 (Other Math), 2001.00 (Psychology), 2003.00 (Behavioral Science), 2099.00 (Other Psychology), 2201.00 (Social Sciences), 2204.00 (Economics), and 2208.00 (Sociology). Math courses within other TOP codes were identified by the Academic Senate for the California Community Colleges. Additionally, courses with pre-transfer CB 21 codes (i.e., "A", "B", "C", or "D") were excluded and CB 05 was used to identify transfer level courses.

While ethnicity data are from the MIS system, we use slightly different terminology than is used in the Chancellor's Office Data Mart. Specifically, we use “Latinx” instead of "Hispanic" and "African American" instead of "Black". The underlying data elements and counts, however, are the same. The MIS data used in the report are state-level data, thus enrollments and completions are counted at the system level, and are not duplicated at the college level if a student is enrolled at more than one institution.

Summary of Results

Overall, the results of this study offered encouraging insight into the potential impact of AB 705. Direct enrollment into transfer-level English and math courses rose substantially while success rates (measured in a variety of ways) remained consistent. **Although the findings of**

this study are only preliminary, they offer a number of positive signs that changes to assessment and placement directly into transfer-level English and math courses have the potential to enable more students to not only access, but also succeed in transfer-level coursework, helping them move more quickly and efficiently toward their ultimate educational goals.

When reviewing the results described in this report, please note that **unless stated otherwise, all of the findings refer only to students whose first course in the English or math discipline is at transfer level.** In other words, the report examines the experiences of students who have *not* previously taken non-transferable English or math courses but instead started out directly at transfer level.

Access and Enrollment

More students had access to transfer-level courses in fall 2018 than in fall 2017, a shift that could be attributable to pre-AB 705 implementation as well as other recent initiatives. During this last year of the time period under review, there were **high rates of growth in students' direct enrollment into transfer-level English and math courses** as their first course in the discipline. Further, **racial/ethnic gaps related to access to transfer-level courses narrowed somewhat** between fall 2017 and fall 2018.

ENGLISH COURSES

- **Direct enrollment into transfer-level English saw a marked increase of 16 percentage points**, rising from 56% in fall 2017 to 72% in fall 2018, despite the fact that all other English enrollment decreased over the same time period.[4]
- **All racial/ethnic groups saw large gains in direct enrollment into transfer-level English** from fall 2017 to fall 2018.
- **Direct enrollment in transfer-level English by African American students increased the largest amount**, by 40% between fall 2017 and fall 2018. **Latinx students saw nearly as large an increase**, a 39% increase in direct enrollments in transfer-level English between fall 2017 and fall 2018.
- The gap in direct enrollment into trasnfer-level courses between African American and White students narrowed by 11 percentage points from fall 2015 to fall 2018 (29% to 18%), and the gap between Latinx and White students also shrunk by 12 percentage points (25% to 13%).

[4] datamart.cccco.edu/Courses/Credit_Course_Summary.aspx

MATH COURSES

- **Direct transfer-level math enrollment increased 11 percentage points**, growing from 32% in fall 2017 to 43% in fall 2018, despite an overall decrease in all math enrollments systemwide.[5]

- **Both African American and Latinx students saw meaningful gains in direct enrollment in transfer-level math**. From fall 2017 to fall 2018 alone, African American students' enrollment increased 10 percentage points (20% to 30%), and enrollment among Latinx students rose by 12 percentage points (24% to 36%).

Success and Performance

Student success was examined in a variety of ways in order to begin understanding how the AB 705-related reforms that colleges began implementing over the past year have thus far impacted CCC students. While it is difficult to single out the impact of AB 705 among other recent initiatives, changes to direct transfer-level enrollment—the primary focus of AB 705—does provide a lens through which to view how this particular effort may have affected students.

In addition to examining the number of students who completed transfer-level English and math classes, this study also explored the grades received in transfer-level courses and disaggregated success by students' high school grade point average (GPA). **Overall, findings suggest that despite a substantial influx of students into transfer-level English and math courses, student success has not declined—students, it seems, are rising to the occasion.**

SUCCESSFUL COMPLETION OF TRANSFER-LEVEL ENGLISH AND MATH

The number of students across all ethnic groups who successfully completed transfer-level English and math classes rose substantially since fall 2015. The greatest amount of growth occurring between fall 2017 and fall 2018, when colleges began preparing for AB 705 implementation. Moreover, **students are successfully completing these transfer-level courses in larger numbers than ever before**, exceeding anticipated gains from the increase in overall transfer-level enrollments.

ENGLISH COURSES

- **In fall 2018, 18,903 more students completed transfer-level English than in fall 2017, an 80% increase**. The largest gains were seen among Latinx students (10,569 more), White students (3,136 more), and Asian students (2,780 more).

[5] datamart.cccco.edu/Courses/Credit_Course_Summary.aspx

MATH COURSES

- **In fall 2018, 5,552 more students completed a transfer-level statistics/liberal arts math (SLAM) class than in fall 2017, a 116% increase** (over twice the previous year's SLAM completions). Once again, the largest growth occurred among Latinx students (2,827 more), White students (1,283 more), and Asian students (743 more).
- Additionally, 3,443 more female students successfully completed a transfer-level SLAM class in fall 2018 compared to fall 2017, the largest gain over the past four fall terms.
- In fall 2018, **2,258 more students completed a transfer-level Business-STEM (B-STEM)** course relative to fall 2017. This represents a 103% increase, more than twice the previous year's B-STEM completions.
- Both male and female students saw similar gains in successful B-STEM completions, with 1,024 additional female students and 1,158 additional male students in fall 2018 compared to fall 2017. These increases represent the largest gains over the past four fall terms.

DISTRIBUTION OF LETTER GRADES IN TRANSFER-LEVEL ENGLISH AND MATH

The data show **only small changes in the distribution of letter grades in transfer-level English and math courses**—no more than a two percentage point change—despite the fact that many more students had enrolled directly in a transfer-level course. Of particular note was the fact that **withdrawals (W grades) in transfer-level English, SLAM and B-STEM math increased only one percentage point** from fall 2017 to fall 2018, suggesting that students were meeting the challenges of more advanced coursework with appropriate support.

SUCCESS RATES IN TRANSFER-LEVEL ENGLISH AND MATH BY HIGH SCHOOL GPA BAND

When comparing fall 2018 success rates to the rates included in the July 11, 2018 memo from the Chancellor's Office regarding the AB 705 default placement rules, the results show that **success rates by GPA band are following similar patterns over the past four fall terms, with the highest success rates in the top GPA band and progressively lower rates with each lower band.** Thus, as stated in the July 11, 2018 memo, colleges should consider recommending support to students in the middle band as well as strongly encouraging support for students in the lowest GPA band to help maximize their chance of success.

Throughput Rates

An analysis of throughput rates also show positive changes, particularly from 2017 to 2018, when colleges began implementing changes to assessment and placement into transfer-level courses at a higher rate. Specifically, **one-term [6]throughput rates (based on all starting levels)**

[6] While a one-year time frame is defined in the law, data limitations only allowed for a one-term throughput rate.

through transfer-level English and math increased between fall 2017 and fall 2018. However, the impact on varying racial/ethnic groups was mixed.

ENGLISH COURSES

- One-term throughput rates for English have been increasing consistently. From fall 2017 to fall 2018, there was a **10 percentage point increase in throughput** (41% to 51%).
- The throughput rates increased for all racial/ethnic groups; however, **equity gaps between groups remained.**

MATH COURSES

- In math, from fall 2017 to 2018 the one-term **throughput rate increased six percentage points** (20% to 26%).
- **Gaps between racial/ethnic groups continued to persist** for math throughput. Asian and White students had substantially higher throughput rates than did African American and Latinx students.

Research Limitations

At the time of publication, only fall 2018 data were available, making it impossible to calculate one-year throughput rates for the 2018-19 academic year and allowing only for the calculation of one-term throughput rates. Additionally, it was difficult to identify which types of curricular or student supports individual colleges had in place in preparation for AB 705 implementation in fall 2018. While degree-seeking students are included in AB 705, only transfer-level courses were included in this study, limiting the inclusion of intermediate algebra for local degrees.

Moving forward, new data elements will be available that will help with the identification of additional courses in other TOP codes that meet transfer requirements. The ability to include support courses will also be possible in the future due to the inclusion of a new MIS data element designed to identify support courses.

Conclusion

As colleges prepare for full implementation of AB 705 in fall 2019, early results from this statewide analysis of access, enrollment, success, and throughput in transfer-level English and math courses for students whose first course in the discipline was at transfer-level showed a variety of gains between fall 2017 and fall 2018. **On the whole, these early indicators suggest that the approaches to assessment and placement aligned with AB 705 are likely to have a positive impact on students' equitable access to transfer-level English and math courses as well as equitable success in those courses.** If these initial results hold true over the next few years, increased access to and success in transfer-level English and math courses can ultimately

help students complete their courses of study in a more timely fashion and perhaps increase the likelihood of achieving their educational goal of degree or transfer.[7]

Encouraging Signs

Student access to and enrollment in transfer-level English and math courses rose dramatically from fall 2015 to fall 2018, with the largest increases occurring in fall 2018 as colleges began testing out approaches to assessment and placement that would meet AB 705 standards. For example, a much larger percentage of students had access to and enrolled in transfer-level English and math courses in fall 2018 than in any fall term dating back to 2015. Gaps between racial/ethnic groups related to access and enrollment in transfer-level English courses lessened, though these gaps persisted in transfer-level math.

Further, student success fluctuated only a little, despite the addition of many more students who under previous systems may not have qualified for direct entry into transfer-level math or English. Overall, the number of students in fall 2018 who successfully completed a transfer-level English or math course as their first attempt in the discipline increased at a rate above the past four fall terms. It is important to note that these enrollments in transfer-level courses outpaced enrollment in the disciplines as a whole, suggesting that the increased success rates are not solely a result of more enrollments systemwide. Rather, many students who likely would have been placed below transfer-level under previous practices are succeeding when enrolling directly into transfer-level courses.

Further still, **almost all racial/ethnic groups saw the largest gain in successful completions in fall 2018 compared to the three prior fall terms**. This suggests that changes colleges made in fall 2018 had a powerful impact on increasing both access and success among students of all backgrounds.

Issues to Consider

While the early indicators discussed in this report are mainly encouraging as colleges looked ahead to the implementation of AB 705, the findings also point to some issues of potential concern that colleges might want to keep in mind as they prepare for the new mandates. One particular issue is the variations in success rates among students in the middle and lowest GPA bands compared to students in the highest band. The lower and middle GPA bands tend to comprise a higher proportion of underrepresented students[8]. The fact that these students do not seem to be succeeding in the same way as their peers in the highest GPA band aligns with the findings that show only small progress related to closing gaps between racial/ethnic groups in completion, success, and throughput. This finding suggest that **it will be important to pay close attention to the experiences of these middle- and lower-band GPA students if colleges are going to make meaningful progress in closing equity gaps in transfer-level courses.**

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[7] ccrc.tc.columbia.edu/media/k2/attachments/early-momentum-metrics-college-improvement.pdf
[8] http://bit.ly/2n3e1lW

Looking Ahead

Although this report cannot draw conclusions beyond fall 2018, it does offer a number of early indications that colleges can take into account as the CCC system moves toward full AB 705 implementation and alignment of other statewide initiatives. **These findings first suggest that colleges should expect a substantial increase in direct enrollment into transfer-level English and math courses from students of all backgrounds.** Additionally, findings thus far have shown **consistency across several measures of student success even though enrollment has expanded.** The findings further suggest that **gaps between racial/ethnic groups will likely continue to persist, even with the gains in access to transfer-level courses.** Future research will examine how different pedagogical and curricular models are best supporting the achievement of transfer-level success for all students.

Introduction

Project Overview

The California Community College (CCC) system is now making changes to its assessment and placement processes under Assembly Bill (AB) 705. While many inititiatives were already underway to increase the liklihood that students would complete their education goals at a higher rate, including acceleration, Guided Pathways, and the Student Centered Funding Formula, AB 705 focuses on colleges maximizing student completion of transfer-level English and math within one year[9]. In anticipation of AB 705, numerous CCCs throughout the state had already begun adjusting English and math assessment and placement for fall 2018[10] to facilitate direct entry into transfer-level courses aligned with their degree or transfer goal.

In order to begin understanding how the mandates of AB 705 will impact enrollment and success over time, the Research and Planning Group for California Community Colleges (RP) and the Educational Results Partnership (ERP)[11] have conducted a statewide analysis of student outcomes from fall 2015 to fall 2018. **This analysis looks particularly closely at changes that occurred between 2017 and 2018, the time period during which colleges began to substantially increase access to transfer-level courses.**

The areas of inquiry in this report include access to and enrollment in transfer-level English and math courses, student success and performance in these courses, and throughput rates from first starting level through transfer-level.

Research Questions

While not all colleges initiated changes in fall 2018 in anticiption of AB 705, many colleges chose to use the 2018-19 academic year as a pilot period to test out changes prior to full implementation of the law in fall 2019. According to a fall 2018 survey of 104 of the 114 community colleges in the state, 75 colleges (72%) indicated that they were making curricular changes in fall 2018 prior to full implementation of AB 705. The largest curricular change reported by these colleges was the incorporation of co-requisite supports with a transfer-level English or math course.

Additionally, between 2017 and 2018, 90% of responding colleges indicated they were reducing English basic skills sections; 84% indicated a reduction in math basic skills sections; and 66% reported a reduction in reading sections. Further, in fall 2018, U.S. high school transcript data served as the most widely used form of assessment by English and math departments systemwide.

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[9] http://bit.ly/2mYQrGM
[10] http://bit.ly/2lvNLQI
[11] Key support for this project was also provided by the California Community Colleges Chancellor's Office.

To better understand the relationship between AB 705 reforms and student outcomes, this report explores the research questions listed below. Three key areas are explored: access to transfer-level English and math courses, academic performance in those courses, and throughput rates to transfer-level English and math courses. Outcomes are examined by term for the overall student population and are also disaggregated by race/ethnicity, gender, and Disabled Students Programs and Services (DSPS) status.

1. How many students in fall 2018 enrolled in a transfer-level English or math course as their first enrollment in the discipline compared to prior terms?

2. For students whose first English or math course is at transfer level, how does the volume of successful completions of transfer-level English or math courses compare with student success in the same courses in prior terms?

3. Has the percentage of A, B, C, D, W, or F grades in transfer-level English and math courses in fall 2018 changed among directly enrolling students when compared to prior fall terms?

4. What are the success rates in transfer-level English or math of students who enrolled directly into the course in each fall term when disaggregated by high school GPA bands?

5. What are the throughput rates to transfer-level English and math courses, with throughput defined as the rate in which students attempting their first English or math course at any level complete the transfer-level course?

Methodology

A data file was provided to the Multiple Measures Assessment Project (MMAP) research team from CalPass Plus that included all California Community Colleges (N= 115, with the addition of Los Angeles ITV/Weekend College) submitting to the Management Information System (MIS). The data included students enrolled between fall 2015 and fall 2018. The math (N = 6,053,421) and English (N = 5,892,788) samples included all students who attended a California Community College and enrolled in one or more credit English or math courses. English courses were defined by the Taxonomy of Program (TOP) code 1501.00 (English). Math courses were defined by the TOP code 1701.00 (Mathematics) as well as specific "non-math math" courses in other TOP code areas including: 0103.00 (Plant Science), 0501.00 (Business), 0505.00 (Business Administration), 0506.00 (Business Management), 0707.10 (Computer Programming), 1799.00 (Other Math), 2001.00 (Psychology), 2003.00 (Behavioral Science), 2099.00 (Other Psychology), 2201.00 (Social Sciences), 2204.00 (Economics), and 2208.00 (Sociology). Math courses within other TOP codes were identified by the Academic Senate for the California Community Colleges. Additionally, courses with pre-transfer CB 21 codes (i.e., "A", "B", "C", or "D") were excluded and CB 05 was used to identify transfer level courses.

While ethnicity data are from the MIS system, we use slightly different terminology than is used in the Chancellor's Office Data Mart. Specifically, we use “Latinx” instead of "Hispanic" and

"African American" instead of "Black". The underlying data elements and counts, however, are the same. The MIS data used in the report are state-level data, thus enrollments and completions are counted at the system level, and are not duplicated at the college level if a student is enrolled at more than one institution.

Student data was constrained to fall terms, including semester and quarter colleges. Data on student enrollment, success, and GPA were based on students whose first enrollment in an English or math course was at the transfer level. Course success was indicated when a student was awarded a grade of C or higher, or CR or P. Note that grades of XX, DR, MW, RD, UD, RD1, RD4, and RD5 were removed from the analysis as they are not considered valid letter grades. Student outcomes over time could occur anywhere within the system and would be included. Success rates were calculated as successful completions, including A, B, C, P and CR grades. Withdrawals were considered to be non-successful attempts, as were incomplete, non-satisfactory, and non-passing grades, i.e. D, F, NP, and I.

When determining first enrollment in the discipline, selections were not limited to first-time students, but rather by when students first enrolled in an English or math course, as students may choose to delay enrollment in these courses beyond their first term.

When calculating success rates related to high school GPA, the MIS data file was matched to CalPass Plus high school transcript records, which resulted in an overall match rate of approximately 83%.

In This Report

This report explores outcomes in three key areas for students in transfer-level English and math courses in fall terms from 2015 to 2018: 1) access and enrollment, 2) success and performance, and 3) throughput. The report begins by discussing key findings in each of these areas, identifying specific research questions, providing detailed charts and tables with relevant data, and offering brief analyses of those charts and tables. Next, the report offers a short discussion of the limitations of this particular study, followed by a conclusion that reflects on the report's findings, explores what those findings might mean, and places the findings in the context of the big picture of assessment and placement in California Community Colleges.

Key Findings

The key findings are organized by research questions, beginning with those that address access and enrollment, followed by success and performance, and finally throughput.

Please note that **unless stated otherwise, all of the findings refer *only* to students whose first course in the English or math discipline is at transfer level.** In other words, the report examines the experiences of students who have *not* previously taken a non-transferable English or math course but instead started out directly at transfer level. **The only exception is in the case of throughput rates**, which examine outcomes among students who began the English or math discipline at *any* starting level, not just those who entered directly at transfer level.

Transfer-Level English and Math Enrollment

This section examines enrollment levels in transfer-level English and math courses among students who are entering either discipline for the first time. Specifically, the data presented below answer the following research question:

> ***How many students in fall 2018 enrolled in a transfer-level English or math course as their first enrollment in the discipline compared to prior terms?***

Enrollment in transfer-level English or math courses as the first course a student takes in the sequence is displayed in Chart 1. For English, enrollment increased by 16 percentage points, growing from 56% in fall 2017 to 72% in fall 2018. Direct transfer-level enrollment for math also saw a marked increase from fall 2017 to fall 2018, growing from 32% to 43% (11 percentage points). In both disciplines, the greatest enrollment increases took place as AB 705-aligned approaches were being rolled out in many CCCs.

One interpretation of the findings in Chart 1 might be that English and math enrollments as a whole are increasing and thus, just as a "rising tide lifts all boats," enrollment in transfer-level courses are growing as well. However, during this same period, all other English enrollments actually decreased from 74% to 66%, or by eight percentage points. Furthermore, all other math enrollments decreased by four percentage points, from 88% to 84%. **This suggests that implementation of systems and processes that allowed for greater access to transfer-level English and math courses had a substantial impact on increasing the number of students enrolled in these transfer-level English and math courses.**

Chart 1. Percentage of Students Who Enrolled Directly in Transfer-Level English and Math

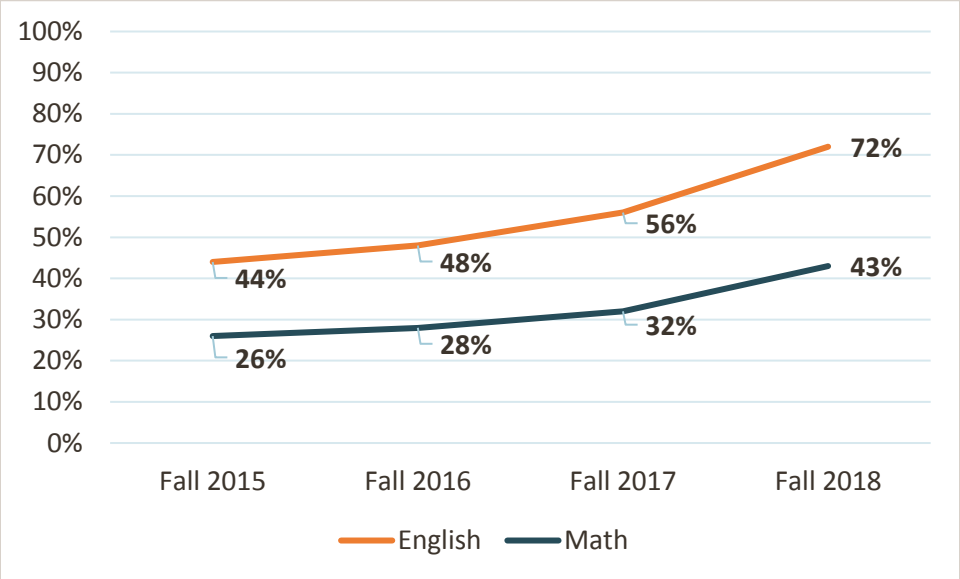


Table 1 displays the actual number of students from which the percentages shown in Chart 1 were calculated. See Appendix A for math course rates disaggregated by SLAM and B-STEM.

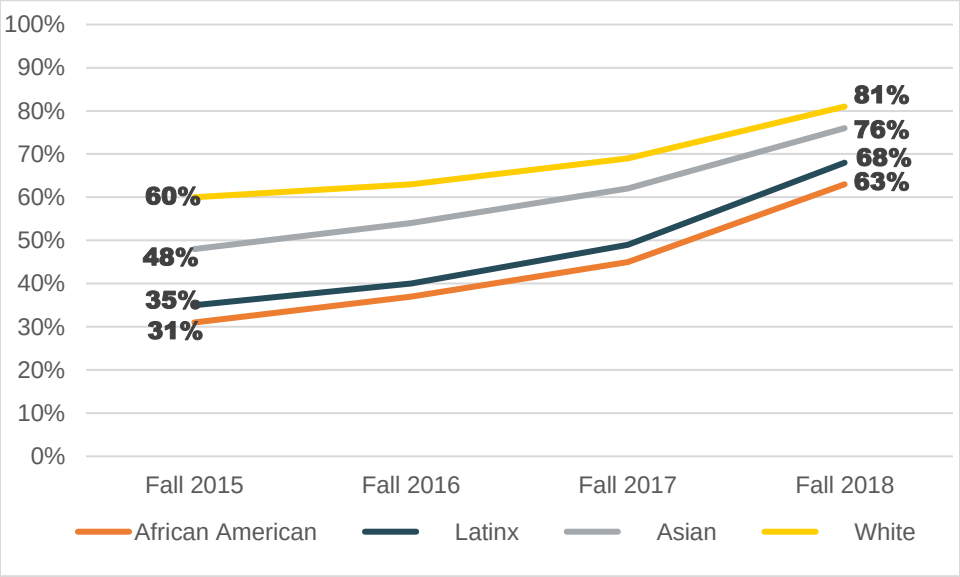
Table 1. Number and Percentage of Students Whose First English or Math Course Was at Transfer Level

Term	Number of Students who First Enrolled in a Transfer Level Course	Total Enrollment in a Transfer-Level Course	Percentage of Students
		English	
Fall 2015	72,796	166,116	44%
Fall 2016	81,054	168,516	48%
Fall 2017	96,208	172,046	56%
Fall 2018	125,542	174,205	72%
		Math	
Fall 2015	42,436	163,309	26%
Fall 2016	46,163	165,420	28%
Fall 2017	53,846	167,320	32%
Fall 2018	69,000	160,335	43%

Chart 2 on the next page disaggregates enrollment into transfer-level English courses as the first course taken in the discipline by race/ethnicity. All groups saw large gains in direct transfer-level English enrollment from fall 2015 to fall 2018, with a large jump in fall 2018.

Particularly striking, however, is the narrowing of the gaps in direct transfer-level English enrollment *between* racial/ethnic groups. For example, the gap between African American and White students narrowed from 29 percentage points in fall 2015 to just 18 percentage points in fall 2018. The corresponding gap between Latinx students and White students narrowed from 25 percentage points to 13 percentage points. **Although the gap between racial/ethnic groups did not disappear completely, it is encouraging to see a narrowing of that gap from fall 2015 to fall 2018.**

Chart 2. Enrollment in Transfer-Level English, Disaggregated by Ethnicity



Note: Unknown, Pacific Islander, Two or More Races, and Native American students are not plotted, but are shown in Table 2.

Table 2 on the next page shows the specific data from which Charts 2a and 2b were derived, as well as similar disaggregation of direct enrollment in transfer-level English by gender and DSPS status. Fall 2018 saw an increase in direct enrollment in transfer-level English, as compared to fall 2017, for all racial/ethnic groups:

- 17,436 more Latinx students (+19 percentage points)
- 1,399 more African American students (+18 percentage points)
- 3,511 more Asian students (+14 percentage points)
- 4,200 more White students (+12 percentage points)
- 1,008 more students who are two or more races students (+12 percentage points)
- 84 more Native American students (+15 percentage points)
- 75 more Pacific Islander students (+14 percentage points)

Further, direct enrollment in transfer-level English among students participating in DSPS increased by 67% in fall 2018 relative to fall 2017, rising from 637 to 1,068 students.

Table 2. Enrollment in Transfer-Level English, Disaggregated by Ethnicity, Gender, and DSPS Status

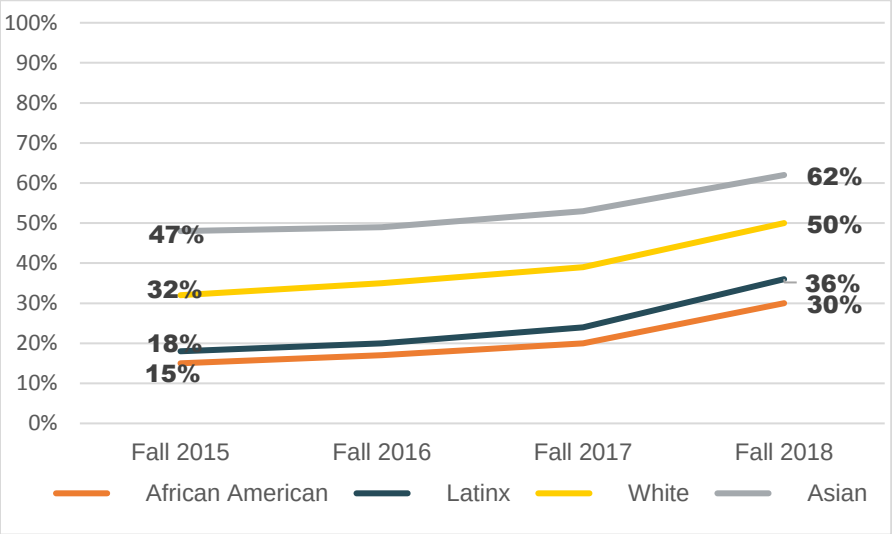
	Fall 2015		Fall 2016		Fall 2017		Fall 2018	
	#	%	#	%	#	%	#	%
Ethnicity								
Asian	9,553	48%	10,507	54%	12,472	62%	15,983	76%
African American	2,947	31%	3,521	37%	4,169	45%	5,568	63%
Latinx	27,891	35%	33,373	40%	42,631	49%	60,067	68%
Native American	352	44%	318	41%	386	51%	470	66%
Pacific Islander	276	35%	323	42%	421	53%	496	67%
Two or More Races	3,764	55%	4,279	60%	4,647	66%	5,655	78%
White	24,685	60%	25,800	63%	27,381	69%	31,581	81%
Unknown	3,328	49%	2,933	52%	4,101	58%	5,722	75%
Gender								
Female	37,207	43%	41,248	48%	50,086	56%	65,954	73%
Male	34,450	44%	38,266	48%	44,595	56%	57,583	71%
Other/Unknown	1,139	48%	1,540	54%	1,527	60%	2,005	76%
DSPS Status								
DSPS	506	28%	421	29%	637	35%	1,068	51%
Not DSPS	72,290	44%	80,633	48%	95,571	56%	124,474	72%

Note: "Native American" includes Native Alaskan. "Pacific Islander" also includes Native Hawaiian. Cells present the number and percentage of students in a given cohort with a given characteristic whose first English enrollment was at the transfer level.

Similar to Chart 2, on the following page Chart 3 disaggregates enrollment in transfer-level math courses by race/ethnicity. In fall 2018, African American and Latinx students saw meaningful gains in direct enrollment in transfer-level math. African American students' direct enrollment in transfer-level math increased from 20% in fall 2017 to 30% in fall 2018 (10 percentage points), while Latinx students' direct enrollment rose from 24% to 36% (12 percentage points).

Despite these overall enrollment increases, a gap between racial/ethnic groups persisted in terms of direct enrollment in transfer-level math. Specifically, a large gap continues to exist between African American/Latinx students and White/Asian students throughout the period of time addressed in Chart 3a. For example, the gap between Latinx and White students was 14 percentage points in fall 2015 (18% versus 32%), and it remained 14 percentage points in fall 2018 (36% versus 50%), despite increases in the direct enrollment of both groups. See Appendix A for rates disaggregated by SLAM and B-STEM math.

Chart 3. Enrollment in Transfer-Level Math, Disaggregated by Ethnicity



Note: Students of unknown race, Pacific Islander students, students of two or more races, and Native American students are not plotted, but are shown in Table 3.

Table 3 below parallels Table 2, providing disaggregated information on direct enrollment into transfer-level math by race/ethnicity, gender, and DSPS status.

Table 3. Direct Enrollment in Transfer-Level Math, Disaggregated by Ethnicity, Gender, and DSPS Status

	Fall 2015		Fall 2016		Fall 2017		Fall 2018	
	#	%	#	%	#	%	#	%
Ethnicity								
Asian	9,995	47%	10,277	49%	11,003	53%	13,100	62%
African American	1,379	15%	1,486	17%	1,770	20%	2,373	30%
Latinx	13,737	18%	16,049	20%	20,334	24%	28,484	36%
Native American	124	18%	122	17%	163	25%	188	31%
Pacific Islander	127	17%	148	20%	201	27%	254	39%
Two or More Races	1,981	30%	2,268	33%	2,596	38%	3,345	50%
White	12,750	32%	13,696	35%	15,024	39%	17,993	50%
Unknown	2,343	34%	2,117	36%	2,755	39%	3,263	45%
Gender								
Female	19,509	23%	21,142	25%	25,836	30%	34,048	42%
Male	22,251	29%	24,203	31%	27,150	34%	33,820	45%
Other/Unknown	676	28%	818	30%	860	35%	1,132	48%
DSPS Status								
DSPS	237	14%	203	14%	294	18%	417	24%
Not DSPS	42,199	26%	45,960	28%	53,552	32%	68,583	43%

Note: "Native American" includes Native Alaskan. "Pacific Islander" also includes Native Hawaiian. Cells present the number/percentage of students with a given characteristic whose first enrollment was at the transfer level.

Completion of Transfer-Level English and Math

This section examines the number of students who completed transfer-level English and math courses from fall 2015 to fall 2018. The data presented respond to the following research question:

> ***For students whose first English or math course is at transfer level, how does the volume of successful completions of a transfer-level English or math courses compare with student success in the same courses in prior years?***

Chart 4 on the next page displays the year-over-year change in the number of new students who successfully completed a transfer-level English or math course, when a transfer-level course was the first course in which they enrolled. Successful completion is defined as a grade of A, B, C, Credit, or Pass.

For transfer-level English, the year-over-year increase in completions among directly enrolling students rose by 18,903 students in fall 2018 relative to fall 2017, an 80% increase. Among students enrolled in a transfer-level SLAM course as their first math course, 5,552 additional students successfully completed in fall 2018 compared to fall 2017, a 117% increase. This increase is substantially stronger than the growth in successful completions from fall 2016 to fall 2017, when only 2,563 more students completed transfer-level SLAM, a 65% increase.

Among students enrolled in a transfer-level B-STEM math course as their first course in the math discipline, 2,258 additional students successfully completed a transfer-level B-STEM math course in fall 2018 compared to fall 2017, a 103% increase. This growth more than doubled the increase that occurred from fall 2016 to fall 2017, when only 1,114 more students completed a transfer-level B-STEM math course, a 48% increase.

The growth in completions found from 2017 to 2018 suggests that while increased access to transfer-level coursework was already underway—possibly attributable to Guided Pathways, the Student Centered Funding Formula, acceleration, and other initiatives—**the introduction of the AB 705-aligned strategies in 2017-18 substantially sped up the growth in completions of transfer-level English and math courses.**

Chart 4. Year-Over-Year Change in the Number of Successful Completions of Transfer-Level English and Math

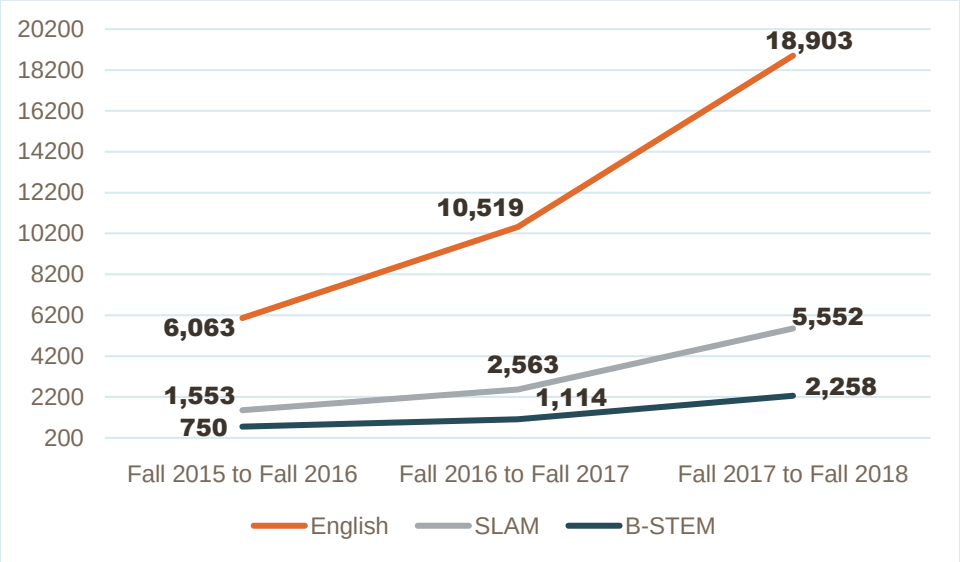


Table 4 below provides the information on which Chart 4 is based with respect to transfer-level English. It includes the number of students who enrolled directly in transfer-level English, the number who successfully completed transfer-level English, the percentage who enrolled directly in transfer-level English and completed it successfully on the first attempt, and the year-over-year change in the number of students successfully completing transfer-level English.

It is worth noting that while the *number* of both enrolled students and successful completers increased substantially from fall 2015 to fall 2018, success *rates* for transfer-level English were largely flat. For each of the four fall terms, success rates resulted in a one percentage point decrease from 2016 to 2017 and another from 2017 to 2018. With such a large increase in the number of students enrolled in transfer-level English courses, one might have expected success rates to decrease, as perhaps some of those students would have found themselves unprepared for the rigor of transfer-level coursework. However, English success rates remained fairly consistent, dropping one percentage point from fall 2017 to fall 2018, the period during which enrollment increased the most.

Table 4. Number and Percentage of Successful Completions of Transfer-Level English

Term	Successful Completions	Total Enrollment	Success Rate	Additional Successful Completions from Prior Fall
Fall 2015	53,156	72,796	73%	-
Fall 2016	59,219	81,054	73%	6,063
Fall 2017	69,738	96,208	72%	10,519
Fall 2018	88,641	125,542	71%	18,903

Note: "Success" is defined as receiving grades of A, B, C, Credit, and Pass.

Table 5 below provides additional information on which Chart 4 was based for transfer-level SLAM. It shows the number of students who enrolled directly in transfer-level SLAM, the number of these students who successfully completed transfer-level SLAM, the percentage of students who enrolled directly in transfer-level SLAM course and completed it successfully on the first attempt, and the year-over-year change in the number of students successfully completing transfer-level SLAM course.

For SLAM courses, success rates have decreased slightly over the past several fall terms. They dropped three percentage points from fall 2017 to fall 2018 (65% to 62%), which follows a three percentage point drop in success rates from fall 2016 to fall 2017 (68% to 65%).

Table 5. Number and Percentage of Successful Completions of Transfer-Level SLAM

Term	Successful Completions	Total Enrollment	Success Rate	Additional Successful Completions from Prior Fall
Fall 2015	10,901	15,994	68%	-
Fall 2016	12,454	18,347	68%	1,553
Fall 2017	15,017	23,049	65%	2,563
Fall 2018	20,569	33,003	62%	5,552

Note: Success is defined as receiving grades of A, B, C, Credit, and Pass. "SLAM" refers to statistics and liberal arts math.

Table 6 below provides further information on which Chart 4 is based, this time focusing on a transfer-level B-STEM math course. The table shows the number of students who enrolled directly in a transfer-level B-STEM math course, the number of those students who completed a transfer-level B-STEM math course, the percentage of students who enrolled directly in a transfer-level B-STEM math course and completed it successfully on the first attempt, and the year-over-year change in the number of students successfully completing a transfer-level B-STEM math course.

From fall 2017 to fall 2018, success rates decreased four percentage points (62% to 58%). This decrease follows a two percentage point drop in success from fall 2016 to fall 2017, from 64% to 62%.

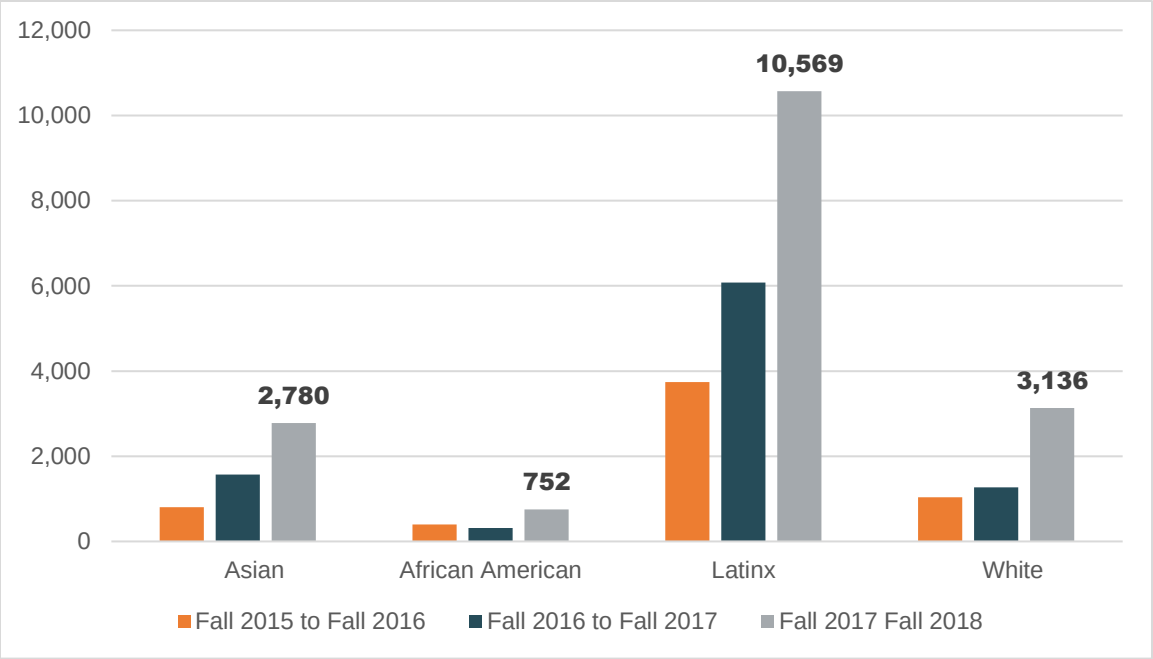
Table 6. Number and Percentage of Successful Completions of Transfer-Level B-STEM Math

Term	Successful Completions	Total Enrollment	Success Rate	Additional Successful Completions from Prior Fall
Fall 2015	16,085	25,149	64%	--
Fall 2016	16,835	26,464	64%	750
Fall 2017	17,949	29,113	62%	1,114
Fall 2018	20,207	34,577	58%	2,258

Note: "Success" is defined as receiving grades of A, B, C, Credit, and Pass. "B-STEM" refers to business, science, technology, engineering, and mathematics fields of study.

Chart 5 below disaggregates the number of successful completions in transfer-level English by race/ethnicity from fall 2017 to fall 2018. During this time, 10,569 additional Latinx students who started directly at transfer-level successfully completed their English courses, representing a 74% increase. Among students who identify as White, successful completions increased by 3,136 students, a 146% increase (more than twice as many students as the prior years' increase). Furthermore, completions grew by 2,780 for Asian students, a 77% increase, and 752 for African American students, a 141% increase (again more than twice the prior years' increase).

Chart 5. Term-to-Term Number of Additional Successful Completions of Transfer-Level English, Disaggregated by Ethnicity



Note: Students of unknown race, Pacific Islander students, students of two or more races, and Native American students are not plotted, but are shown in Table 7.

Table 7 on the next page provides the detailed information used to create Chart 5 above. **All ethnic groups—not only Asian, African American, Latinx, and White—saw the largest gains in successful completions in fall 2018 compared to the prior three years.** Further, 229 additional DSPS students successfully completed transfer-level English in fall 2018 compared to fall 2017. Again, this gain was the largest over the past four fall terms.

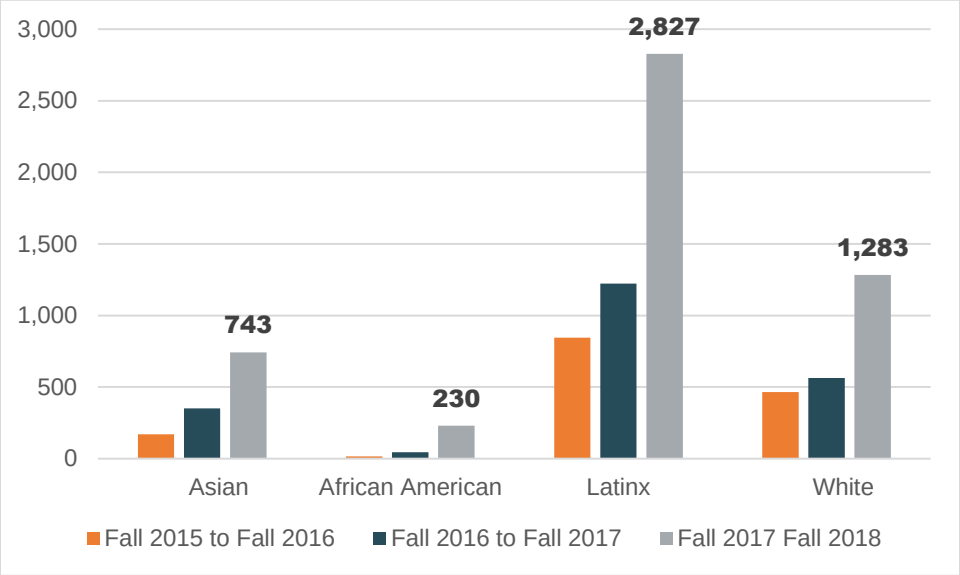
Table 7. Successful Completions of Transfer-Level English Students, Disaggregated by Ethnicity, Gender, and DSPS Status

	English							
	Fall 2015		Fall 2016		Fall 2017		Fall 2018	
	#	%	#	%	#	%	#	%
Ethnicity								
Asian	7,742	81%	8,546	81%	10,117	81%	12,897	81%
African American	1,832	62%	2,231	63%	2,543	61%	3,295	59%
Latinx	18,958	68%	22,697	68%	28,772	68%	39,341	66%
Native American	227	64%	213	67%	278	72%	301	64%
Pacific Islander	166	60%	202	63%	266	63%	292	59%
Two or More	2,726	72%	3,106	73%	3,366	72%	4,082	72%
White	18,977	77%	20,013	78%	21,286	78%	24,422	77%
Unknown	2,528	76%	2,227	76%	3,110	76%	4,011	70%
Gender								
Female	28,263	76%	31,205	76%	37,684	75%	48,114	73%
Male	24,082	70%	26,906	70%	31,984	69%	39,156	68%
Other/Unknown	811	71%	1,108	72%	1,070	70%	1,371	68%
DSPS								
DSPS	337	67%	292	69%	417	65%	646	60%
Not DSPS	52,819	73%	58,927	73%	69,321	73%	87,995	71%

Note: "Native American" includes Native Alaskan. "Pacific Islander" also includes Native Hawaiian.

Chart 6 on the next page takes a look at the number of students who successfully completed a transfer-level SLAM course, disaggregated by ethnicity. Once again, substantial increases were seen across racial/ethnic groups, particularly between fall 2017 and fall 2018. During that timeframe, 2,827 additional Latinx students successfully completed a transfer-level SLAM course, a 52% increase. Among White students, successful completions increased by 1,283 students, a 128% increase, more than twice the increase the prior year. Asian students' completions also grew by 743, a 112% increase; and for African American students, completions increased by 230, a 411% increase—five times the increase of the prior year.

Chart 6. Term-to-Term Number of Additional Successful Completions of Transfer-Level SLAM, Disaggregated by Ethnicity



Note: Students of unknown race, Pacific Islander students, students of two or more races, and Native American students are not plotted, but are shown in Table 8.

Table 8 on the next page displays in detail the information shown in Chart 6 above. **It is worth mentioning that once again, the largest gains among almost all racial/ethnic groups took place between fall 2017 and fall 2018.** For example, the increase in successful completions during that year by Latinx students who first enrolled in a transfer-level SLAM course was larger than any gain over the prior four fall terms (2,827 additional students). Further, 3,443 additional female students successfully completed a transfer-level SLAM course in fall 2018 compared to fall 2017, the largest gain over the past four fall terms.

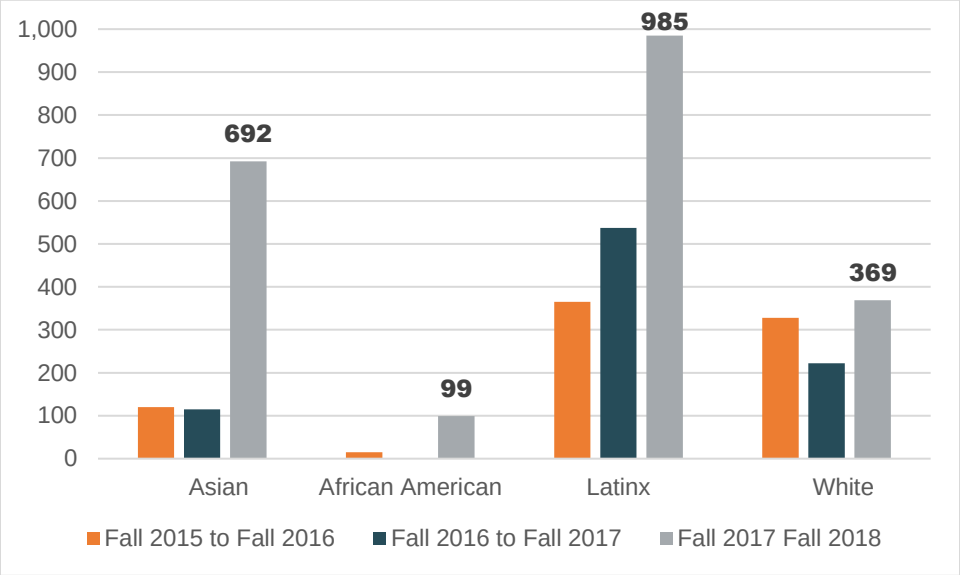
Table 8. Successful Completions of Transfer-Level SLAM, Disaggregated by Ethnicity, Gender, and DSPS Status

	SLAM							
	Fall 2015		**Fall 2016**		**Fall 2017**		**Fall 2018**	
	#	%	#	%	#	%	#	%
Ethnicity								
Asian	2,221	77%	2,390	78%	2,741	78%	3,484	75%
African American	363	55%	379	54%	424	47%	654	49%
Latinx	3,412	60%	4,257	60%	5,480	57%	8,307	55%
Native American	35	59%	29	58%	37	52%	53	54%
Pacific Islander	32	53%	36	59%	60	59%	78	53%
Two or More	535	67%	609	68%	773	67%	1,003	63%
White	3,744	73%	4,209	74%	4,772	72%	6,055	70%
Unknown	559	74%	548	72%	730	69%	935	65%
Gender								
Female	6,673	71%	7,518	70%	9,268	67%	12,711	64%
Male	4,062	64%	4,728	65%	5,489	62%	7,505	59%
Other/Unknown	166	64%	208	66%	260	68%	347	66%
DSPS								
DSPS	46	61%	50	67%	71	58%	95	48%
Not DSPS	10,855	68%	12,404	68%	14,946	65%	20,474	62%

Note: "Native American" includes Native Alaskan. "Pacific Islander" includes Native Hawaiian. "SLAM" refers to statistics and liberal arts math.

With regards to B-STEM math, as displayed in Chart 7 on the next page, the data show increases in student completions each year from fall 2015 to fall 2018. In fall 2018, 985 additional Latinx students successfully completed a transfer-level SLAM course compared to fall 2017, an 83% increase. For students who identify as Asian, successful completions increased by 692, a 502% increase. Completions increased by 369 for White students, or 66%. **Lastly, while completions grew by just 99 individuals for African American students, this represents a 9,800% increase.**

Chart 7. Term-to-Term Number of Additional Successful Completions of Transfer-Level B-STEM Math, Disaggregated by Ethnicity



Note: Students of unknown race, Pacific Islander students, students of two or more races, and Native American students are not plotted, but are shown in Table 9.

As displayed in Table 9 on the next page, the gains in successful completions are not as large for B-STEM math courses when compared to English and SLAM. **However, the increased number of Latinx students who first enrolled in a transfer-level B-STEM math course and successfully completed the course in fall 2018 compared to fall 2017 (985 students) was larger than any gain over the prior three years.**

Not all ethnic groups saw an increase in the number of successful completions. Those that did include Latinx students (+985), Asian students (+692), White students (+369), students of two or more races (+167), and African American students (+99). Students of unknown race/ethnicity saw a decrease (-34), as did Native Americans (-14), and Pacific Islanders (-3).

Further, both male and female students saw similar gains in successful completions, with 1,024 additional female students and 1,158 additional male students in fall 2018 compared to fall 2017. **This growth for both genders represents the largest gains over the past four fall terms.**

Table 9. Successful Completions of Transfer-Level B-STEM Math, Disaggregated by Ethnicity, Gender, and DSPS Status

	B-STEM Math							
	Fall 2015		Fall 2016		Fall 2017		Fall 2018	
	#	%	#	%	#	%	#	%
Ethnicity								
Asian	5,144	73%	5,264	74%	5,379	73%	6,071	73%
African American	300	51%	315	48%	316	44%	415	44%
Latinx	3,968	54%	4,333	53%	4,870	50%	5,855	47%
Native American	31	52%	29	47%	45	54%	31	36%
Pacific Islander	36	56%	36	44%	51	54%	48	46%
Two or More	692	61%	810	60%	854	62%	1,021	60%
White	4,818	66%	5,146	66%	5,368	66%	5,737	63%
Unknown	1,096	71%	902	69%	1,063	67%	1,029	61%
Gender								
Female	6,272	67%	6,382	66%	7,023	63%	8,047	59%
Male	9,578	63%	10,141	62%	10,640	61%	11,798	58%
Other/Unknown	235	59%	312	63%	283	62%	362	62%
DSPS								
DSPS	64	47%	58	54%	82	56%	102	49%
Not DSPS	16,021	64%	16,777	64%	17,864	62%	20,105	58%

Note: "Native American" includes Native Alaskan. "Pacific Islander" includes Native Hawaiian. "B-STEM" refers to business, science, technology, engineering, and mathematics fields of study.

Student Grades in Transfer-Level English and Math

This section explores a slightly different aspect of student success, providing data that respond to the following research question:

> ***Has the percentage of A, B, C, D, W, or F grades in transfer-level English and math courses in fall 2018 changed among directly enrolling students when compared to prior fall terms?***

Chart 8 on the next page examines the percentage of grades awarded over time to determine any changes from fall 2015 to fall 2018 in the grades awarded to students whose first English course is at transfer level.

Among these students, the percentage of A and B grades has decreased slightly from fall 2017 to fall 2018. A grades dropped from 31% to 30%, and B grades decreased from 27% to 25%. C grades have increased one percentage point from 14% to 15% from fall 2017 to fall 2018, and D, F and W grades similarly increased one percentage point each, from 5% to 6%, 10% to 11%, and 11% to 12%, respectively.

Chart 8. Distribution of Letter Grades for Transfer-Level English Students

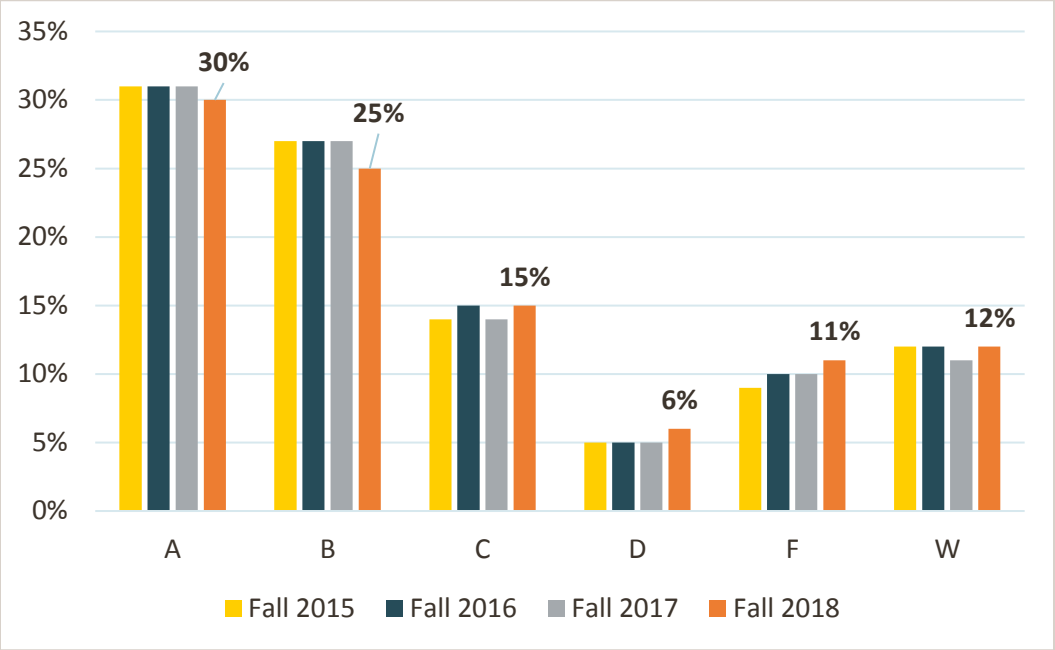


Table 10 on the next page displays the number and percentage of students used to create Chart 8 above.

It is particularly interesting to note that the percentage of W (withdraw) grades received also remained consistent from fall 2015 to fall 2018 at 11-12%. It would have been reasonable to expect that with more students being placed directly into transfer-level English rather than non-transferable courses, withdrawals would increase as a greater proportion of students found themselves unprepared for the rigor of transfer-level coursework. However, these results indicate that this is *not* in fact what has taken place so far.

This one percentage-point increase in W grades suggests that even as students are being placed directly into transfer-level English at a higher rate, they are not withdrawing from the courses any more than they were under the previous placement system. Moreover, this increased persistence has not resulted in substantial increases in Ds and Fs (with only a one-percentage point increase each), another outcome that might have been previously anticipated. Nonetheless, the rate at which students are withdrawing and receiving non-passing grades should continue to be explored at the local level to determine how to best support students and help them meet their educational goals.

Table 10. Grades in Transfer-Level English

	English							
Grade Received	**Fall 2015**		**Fall 2016**		**Fall 2017**		**Fall 2018**	
	#	%	#	%	#	%	#	%
A	22,467	31%	25,249	31%	29,976	31%	36,470	30%
B	19,741	27%	21,883	27%	25,680	27%	31,942	25%
C	9,845	14%	11,861	15%	13,893	14%	18,939	15%
D	3,471	5%	3,948	5%	4,893	5%	7,312	6%
F	6,694	9%	7,812	10%	9,462	10%	13,638	11%
W	8,656	12%	9,410	12%	11,105	11%	14,695	12%

Chart 9 below shows the distribution of grades for transfer-level SLAM students whose first course in the discipline was at transfer level. The percentage of A grades decreased slightly from fall 2017 to fall 2018, from 27% to 25%. B grades decreased from 21% to 20%, and C grades held steady at 17% from fall 2017 to fall 2018. During the same timeframe, D grades increased from 6% to 7%, F grades increased from 12% to 14%, and W grades increased one percentage point, from 16% to 17%. **In other words, fluctuations in SLAM grade distribution from fall 2017 to fall 2018 did not exceed two percentage points for any grade.**

Chart 9. Distribution of Letter Grades in Transfer-Level SLAM

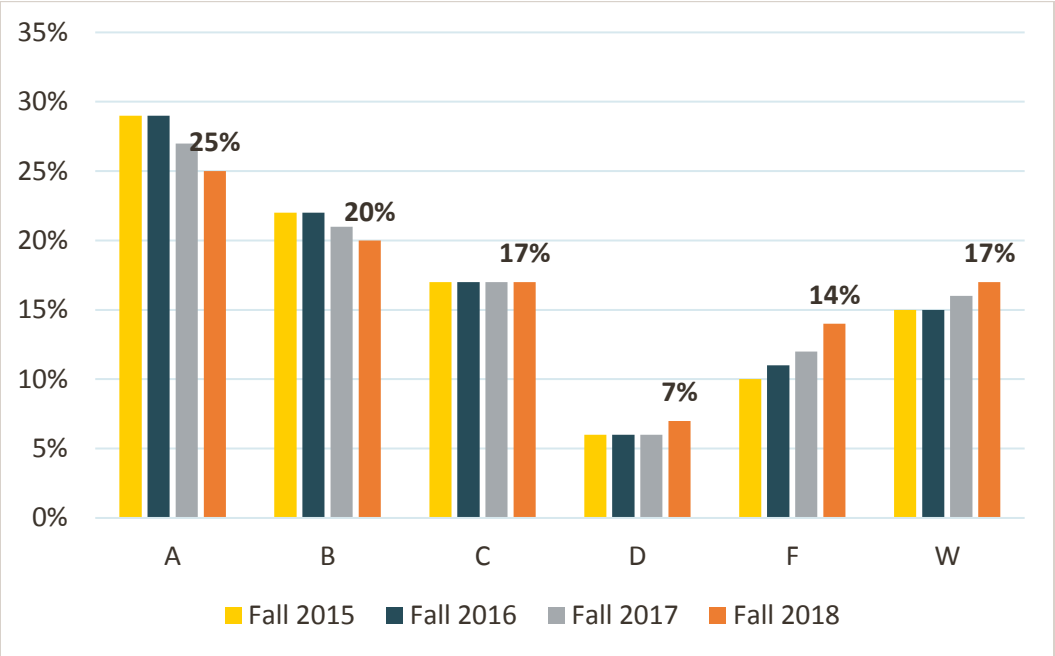


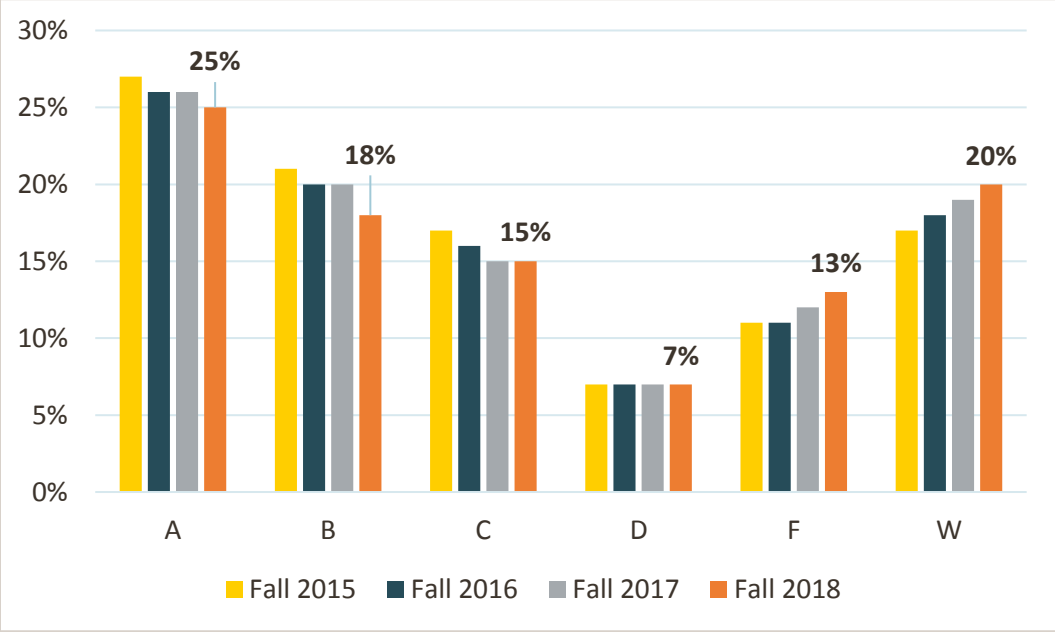
Table 11 on the next page shows the number and percentage of students described in Chart 9 above. Between fall 2017 and fall 2018, the percentage of students receiving A and B grades decreased somewhat—by four and two percentage points, respectively—while C grades held steady, D grades increased one percentage point and F grades increased by two percentage points. W grades also increased by one percentage point.

Table 11. Grades in Transfer-Level SLAM

	SLAM							
Grade Received	**Fall 2015**		**Fall 2016**		**Fall 2017**		**Fall 2018**	
	#	%	#	%	#	%	#	%
A	4,606	29%	5,346	29%	6,346	27%	8,307	25%
B	3,515	22%	4,020	22%	4,834	21%	6,748	20%
C	2,795	17%	3,103	17%	3,850	17%	5,607	17%
D	982	6%	1,084	6%	1,390	6%	2,161	7%
F	1,683	10%	1,964	11%	2,741	12%	4,578	14%
W	2,371	15%	2,715	15%	3,744	16%	5,451	17%

Chart 10 below examines the grade distribution for B-STEM math courses. Among the students whose first course in the math discipline was a transfer-level B-STEM math course, the percentage of A and B grades decreased slightly from fall 2017 to fall 2018; A grades dropped from 26% to 25%, and B grades decreased from 20% to 18%. C grades held steady at 15% from fall 2017 to fall 2018, as did D grades at 7%. F grades increased one percentage point, from 12% to 13%, and W grades increased one percentage point, from 19% to 20%. **As with the grade distribution in SLAM courses, changes in grades for B-STEM math courses were within two percentage points from fall 2017 to fall 2018.**

Chart 10. Distribution of Letter Grades in Transfer-Level B-STEM Math



It is particularly interesting to note that the percentage of W (withdraw) grades received for SLAM and B-STEM math followed a similar upward trend between fall 2015 to fall 2018, and **increased only one percentage point in fall 2018 compared to fall 2017 for both SLAM and B-STEM.** It would have been reasonable to expect that with more students being placed directly into transfer-level math, withdrawals would increase precipitously as a greater proportion of students found themselves unprepared for the rigor of transfer-level coursework.

However, these results indicate **even as students are being placed directly into transfer-level math at a higher rate, they are not withdrawing from the courses any more than they were under the previous placement system.** Similar to English, this increased persistence has not resulted in more than a one percentage-point increase in Ds or Fs.

Table 12 below displays the number and percentage of students described in Chart 10 above.

Table 12. Grades in Transfer-Level B-STEM Math

	B-STEM Math							
Grade Received	**Fall 2015**		**Fall 2016**		**Fall 2017**		**Fall 2018**	
	#	%	#	%	#	%	#	%
A	6,775	27%	7,007	26%	7,741	26%	8,556	25%
B	5,277	21%	5,444	20%	5,771	20%	6,248	18%
C	4,239	17%	4,395	16%	4,511	15%	5,360	15%
D	1,658	7%	1,837	7%	2,041	7%	2,445	7%
F	2,909	11%	3,047	11%	3,410	12%	4,477	13%
W	4,388	17%	4,603	18%	5,455	19%	7,079	20%

Note: B-STEM refers to math for business, science, technology, engineering, and mathematics fields of study. SLAM refers to statistics and liberal arts math.

Success Rates by High School GPA Band

Data for fall 2015 through fall 2017 is retrospective in nature. Students were placed by a mix of multiple measures, which may have included high school transcript data or other measure as well as a placement test. However, in fall 2018, the majority of students were placed solely via high school transcript data. According to the AB 705 survey, in fall 2018, 73% of colleges (76 of 104 colleges) reported using high school transcript data to place students with U.S. high school transcript data. Acknowledging this mix of ways in which students are placed, the following section explores success rates in relation to students' high school data, when available from CalPASS Plus.

This section looks more closely at the success of students who began the English or math sequence at transfer-level, examining outcomes through the lens of high school GPA bands in response to the following research question:

> ***What are the success rates in transfer-level English or math of students who enrolled directly into the course in each fall term when disaggregated by GPA bands?***

Chart 11 on the next page displays the success rates in transfer-level English for students whose first course was at transfer level by cumulative high school grade point average (GPA) as grouped into three distinct groups or "bands" as used in the default placement rules for AB 705.

The results show that success rates by GPA band followed the same patterns over the past four fall terms. In fall 2018, success rates in each band declined one to two percentage points from the prior term. Comparing fall 2018 success rates to the AB 705 default placement rules,

success for the highest GPA band is at 77%, compared to 78.6% as defined in the July 11, 2018 memo from the Chancellor's Office. The middle GPA band is currently at 53%, somewhat lower than the 57.7% success rate identified in the memo; for the lowest band, the success rate is currently at 41%, similar to the 42.6% in the memo.

To fully understand what these data mean, it is important to put the information into context. **Even though students in the lowest GPA band have a success rate of only 41%, they still outperform students who started at any course below transfer level.** Students starting four levels below transfer in fall 2017 had a throughput rate of 7%. Those starting three levels below transfer had a throughput rate of just 4%; the throughput of students starting two levels below transfer was 13%; and students who started just one level below transfer had a throughput rate of 37%.

Chart 11. Success Rates in Transfer-Level English, Disaggregated by High School GPA Band

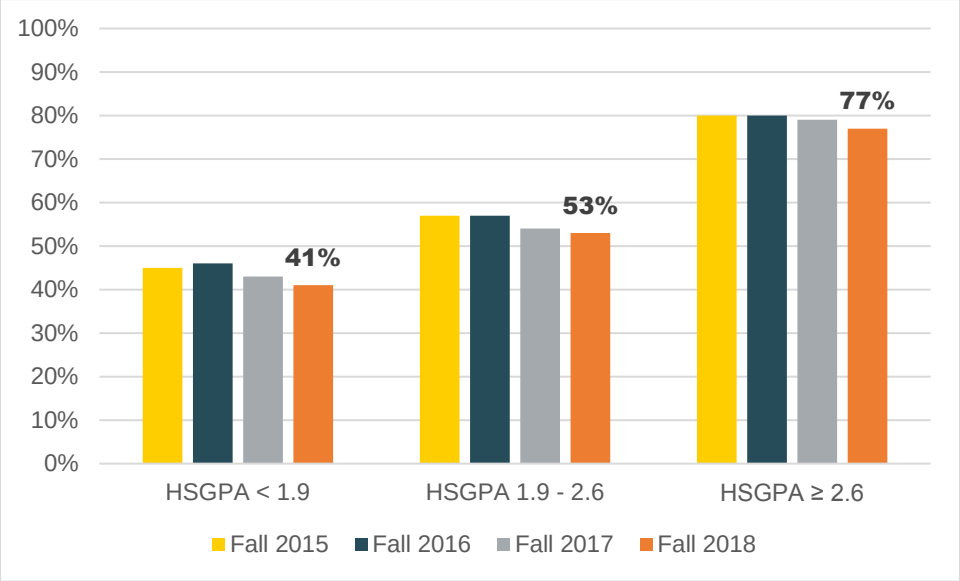


Table 13 on the next page details the success rates of students in transfer-level English whose first enrollment in the discipline was at that level. As noted above, success rates in fall 2018 were 77% at the highest band (GPA ≥ 2.6), 53% in the middle band, and 41% at the lowest band. Success rates have been generally declining slowly in all three bands over the past four fall terms. **As such, it is difficult to identify any potential correlation between GPA band success rates and the introduction of new assessment and placement strategies in the 2017-18 academic year.**

Table 13. Success Rates of Transfer-Level English Students, Disaggregated by High School GPA Band

	English			
GPA Band	**Fall 2015**	**Fall 2016**	**Fall 2017**	**Fall 2018**
HSGPA ≥ 2.6	80%	80%	79%	77%
HSGPA 1.9 - 2.6	57%	57%	54%	53%
HSGPA < 1.9	45%	46%	43%	41%
Total Students	**28,893**	**33,668**	**41,508**	**53,319**

Chart 12 below displays success rates in transfer-level SLAM courses by GPA bands as used in the default placement rules for AB 705. As with English, success rates by GPA band have been slowly declining over the past four fall terms, with the largest decrease between fall 2016 and fall 2017. For the most recent time period, fall 2017 to fall 2018, the drop in success rates was only one to two percentage points.

Comparing fall 2018 success rates to the AB 705 default placement rules, success for the highest GPA band is at 73%, similar to the 75% defined in the July 11, 2018 memo from the Chancellor's Office. The middle GPA band is currently at 45%, lower than the 50% rate displayed in the memo, and for the lowest band, the success rate is currently at 31%, similar to the 29% in the memo.

Once again, small decreases in success rates by GPA band have been taking place over the past four fall terms, with no substantial fluctuation in 2017-18. **This four-year trend makes it difficult to identify any particular impact that new placement or assessment strategies might have on this aspect of student success.**

Chart 12. Success Rates of Transfer-Level SLAM Students, Disaggregated by High School GPA Band

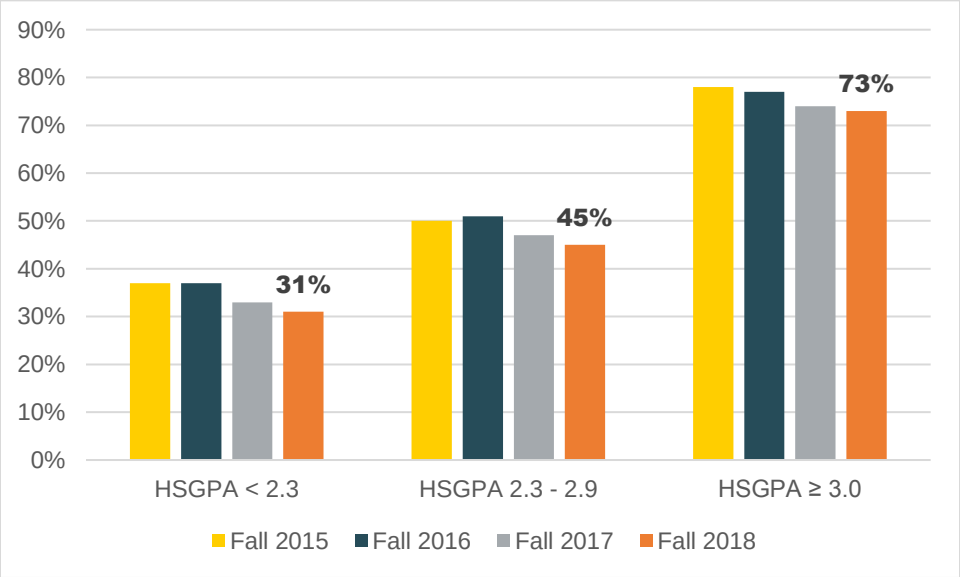


Table 14 below displays the success rates of students in transfer-level SLAM whose first enrollment was at transfer level. As with English, decreases in success across all GPA bands have been taking place in a small by steady fashion over the past four fall terms.

Table 14. Success Rates of Transfer-Level SLAM Students, Disaggregated by High School GPA (HSGPA) Band

	SLAM			
GPA Band	**Fall 2015**	**Fall 2016**	**Fall 2017**	**Fall 2018**
HSGPA ≥ 3.0	78%	77%	74%	73%
HSGPA 2.3 - 2.9	50%	51%	47%	45%
HSGPA < 2.3	37%	37%	33%	31%
Total Students	**5,502**	**6,593**	**8,247**	**11,454**

Chart 13 on the next page describes success rates by GPA bands in transfer-level B-STEM math courses for students whose first course in the discipline was at transfer level, as used in the default placement rules for AB 705. Similar to English and SLAM, success rates by GPA band have been slowly declining over the past four fall terms, with the largest decrease of three to four percentage points taking place between fall 2016 and fall 2017. In fall 2018, success rates in each band declined only one to three percentage points from the prior term.

Comparing fall 2018 success rates to the AB 705 default placement rules, success for the highest GPA band is at 73%, similar to the 75% defined in the July 11, 2018 memo from the Chancellor's Office for B-STEM math. The middle GPA band is currently at 49%, a bit lower than the 53% rate in the memo, and for the lowest band, the success rate is currently at 31%, above the 28% in the memo.

Students in the lowest GPA band who move directly into transfer-level B-STEM math show success rates in fall 2018 of just 31%. However, it is important once again to note that this rate is higher than the success rates of students who successfully completed a transfer-level course in one year by starting four levels below transfer (less than 1%), three levels below transfer (1%), two levels below transfer (3%), or even just one level below transfer (22%). **Looking at the data in this way suggests that placement of students directly into transfer-level B-STEM math has thus far not had a negative impact on their ability to succeed during this time period.**

Chart 13. Success Rates of Transfer-Level B-STEM Math Students, Disaggregated by High School GPA Band

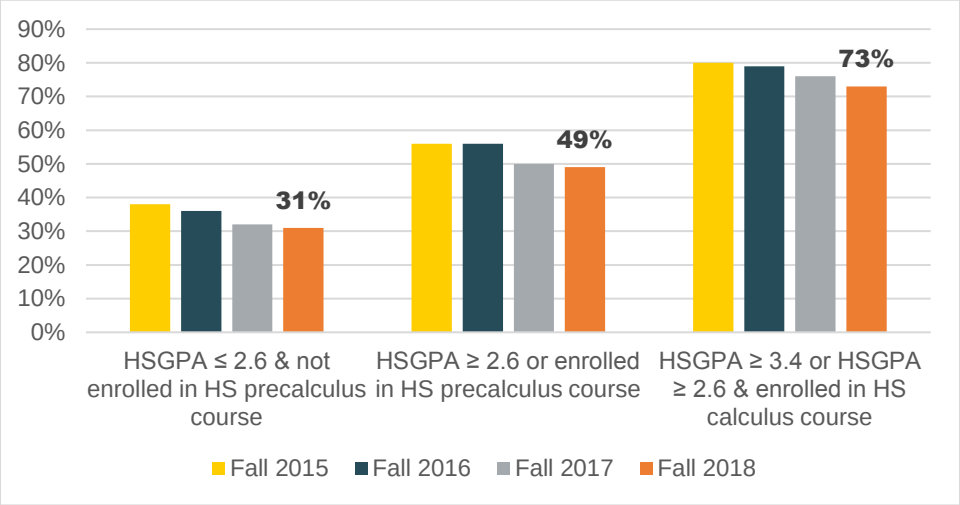


Table 15 below displays the success rates of students in transfer-level B-STEM math whose first enrollment was at that level by high school GPA bands as defined in the July 11, 2018 memo from the Chancellor's Office.

Table 15. Success Rates of Transfer-Level B-STEM Math Students, Disaggregated by High School GPA Bands

	B-STEM Math			
GPA Bands	**Fall 2015**	**Fall 2016**	**Fall 2017**	**Fall 2018**
HSGPA ≥ 3.4 or HSGPA ≥ 2.6 & enrolled in HS calculus course	80%	79%	76%	73%
HSGPA ≥ 2.6 or enrolled in HS precalculus course	56%	56%	50%	49%
HSGPA ≤ 2.6 & not enrolled in HS precalculus course	38%	36%	32%	31%
Total Students	**8,430**	**9,070**	**10,069**	**11,404**

Note: B-STEM refers to math for business, science, technology, engineering, and mathematics fields of study.

Throughput Rates

This section explores one-term throughput rates for transfer-level English and math. Please note that unlike previous sections, **the data presented here include students who entered the English and/or math discipline at *any starting level***, not just students whose first course was at transfer level. While throughput includes students who are completing degree and transfer English and math requirements, the rates presented here include only transfer-level courses.

Throughput rates describe the percentage of students who start at any level, basic skills through transfer, and successfully complete the transfer-level course within a particular time frame. Please note that only a one-term throughput rate can be calculated for fall 2018, as the

data available for this analysis only included course enrollment and grades through fall 2018. Thus, in order to make a similar comparison to throughput rates in past terms, historical data were limited to one-term as well. As more current data become available, a one-year throughput rate will be available for comparison, as required by AB 705. One-year throughput rates include completion anywhere within the CCC system.

In particular, the following research question is examined:

> ***What are the throughput rates to transfer-level English and math courses, with throughput defined as the rate in which students attempting their first English or math course at any level complete the transfer-level course?***

Chart 14 below displays the one-term throughput rate for fall 2015 through fall 2018 for a cohort of students whose first enrollment in English was at any starting level and tracked through transfer-level English. As displayed, one-term throughput rates have been increasing consistently, with the largest increase between fall 2017 and fall 2018 (41% to 51%, a 10 percentage point increase). **Similar to previous data, this especially large jump from 2017 to 2018 suggests that the initial roll-out of AB 705-aligned approaches in many CCCs may have had a positive impact on throughput rates in transfer-level English.**

Chart 14. One-Term Throughput Rates for Transfer-Level English

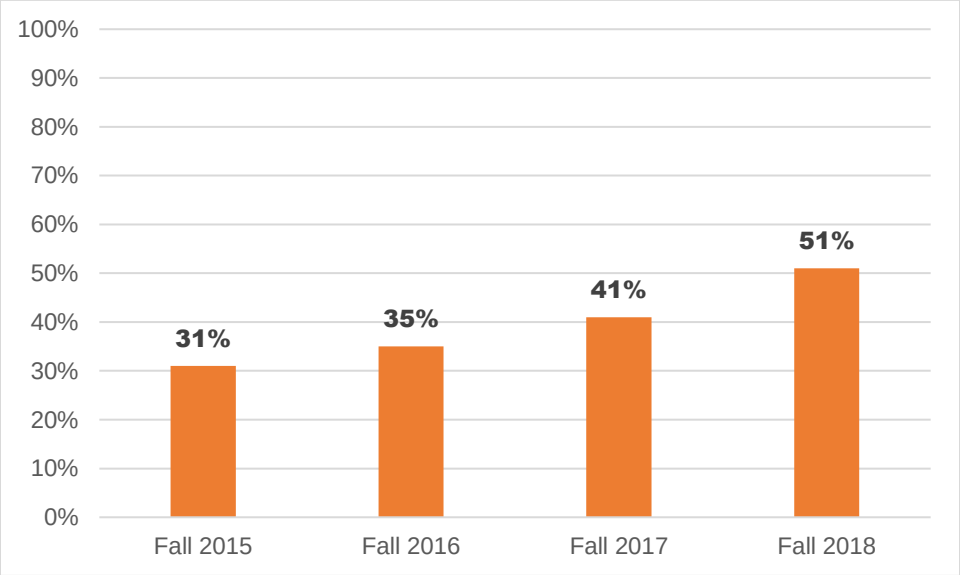


Table 16 on the next page displays the throughput rates of cohorts of English students who started at four, three, two, or one level below transfer, or directly at transfer-level. These students were tracked over two semesters or three quarters to completion of the transfer-level course to make up the one-year throughput rate, or they were tracked for only the term of first enrollment to comprise the one-term throughput rate.

The one-year throughput rates over the past four fall terms show improvement, growing from 49% in fall 2015 to 56% in fall 2017. During this timeframe, direct enrollment into transfer-level

English increased only two percentage points between fall 2015 and fall 2016, grew another five percentage points between fall 2016 and fall 2017, and then jumped eight percentage points between fall 2017 to fall 2018. **These data suggest that more students are accessing transfer-level English courses due to an increase in *direct* transfer-level enrollment as opposed to improvements in throughput among students who started in basic skills English courses.**

Furthermore, it is worth noting that throughput rates drop dramatically the more English levels students have to complete before reaching transfer level. For example, among the fall 2017 cohort, throughput starts at 77% for students who begin at transfer level, drops to 37% for students who enroll at one level below transfer, falls again to 13% for students who begin English at two levels below transfer, and plummets to just 4% for students who start three levels below transfer.

Table 16. Throughput Rates for Transfer-Level English

	English		
Term	**Throughput (#)**	**Total Students**	**Throughput Rate (%)**
Fall 2018 cohort (one-term)	**88,749**	**174,205**	**51%**
Fall 2017 cohort (one-term)	**69,856**	**172,046**	**41%**
Fall 2017 cohort (one-year)	**95,644**	**172,046**	**56%**
Starting at transfer-level	73,856	96,208	77%
Starting 1 level below	18,929	50,523	37%
Starting 2 level below	2,601	19,953	13%
Starting 3 level below	156	3,908	4%
Starting 4 level below	103	1,454	7%
Fall 2016 cohort (one-term)	**59,325**	**168,516**	**35%**
Fall 2016 cohort (one-year)	**87,736**	**168,516**	**52%**
Starting at transfer-level	62,645	81,054	77%
Starting 1 level below	22,228	56,388	39%
Starting 2 level below	2,607	23,713	11%
Starting 3 level below	163	5,641	3%
Starting 4 level below	93	1,720	5%
Fall 2015 cohort (one-term)	**51,701**	**166,116**	**31%**
Fall 2015 cohort (one-year)	**81,188**	**166,116**	**49%**
Starting at transfer-level	56,190	72,796	77%
Starting 1 level below	21,983	56,733	39%
Starting 2 level below	2,761	27,706	10%
Starting 3 level below	174	7,040	2%
Starting 4 level below	80	1,841	4%

Chart 15 on the following page displays the one-term throughput rate for fall 2015 through fall 2018 for a cohort of students whose first enrollment in math was at any starting level tracked through transfer-level math.

As displayed, one-term throughput rates increased slowly between fall 2015 and fall 2017 and spiked in fall 2018. The fall 2018 one-term throughput rate of 26% is six percentage points above the next highest rate of 20% in fall 2016.

Chart 15. One-Term Throughput Rates for All Transfer-Level Math

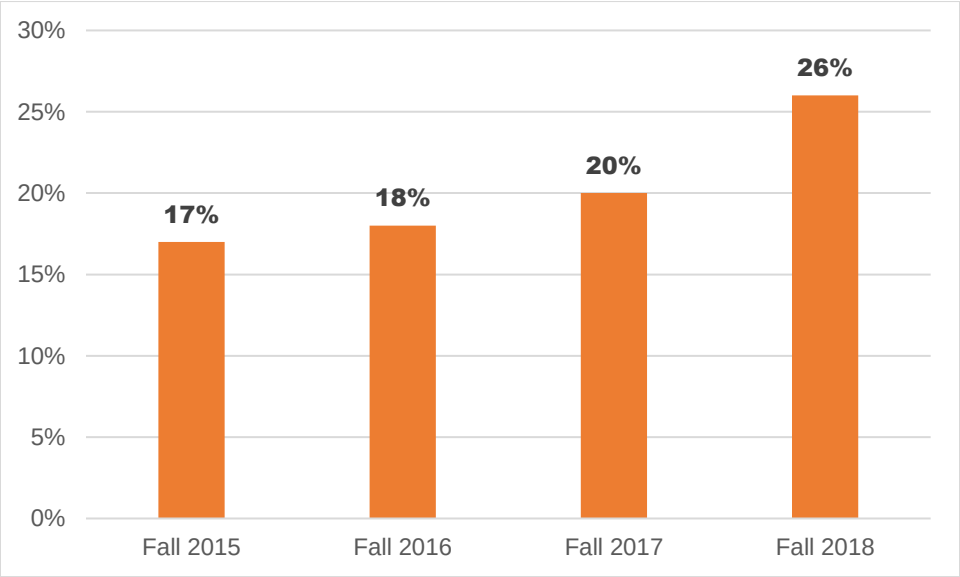


Table 17 on the next page displays the throughput rates of cohorts of math students who started at four, three, two, or one level below transfer, or directly at transfer level. The one-year throughput rates over the past four fall terms show improvement, growing from 26% in fall 2015 to 29% in fall 2017. During this timeframe, direct enrollment into transfer-level math increased only one percentage point between fall 2015 and fall 2016, grew another two percentage points between fall 2016 to fall 2017, and then grew four percentage points between fall 2017 to fall 2018. **These data suggest that more students are accessing transfer-level math courses due to an increase in *direct* transfer-level enrollment as opposed to improvements in throughput among students who started in basic skills math courses.**

Moreover, it is again worth noting the dramatic decrease in throughput rates when students begin the math sequence further and further away from transfer level. In the fall 2017 cohort, one-year throughput rates decline from 70% at transfer level to 22% among students who start one level below transfer. Students who start the math sequence at two or more levels below transfer see their throughput rates to be 3% or less. It should be noted that many students may only need to complete intermediate algebra for a local degree requirement; thus, their throughput rate would only be through one-level below transfer.

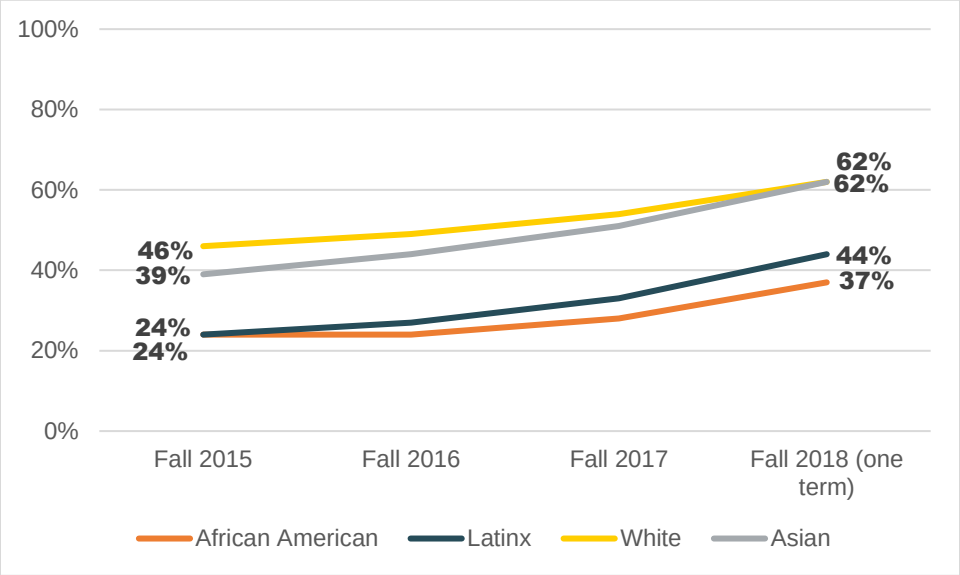
Table 17. Throughput Rates for All Transfer-Level Math

All Transfer-Level Math			
Term	**One Year Throughput Count (#)**	**Total Students**	**One-Year Throughput Rate (%)**
Fall 2018 cohort (one-term)	**41,598**	**160,335**	**26%**
Fall 2017 cohort (one-term)	**33,930**	**167,320**	**20%**
Fall 2017 cohort (one-year)	**48,975**	**167,320**	**29%**
Starting transfer-level	37,824	53,846	70%
Starting 1 level below	9,819	44,922	22%
Starting 2 level below	1,073	34,586	3%
Starting 3 level below	230	25,642	1%
Starting 4 level below	29	8,324	<1%
Fall 2016 cohort (one-term)	**30,096**	**165,420**	**18%**
Fall 2016 cohort (one-year)	**52,182**	**165,420**	**32%**
Starting transfer-level	34,535	46,163	75%
Starting 1 level below	13,289	44,120	30%
Starting 2 level below	3,493	36,374	10%
Starting 3 level below	777	28,385	3%
Starting 4 level below	88	10,378	1%
Fall 2015 cohort (one-term)	**27,796**	**163,309**	**17%**
Fall 2015 cohort (one-year)	**41,978**	**163,309**	**26%**
Starting transfer-level	30,935	42,436	73%
Starting 1 level below	9,669	42,579	23%
Starting 2 level below	1,177	38,048	3%
Starting 3 level below	177	28,905	1%
Starting 4 level below	20	11,341	<1%

Chart 16 on the following page presents the disaggregation of throughput rates for transfer-level English by ethnic group. The one-term throughput rates for the cohorts starting in fall 2015, 2016, 2017, and 2018 are plotted.

One-term throughput rates for all four racial/ethnic groups displayed are increasing, with throughput for Asian students increasing by 23 percentage points from fall 2015 to fall 2018, by 20 percentage points for Latinx students, 13 percentage points for African American students, and by 16 percentage points for White students. **However, despite the overall growth in one-term throughput success within each racial/ethnic group, at this point in time, gaps *between* the groups are not lessening.**

Chart 16. One-Term Throughput Rates for Transfer-Level English, Disaggregated by Ethnicity



Note: Unknown, Pacific Islander, Two or More Races and Native American are not plotted, but shown in Table 15.

Table 18 on the next page displays the number and percentage of students who completed transfer-level English within one term for four cohorts of students who started at any level of English course. The data are disaggregated by race/ethnicity, gender, and DSPS status. **Across the board, one-term throughput rates increased for all groups between fall 2017 and fall 2018.**

Table 18. One-Term Throughput Rates for Transfer-Level English, Disaggregated by Ethnicity, Gender, and DSPS Status

Student Group	English							
	Fall 2015		Fall 2016		Fall 2017		Fall 2018	
	#	%	#	%	#	%	#	%
Ethnicity								
Asian	7,752/ 19,695	39%	8,551/ 19,531	44%	10,129/ 20,030	51%	12,911/ 20,932	62%
African American	1,839/ 9,621	24%	2,236/ 9,444	24%	2,550/ 9,254	28%	3,296/ 8,918	37%
Latinx	19,022/ 80,431	24%	22,759/ 84,363	27%	28,845/ 87,555	33%	39,412/ 88,867	44%
Native American	227/ 809	28%	213/ 779	27%	278/ 751	37%	302/ 713	42%
Pacific Islander	166/ 798	21%	202/ 768	26%	266/ 802	33%	292/ 741	39%
Two or More	2,732/ 6,793	40%	3,111 /7,127	44%	3,367 /7,043	48%	4,087/ 7,248	56%
White	19,020/ 41,235	46%	20,025/ 40,909	49%	21,307/ 39,559	54%	24,435/ 39,145	62%
Unknown	2,533/ 6,734	38%	2,228/ 5,595	39%	3,114/ 7,052	44%	4,014/ 7,630	53%
Gender								
Female	28,320/ 85,850	33%	31,246/ 86,453	36%	37,747/ 89,081	42%	48,171/ 90,566	53%
Male	24,158/ 77,883	31%	26,967/ 79,215	34%	31,035/ 80,422	39%	39,204/ 80,999	48%
Other/Unknown	813/ 2,383	34%	1,112/ 2,848	39%	1,074/ 2,543	42%	1,374/ 2,640	52%
DSPS								
DSPS	341/ 1,793	19%	295/ 1,471	20%	418/ 1,809	23%	650/ 2,108	31%
Not DSPS	52,950/ 164,323	32%	59,030/ 167,045	35%	69,438/ 170,237	41%	88,099/ 172,097	51%

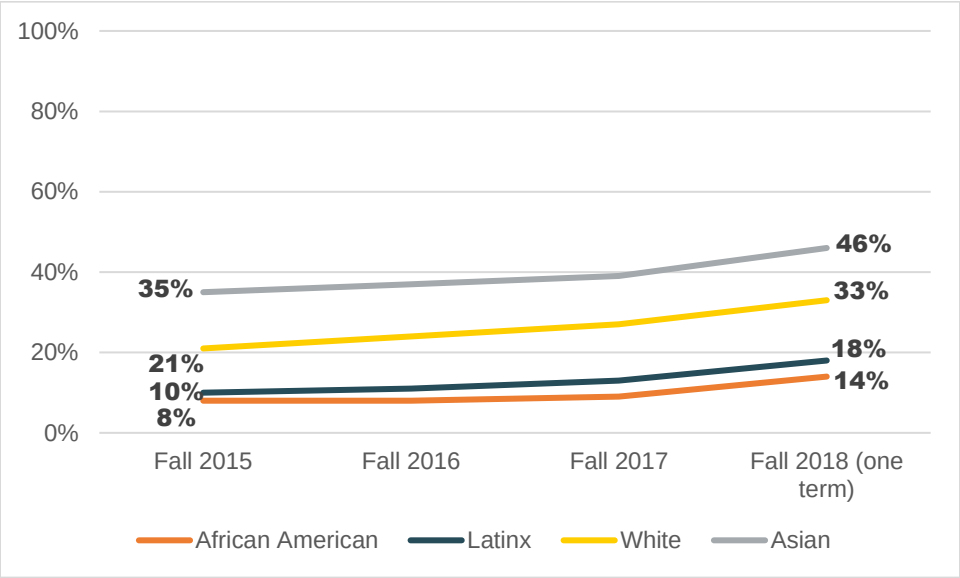
Note: Native American includes Native Alaskan. Pacific Islander includes Native Hawaiian.

Chart 17 on the next page presents the disaggregation of one-term throughput rates for transfer-level math courses by racial/ethnic group. Throughput rates increased from fall 2015 to fall 2018 by 12 percentage points for White students, 11 percentage points for Asian students, eight percentage points for Latinx students, and six percentage points for African American students.

Unfortunately, similar to transfer-level English, **transfer-level math continues to see an equity gap between Asian/White students and African American/Latinx students.** There is also an

equity gap between Asian and White students in transfer-level math that was not seen in transfer-level English.

Chart 17. One-Term Throughput Rates for Transfer-Level Math, Disaggregated by Ethnicity



Note: Unknown, Pacific Islander, two or more races, and Native American are not plotted, but shown in Table 16.

Table 19 on the next page displays the number and percentage of students who completed transfer-level math within one term for four cohorts of students. The data are disaggregated by race/ethnicity, gender, and DSPS status. **Throughput rates increased for all groups between fall 2017 and fall 2018.**

Table 19. One-Term Throughput Rates for Transfer-Level Math, Disaggregated by Ethnicity, Gender, and DSPS Status

Student Group	Math							
	Fall 2015		Fall 2016		Fall 2017		Fall 2018	
	#	%	#	%	#	%	#	%
Ethnicity								
Asian	7,453/ 21,109	35%	7,729/ 21,015	37%	8,228/ 20,842	39%	9,673/ 21,071	46%
African American	712/ 8,939	8%	738/ 8,789	8%	804/ 8,747	9%	1,113/ 7,879	14%
Latinx	7,812/ 77,603	10%	9,069/ 81,593	11%	10,882/ 83,865	13%	14,613/ 79,930	18%
Native American	72/715	10%	64/714	9%	85/656	13%	84/599	14%
Pacific Islander	70/764	9%	76/736	10%	113/ 735	15%	128/ 659	19%
Two or More	1,256/ 6,606	19%	1,442/ 6,896	21%	1,663/ 6,802	24%	2,046/ 6,648	31%
White	8,736/ 40,722	21%	9,499/ 39,746	24%	10,318/ 38,518	27%	11,931/ 36,311	33%
Unknown	1,685/ 6,851	25%	1,479/ 5,928	25%	1,837/ 7,155	26%	2,010/ 7,202	28%
Gender								
Female	13,407/ 83,541	16%	14,340/ 84,239	17%	16,826/ 85,267	20%	21,177/ 81,808	26%
Male	13,977/ 77,362	18%	15,228/ 78,459	19%	16,551/ 79,607	21%	19,704/ 76,135	26%
Other/Unknown	412/ 2,406	17%	528/ 2,722	19%	553/ 2,446	23%	717/ 2,392	30%
DSPS								
DSPS	116/ 1,677	7%	117/ 1,432	8%	163/ 1,684	10%	204/ 1,725	12%
Not DSPS	27,680/ 161,632	17%	29,979/ 163,988	18%	33,767/ 165,636	20%	41,394/ 158,610	26%

Note: Native American includes Native Alaskan, Pacific Islander includes Native Hawaiian.

Limitations of These Findings

There are several limitations to this study that are important to keep in mind when analyzing its findings. First, this is a snapshot in time and can only be applied to what was happening within the system during the timeframe of analysis. Further, at the time of publication, only fall 2018 data were available, making it impossible to calculate one-year throughput rates for the 2018-19 academic year, resulting in only one-term throughput rates. Second, this study looked only at transfer-level math courses, which excludes intermediate algebra, a course that can be used to satisfy local degree requirements.

Additionally, while the researchers attempted to capture math courses offered outside of the math top code, we cannot be 100% sure that every single relevant course was included. Moving forward, new data elements will be available that will help with the identification of additional courses in other TOP codes that meet transfer requirements. The ability to include support courses will also be possible in the future due to the inclusion of a new MIS data element designed to identify support courses.

Lastly, we do not know exactly what colleges were doing in fall 2018 that resulted in a substantial increase in access to transfer-level English and math courses. As noted earlier, a number of initiatives are now underway, including but not limited to AB 705. Implementation of Guided Pathways, the Student-Centered Funding Formula, and/or other efforts could be contributing to the changes discussed in this report, particularly those that took place between fall 2017 and fall 2018. As such, this study is intended only to better understand the statewide landscape as it pertains to access, enrollment, success, and throughput in transfer-level English and math courses.

Conclusion

Now that the full implementation of AB 705 has arrived, community colleges across California have implemented approaches to assessment and placement that align with the mandates of the new law. As such, while this report examines changes in student outcomes that have taken place from fall 2015 to fall 2018, it also **focuses in particular on substantial movement that took place between 2017 and 2018, when colleges began rolling out AB 705-related strategies** as well as reforms to align with other initiatives, such as Guided Pathways, acceleration, and the Student-Centered Funding Formula.

By looking at trends over the past four years as well as any changes that occurred specifically in 2017-18, this report seeks to provide insight into the potential impact of AB 705 on both CCCs and their students. While the information in this report represents only early indications, it nonetheless offers an encouraging preview of changes to access, enrollment, and student success that could have a powerfully positive impact on CCC students.

Access and Enrollment

This research shows that there have been shifts in access and enrollment when comparing fall 2018 to the prior four fall terms. Perhaps unsurprisingly, as colleges have responded to an environment in which assessment processes and/or student supports have been adapted to new information and legislation, **access to transfer-level coursework sharply increased from fall 2017 to fall 2018.** Specifically, in fall 2018, access to and enrollment in transfer-level English and math courses as students' first course in the discipline increased among all racial/ethnic groups **at the greatest rate over the past four fall terms**.

Furthermore, **in transfer-level English, there are signs of the narrowing of equity gaps between African American and Latinx students** relative to Asian and White students. However, **racial/ethnic gaps have not narrowed in transfer-level math courses.**

Success and Performance

Students who would have in the past been assigned to developmental education are now enrolling directly into transfer-level classes. Some concern about the impact of this increased access on student success is of course natural. However, **student success across a number of indicators largely remained unchanged despite the influx of students into transfer-level coursework.**

For example, it is particularly interesting to note that the percentage of W (withdraw) grades received increased only one percentage point from fall 2015 to fall 2018, from 11-12%. It would have been reasonable to expect that with more students being placed directly into transfer-level English rather than basic skills courses, withdrawals would increase at a higher rate as a greater proportion of students found themselves unprepared for the rigor of transfer-level coursework. However, these results indicate **that even as students are being placed directly into transfer-level English at a higher rate, they are not withdrawing from the courses any more frequently than they were under the previous placement system.** Moreover, this increased persistence **has not resulted in large increases in Ds and Fs**, another outcome that might have been previously anticipated; rather, the percentage of students receiving Ds and Fs has stayed within two percentage points from fall 2017 to fall 2018.

Furthermore, when comparing fall 2018 to prior fall terms, the volume of grades by letter mark has remained within the bounds of what prior modeling had suggested. **Overall, we have observed small drops in success rates paired with large gains in access and throughput rates.** This pattern holds for both transfer-level English and math courses.

Throughput

When comparing students in each fall term who start at any level English or math course and successfully complete transfer-level English and math in one term,[12] **throughput rates are improving as more students are being directly placed into transfer-level in fall 2018 than in prior terms.** While the majority of ethnic groups saw an increase in throughput rates between fall 2017 and fall 2018, gaps between racial/ethnic groups persist at similar rates.

Persistent Equity Issues

While the data in this report are encouraging across various indicators, one area that needs continued attention is differences between racial/ethnic groups. **Despite gains across all racial/ethnic groups in terms of access to and success in transfer-level courses, equity gaps between those groups persist, especially in math courses.** As colleges move forward with full implementation of AB 705, it will be critical to keep a close eye on equity, continuing to measure gaps between student groups and focus both attention and resources on closing those gaps.

[12] Data limitations allowed for the calculation of only a one-term throughput, rather than one-year.

Next Steps and Implications

As more data become available, local as well as statewide analyses should survey the various approaches colleges are taking to support students both in and out of the classroom. Throughput data, disaggregated by high school performance band, will be extremely valuable in comparing how a particular support or curricular structure is working with specific student groups. Increased attention should be paid to students in the middle and lowest GPA bands—who are often from underrepresented groups—to ensure that the innovative supports directed to these students is being effective at increasing the completion of transfer-level English composition and math within one year.

Moreover, instructional and counseling faculty and academic deans should work collaboratively with their institutional research, planning, and effectiveness offices, engaging in discussions around how the data is reflecting on the performance of current processes and practices. Colleges need to continue to monitor additional outcomes including subsequent course success rates as well as other short-term (e.g., course success, throughput rates, next course success, enrollment trends, financial aid, academic standing) and long-term outcomes (e.g., degree, transfer and employment).

Given the limitations of this study in being able to assess only the early innovations and efforts in curricular and support structures, students still appear to be benefitting from changes to policies and practices such that a larger number of students are accessing and completing transfer-level courses, as required by AB 705. Continued work needs to roll out these changes across the system and close long-standing racial/ethnic gaps with regards to access and success.

Research and Planning Group for California Community Colleges

The RP Group strengthens the ability of California community colleges to discover and undertake high-quality research, planning, and assessments that improve evidence-based decision-making, institutional effectiveness, and success for all students.

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Appendix A

Table 20. Enrollment in Transfer-Level SLAM of Students Whose First Enrollment in the Discipline Is at Transfer Level

SLAM			
Term	**Total Students in SLAM (#)**	**Total Enrollment in Transfer-Level Math (#)**	**Percent in SLAM Math (%)**
Fall 2015	25,149	42,436	38%
Fall 2016	26,464	46,163	40%
Fall 2017	29,113	53,846	43%
Fall 2018	34,577	69,000	48%

Table 21. Enrollment in Transfer-Level B-STEM Math of Students Whose First Enrollment in the Discipline Is at Transfer Level

B-STEM Math			
Term	**Total Students in B-STEM Math (#)**	**Total Enrollment in Transfer-Level Math (#)**	**Percent in B-STEM Math (%)**
Fall 2015	15,994	42,436	59%
Fall 2016	18,347	46,163	57%
Fall 2017	23,049	53,846	54%
Fall 2018	33,003	69,000	50%

Note: B-STEM refers to math for business, science, technology, engineering, and mathematics fields of study. SLAM refers to statistics and liberal arms math.

Table 22. Enrollment in Transfer-Level SLAM of Students Whose First Enrollment in the Discipline Is at Transfer Level, Disaggregated by Ethnicity

	SLAM							
	Fall 2015		Fall 2016		Fall 2017		Fall 2018	
	#	%	#	%	#	%	#	%
Ethnicity								
Asian	2,873	14%	3,074	15%	3,520	17%	4,620	22%
African American	663	7%	711	8%	908	10%	1,332	17%
Latinx	5,659	7%	7,079	9%	9,637	12%	15,123	19%
Native American	59	8%	50	7%	71	11%	98	16%
Pacific Islander	60	8%	61	8%	101	14%	148	22%
Two or More	802	12%	894	13%	1,158	17%	1,603	24%
White	5,127	13%	5,719	14%	6,599	17%	8,633	24%
Unknown	751	11%	759	13%	1,055	15%	1,446	20%
Gender								
Female	9,369	11%	10,721	13%	13,748	16%	19,784	24%
Male	6,364	8%	7,312	9%	8,919	11%	12,689	17%
Other/Unknown	261	11%	314	12%	382	16%	530	22%
DSPS Status								
DSPS	75	4%	75	5%	122	7%	198	11%
Not DSPS	15,919	10%	18,272	11%	22,927	14%	32,805	21%

Note: Native American includes Native Alaskan, Pacific Islander includes Native Hawaiian. Cells present the number and percentage of students in a given cohort with a given characteristic who first enrolled in a transfer-level math/English course.

Table 23. Enrollment in Transfer-Level B-STEM Math of Students Whose First Enrollment in the Discipline Is at Transfer Level, Disaggregated by Ethnicity

	B-STEM Math							
	Fall 2015		Fall 2016		Fall 2017		Fall 2018	
	#	%	#	%	#	%	#	%
Ethnicity								
Asian	7,026	33%	7,119	34%	7,364	35%	8,352	40%
African American	588	7%	657	8%	712	8%	950	12%
Latinx	7,353	9%	8,121	10%	9,730	12%	12,523	16%
Native American	60	8%	62	9%	84	13%	86	16%
Pacific Islander	66	9%	81	11%	95	13%	104	16%
Two or More	1,140	17%	1,342	19%	1,383	20%	1,709	26%
White	7,358	18%	7,770	19%	8,115	21%	9,163	25%
Unknown	1,558	23%	1,313	20%	1,590	23%	1,690	23%
Gender								
Female	9,399	11%	9,700	12%	11,161	13%	13,562	17%
Male	15,351	20%	16,272	21%	17,493	22%	20,427	27%
Other/Unknown	399	17%	492	18%	459	19%	588	25%
DSPS Status								
DSPS	137	8%	107	7%	144	9%	206	12%
Not DSPS	25,012	16%	26,357	16%	28,969	18%	34,371	22%

Note: Native American includes Native Alaskan, Pacific Islander includes Native Hawaiian. B-STEM refers to math for business, science, technology, engineering, and mathematics fields of study. SLAM refers to statistics and liberal arts math. Cells present the number and percentage of students in a given cohort with a given characteristic who first enrolled in a transfer-level math/English course.