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Math & English Completion in light of AB705 & COVID19: Fall 2020

College of the Canyons

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COLLEGE OF THE CANYONS

Table of Contents

Table of Figures

Tables

Introduction & Background

Effective fall 2019, the math and English departments implemented changes in placement and course offerings in compliance with AB-705[1]. As part of the evaluation of the impact of AB705 on outcomes related to Math, the office of Institutional Research, Planning and Institutional Effectiveness conducted analyses examining completion of Math and English, transfer-level courses respectively, and combined in fall 2020, the second fall-term of AB705 implementation.

The results of these analyses have broad implications as early completion of transfer-level math & English is also a metric in the Student Centered Funding formula (SCFF)[2], Student Equity and Achievement (SEA) [3]Plan and as a leading indicator for overall student completion. The metric used in this report is not directly aligned with the SCFF and SEA metrics since they use completion of transfer-level courses within a 1-year time frame and the analyses in this report examine one-semester completion. The metric used here then serves as a leading indicator of the CCCCO defined measure.

The following research questions guided these analyses:

- How did changes in light of AB705 affect placement rates, transfer-level course success rates and one-term throughput rates in fall 2020 in comparison to previous fall terms?
- How did these effects vary by race/ethnicity?

Method

Placement data were closely monitored through monthly reports that were obtained through the Assessment Center. For a period of approximately 6-8 months, between January and August for various years leading up to, and two-years post AB705 implementation. The grades report and demographics reports from Informer and referential files (usx and ust) for fall 2020) were used to obtain enrollments, grades for success and retention and to calculate throughput rates. Additionally, these outcomes were further disaggregated (e.g., those who 'newly placed' vs. others in the same course, demographics, etc.).

Results

AB705 Impact on English

Student Placement

College of the Canyons efforts of addressing placement gaps preceded the fall 2019 AB705 mandate. In fall 2020, data were collected and assessed one year after the implementation of AB705, with continued placement to all students into the entry transfer-level ENGL-101 course and no below-transfer courses were offered. A separate, optional, noncredit support course was also offered. The new redesigned (fall 2019) ENGL-101 course, in addition to adding class time had included changes

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[1] AB 705 is a bill signed by the Governor on October 13, 2017 that took effect on January 1, 2018. The bill requires that a community college district or college maximize the probability that a student will enter and complete transfer-level coursework in English and math within a one year timeframe.

[2] Student Centered Funding Formula (SCFF), "A student success allocation based on outcomes that include the number of students earning associate degrees and credit certificates, the number of students transferring to four-year colleges and universities, the number of students who complete transfer-level math and English within their first year, the number of students who complete nine or more career education units and the number of student who have attained the regional living wage." https://www.cccco.edu/About-Us/Chancellors-Office/Divisions/College-Finance-and-Facilities-Planning/Student-Centered-Funding-Formula

[3] Student Equity and Achievement https://www.canyons.edu/_resources/documents/administration/irpie/ie2/seaplan/seaexecsummary-real.pdf

to the curriculum (i.e. incorporating metacognition). Rates of placement into transfer-level English are provided in Figure 1, indicating the continued elimination of disproportionate impact when it comes to placement into transfer-level courses. As with the fall prior (2019), 100% of students were placed into transfer-level English in fall 2020.

Figure 1. Percent Placing into Transfer-Level English by Race/Ethnicity
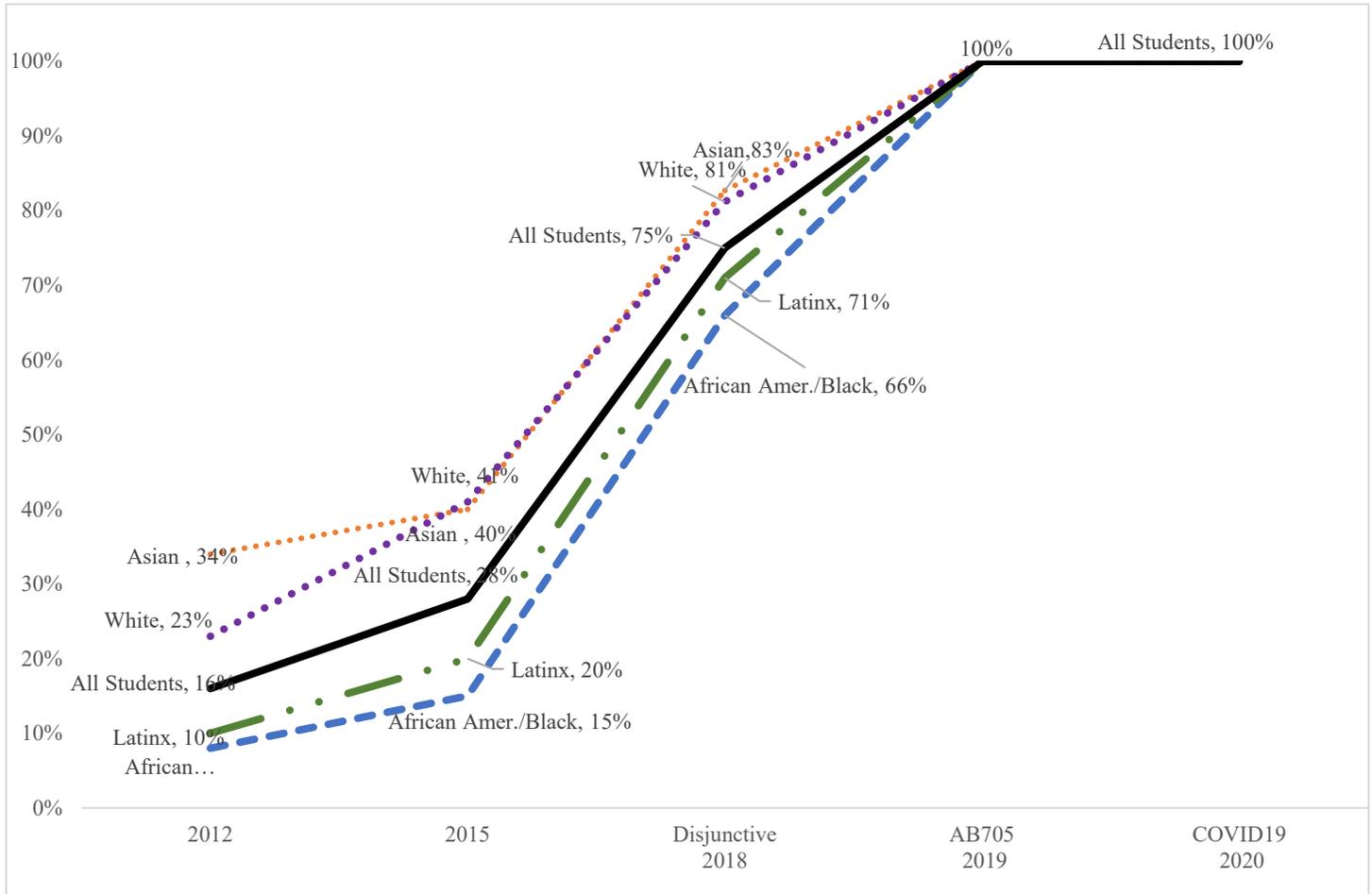
Student Success & Retention in English 101

The overall success rate for English Composition (ENGL-101, entry-level Transfer) has decreased between 2017-2020 (76% versus 63%) (Figure *2*). However, the number of students who enrolled into and successfully passed the transfer-level course (n = 1,784) was a 38% increase over that of 2017. Notably, in fall 2020 while the college (and most colleges) experienced decreases in their enrollments (-7.6% at COC) the number of students who enrolled into transfer-level English 101 course was (N = 2,852) the largest in the past four fall terms. This was a 67% increase in the number of students enrolled into transfer-level than when placement was based on Accuplacer (2017) despite the challenges of COVID-19. Retention rates declined slightly during the period 2017-2020: from 87% in fall 2017 to 81% in fall of 2020. This is to be expected given the challenges presented to students during COVID-19 and the moving of all classes to an online environment and the resulting increase in EWs (excused withdrawals).

Figure 2. Success in ENGL-101 (entry-level, transfer) fall 2017-2020
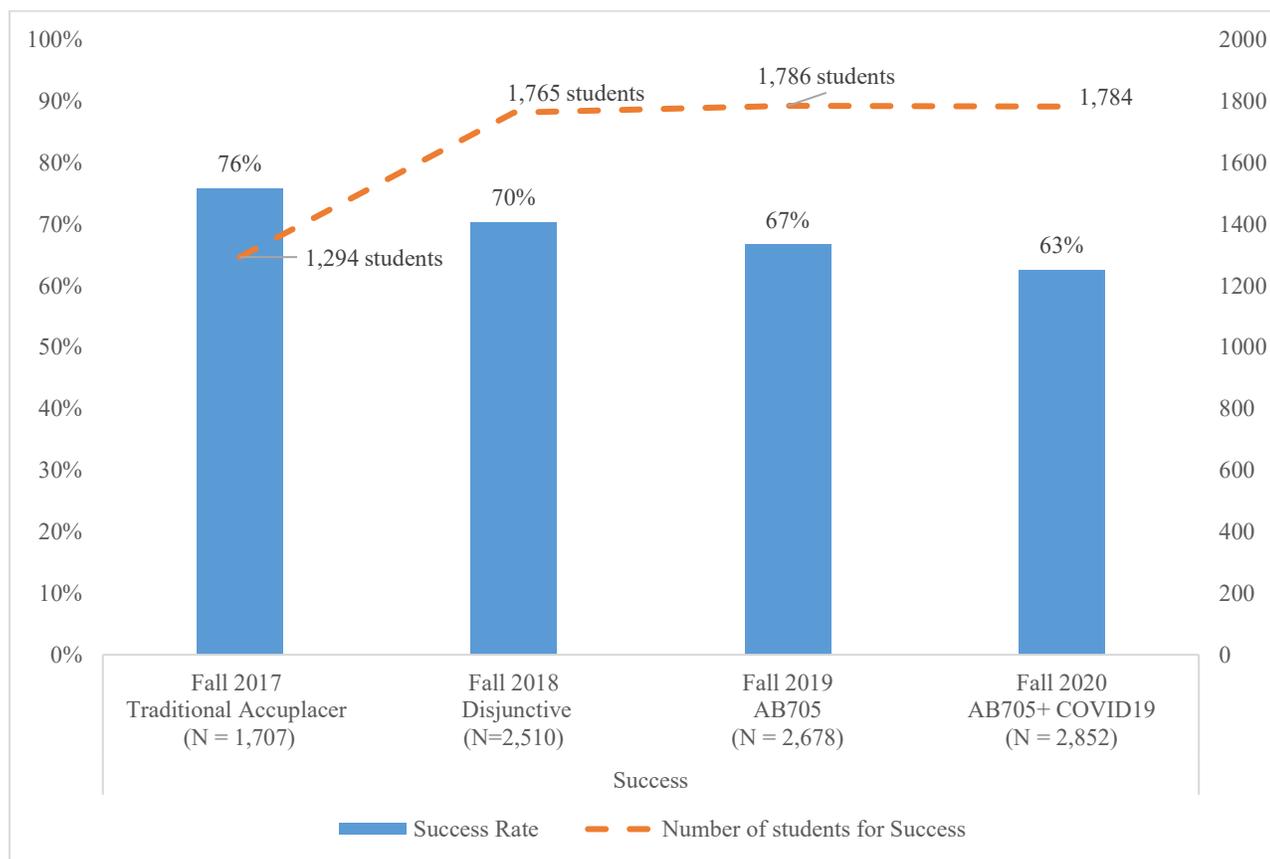
Table 1. English Transfer-level Course Summary Data fall terms 2018 through 2020

	Composition ENGL 101*			ENGL 103/H & higher		
	2018	**2019**	**2020**	**2018**	**2019**	**2020**
Sections	78	89	91	54	56	50
Enrollment (N)	2,510	2,678	2,852	1,349	1,345	1,401
Success (%)	70%	67%	63%	79%	76%	71%
Retention (%)	85%	85%	81%	89%	86%	84%

*Below-transfer English courses were not offered starting in fall 2019.

Analysis of the number of students who enrolled into a Noncredit English course in fall 2020 revealed a total of 58 students, just four more students than in fall 2019. Of these 58 students 21 (36%) were enrolled receiving support for ENGL-101. Of those students receiving Noncredit support for ENGL-101, 13 students (62%) successfully passed the ENGL-101 course at the end of the fall 2020 semester. This mirrored the overall course success rate for ENGL-101 for the fall 2020 semester.

English Throughput in One Semester

Throughput data was examined for the fall 2020 term in comparison to the previous 3 fall terms, starting with a baseline of 2017 before disjunctive placement were implemented. Throughput is defined as the percentage of newly-assessed[4] students who completed at least one transfer-level English course in the fall term. The throughput rate for the 2020 fall term was 3% points lower than the term prior (fall 2019) however, was 30% points greater than in 2017 – a 79% increase in throughput over three years (Figure 3).

Figure 3. One Semester Transfer-level English completion among New students by year (fall 2017-2020)*
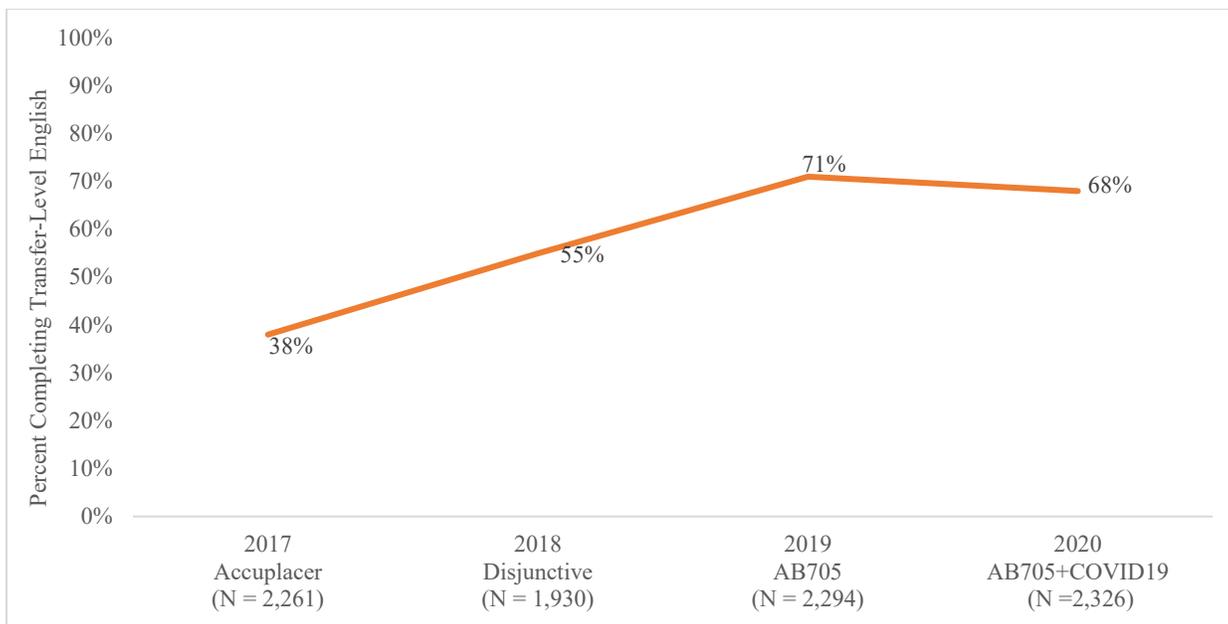
*Percentage is out of students who assessed and enrolled in their first English course in the given fall term and indicates completion of ENGL-101 or a higher course.

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[4] Newly-assessed students are those who assessed in the given year. Although this group is largely composed of first-time students entering the college, it is not limited to them, and also includes students who were given the eligibility to re-assess.

Figure 4. One Semester Transfer-level English Completion among New Students by Year and Race/Ethnicity
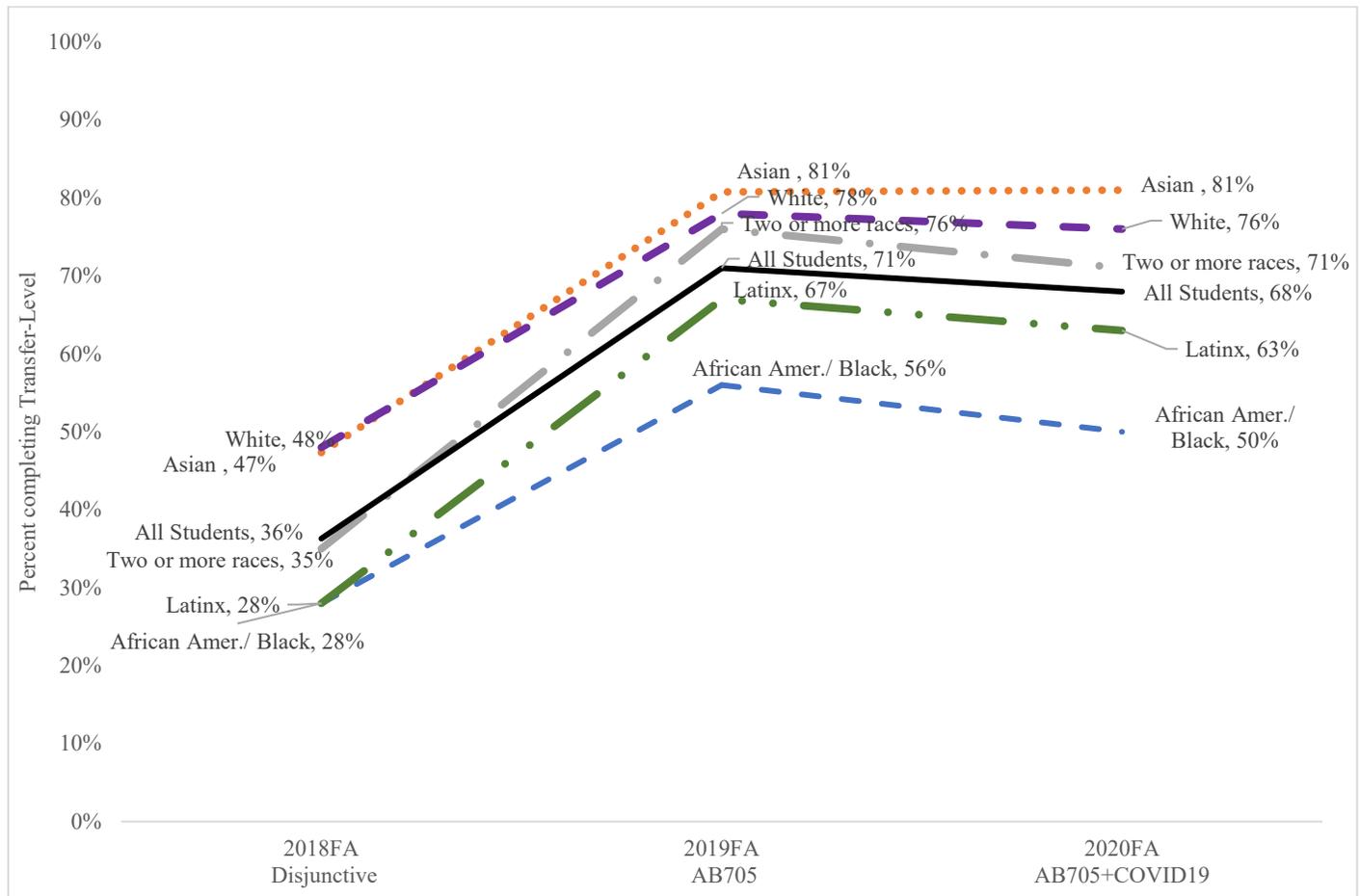
Disproportionate Impact in English

Disaggregating throughput rate by race/ethnicity showed that rates of transfer-level completion in English increased for all groups substantially (Figure 5). Disproportionate impact (D.I.) analyses using the 80% of 'other' measure indicated that the gap was significantly reduced for previously identified D.I. groups (i.e. African American/Black students' rate was further from the 80% benchmark in 2017 and increased to 79% in 2019). Among Latin/o/a/x students disproportionate impact with regard to throughput in English was eliminated (Table 2).

Table 2. Disproportionate Impact by Race/Ethnicity for English Throughput 2017-2020

	80% of Overall			80% of Other[5]		
	2017FA Accuplacer	2019FA AB705	2020FA AB705+ COVID19	2017FA Accuplacer	2019FA AB705	2020FA AB705+ COVID19
African American/Black	**76%**	**79%**	**74%**	**75%**	**79%**	**75%**
Asian	132%	114%	119%	120%	115%	123%
Latino/a/x	**78%**	94%	93%	**63%**	88%	85%
White	131%	110%	112%	151%	112%	116%
Two or more races	97%	107%	105%	97%	108%	105%

AB705 Impact on Math

Student Placement

The math department at College of the Canyons began implementing disjunctive placement in 2016 where students were given a SLAM (statistics and liberal arts math) placement and a B-STEM placement based on their self-reported high school record. This change yielded a significant increase in the number of students placing into transfer-level courses in comparison to 2015 when placement was largely based on the placement exam Accuplacer. Figure 5 provides the trend data for placement in Transfer-level by Race/ethnicity.

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[5] Since Latino/a/x- identifying students represent the largest group in the overall student population, the 80% of 'Other' measure was used to assess disproportionate impact when the group's rate is removed and compared to the rate of all other race/ethnicity groups, combined.

Figure 5. Percent Placing into Transfer-level Math by Race/ethnicity
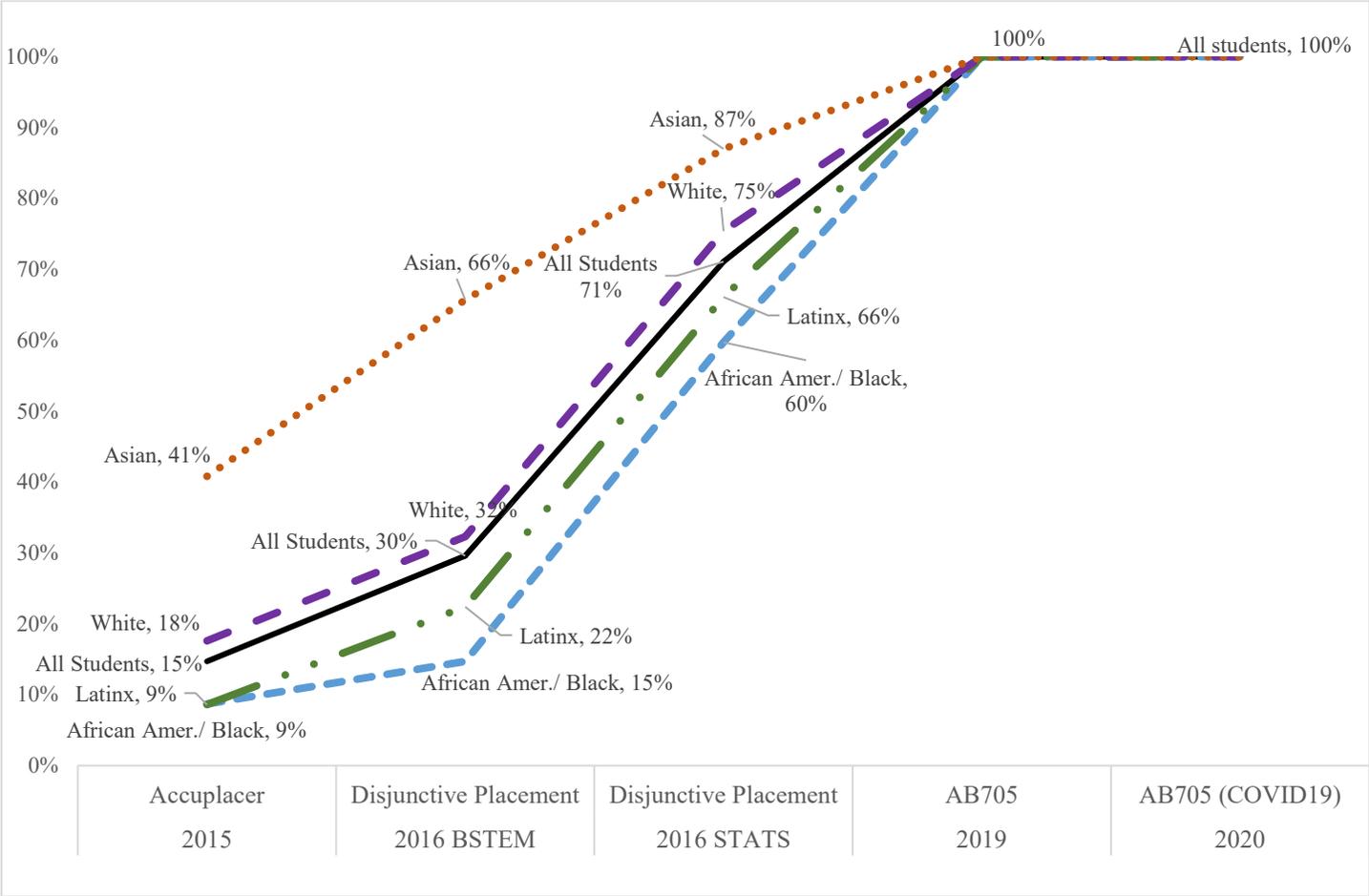
Student Retention & Success in Math

Overall course success rates in transfer-level math (Figure 6) decreased slightly from the fall 2016 to fall 2020 (70% versus 66%), however the number of students who completed math in their first semester increased 26%, from 1,934 to 2,436.

Figure 6. Success in Transfer-level Math* 4 fall terms
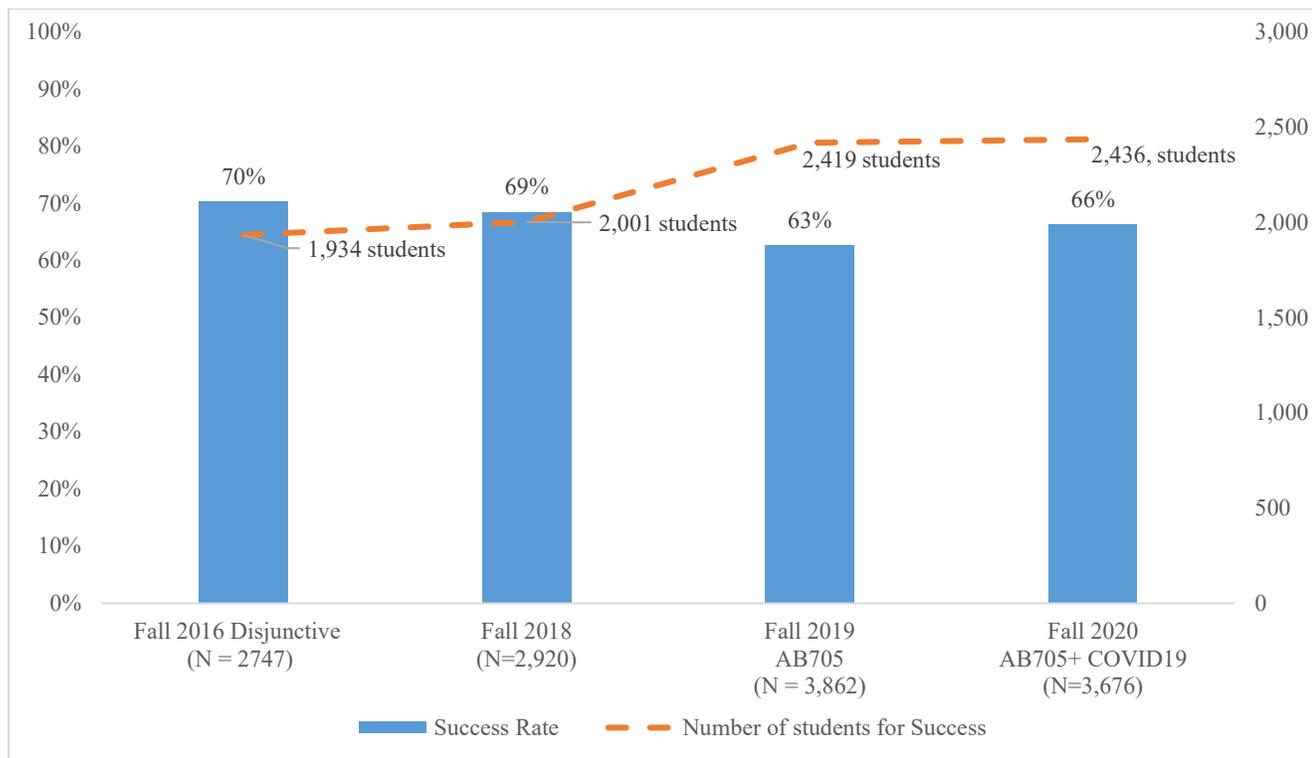
*Excludes Math-111/130/140H due to 2 or fewer sections offered in these courses.

Success and retention rates for *entry-level* math transfer courses by pathway (Table 3), and below-transfer-level courses (Table 4) were compared from fall 2018 through fall 2020. First, with AB705, enrollment in below-transfer courses continues to be less than one-fourth the size of the enrollment in below-transfer-level courses in the prior fall terms. Moreover, success and retention rates in below-transfer-level courses increased in the second fall term (fall 2020) in comparison to fall 2019 (success 39% vs. 49% and retention 68% vs. 72%).

Similarly, for transfer-level courses in the B-STEM pathway, success and retention rates were substantially lower in the first AB705 term (fall 2019) in comparison to the previous fall term and increased in the second AB705 fall term (success rates where 66% vs. 42% vs. 70% respectively) and (retention rates where 82% vs. 64% vs. 83% respectively). Transfer-level courses in the Liberal Arts Pathway success rate was slightly lower (77% vs. 72% vs. 67% respectively) and retention remained similar.

Another highlight is the course enrollment history; for B-STEM there was a 17% increase (from 573 to 671 students) and Liberal Arts/Statistics saw a 57% increase in student enrollment (from 1195 to 1878) over the same three fall terms. Similarly, the below transfer enrollments decreased by 77%, from 2,546 to 575.

Table 3. Math Transfer-level Course Summary Data fall terms 2018 through 2020

	B STEM[1]			Liberal Arts[2]			Other[3]		
	2018	2019	2020	2018	2019	2020	2018	2019	2020
Sections	19	25	24	39	63	57	36	37	37
Enrollment (N)	573	687	671	1195	1977	1878	1152	1198	1127
Success (%)	66%	42%	70%	77%	72%	67%	61%	59%	63%
Retention (%)	82%	64%	83%	88%	87%	85%	78%	72%	80%

*Excludes courses with fewer than 2 sections offered in the fall term. MATH-130 had 1 section in fall 19 and had two sections in fall 2020, MATH-130 was excluded for comparison across fall terms.
1. B-STEM courses are limited to entry-level, transfer courses (Trigonometry and College Algebra)
2. Liberal Arts Math includes entry-level, transfer courses (Statistics and Liberal Arts Math)
3. Other (PreCalc, Calc I-III, Diff.Eq, Linear Alg., Math Analysis)

Table 4. Math Below-Transfer Course Summary Data fall terms 2018 through 2020

	Below Transfer Courses*		
	2018	2019	2020
Sections	88	29	21
Enrollment (N)	2,546	638	575
Success (%)	53%	39%	49%
Retention (%)	79%	68%	72%

*Below-transfer includes Pre-Alg. (MATH-58), Elem. Alg. (MATH-60)., Interm.Alg. (MATH-70), Interm.Alg. for Statistics (MATH-075), Geometry (MATH-080)

Math Throughput in One Semester

Throughput data was examined for the fall 2020 term in comparison to three previous fall terms dating back to when Accuplacer was used (2015), followed by disjunctive placement (2016), then AB705 implementation (2019), and AB705 second fall term when due to COVID19 the college transitioned to all courses being taught in an online format.

Throughput is defined as the percentage of newly-assessed[6] students who completed at least one transfer-level math course in the fall term. The throughput rate was the highest in the 2020 fall term, slightly higher than the previous fall term (63% vs. 57% in 2019) In comparison to 2015, this was an increase of 49 percentage points among newly placed students over fall 2015 term (Figure 7). This represents a 350% increase over the five year period.

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[6] Newly-assessed students are those who assessed in the given year. Although this group is largely composed of first-time students entering the college, it is not limited to them, and also includes students who were given the eligibility to re-assess.

Figure 7. One Semester Transfer-level Math completion among New students* by year (fall 2015-2020)
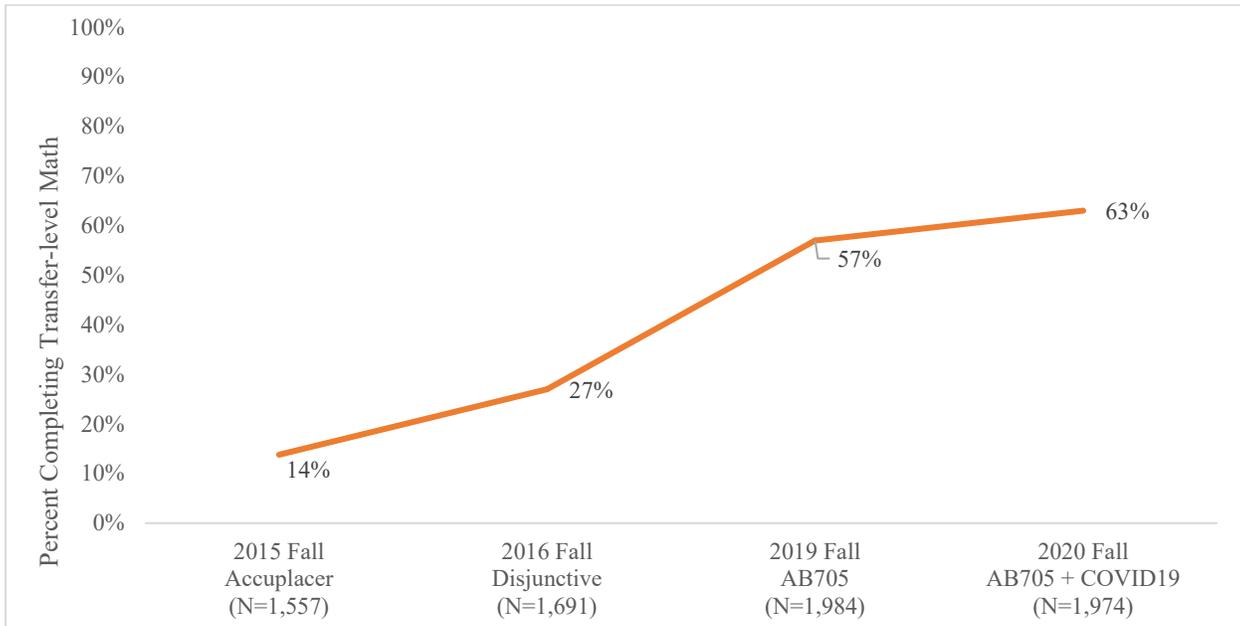
*Percentage is out of students who assessed, and enrolled in their first math course in the given fall term.

Disaggregating throughput by race/ethnicity showed that rates of transfer-level completion in math increased for all groups (Figure 8) from fall 2019 to fall 2020. Throughput among Latino/a/x, Asian and White students increased modestly (by 4 to 8 percentage points) respectively, and slightly increased among African American/Black students (by 3 percentage points). However, when you compare fall 2016 (disjunctive placement) and 2020, the increase is substantial across all groups, with an average increase from 27% to 63% or a 133% increase. For Black students over the same period of time, the throughput increased from 14% to 46% or a 229% increase.

Figure 8. One Semester Throughput: Transfer-level Math Completion among New Students by Year and Race/Ethnicity
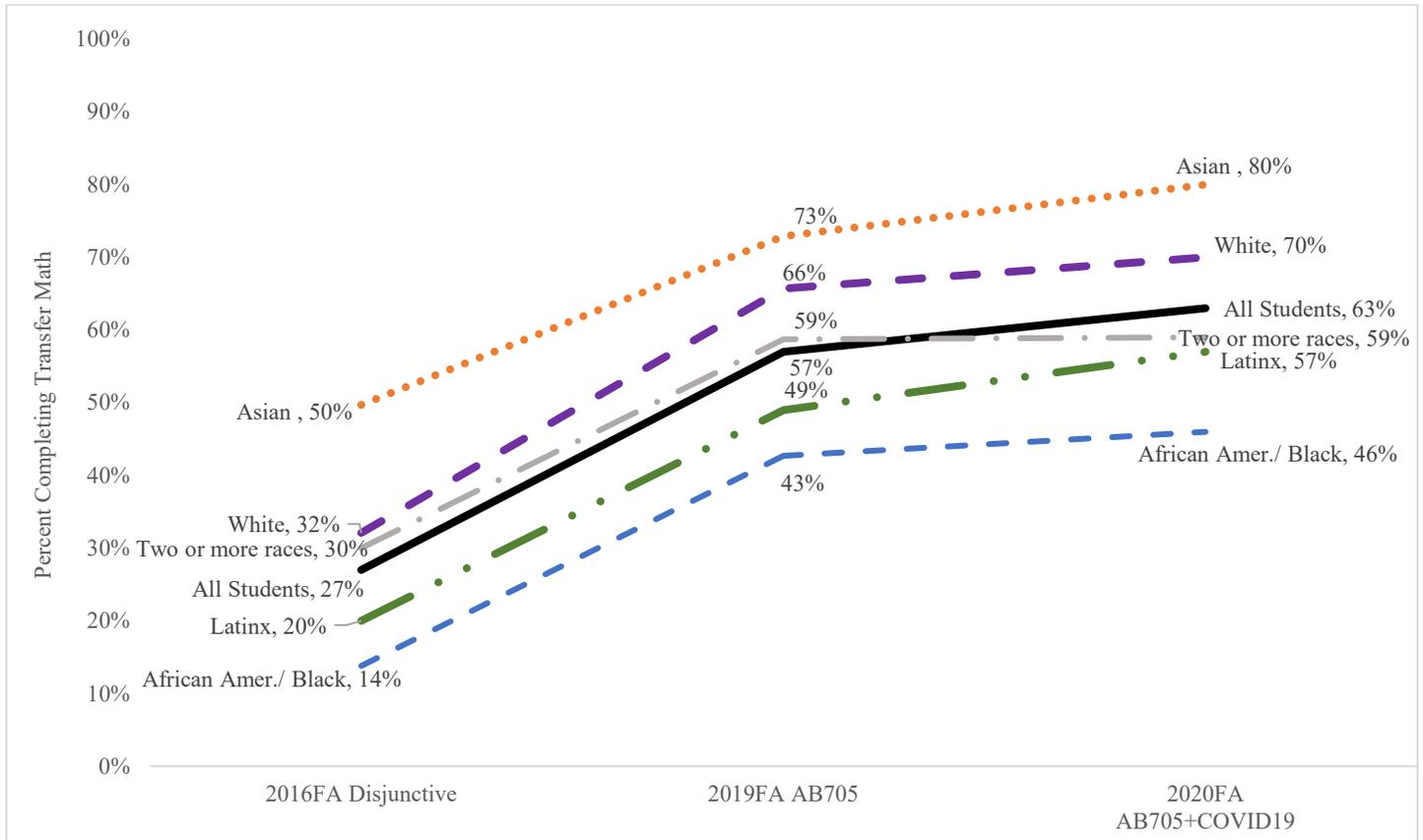
Disproportionate Impact in Math

Disproportionate impact (D.I.) analyses using the 80% benchmark indicated that the gap was significantly reduced for previously identified D.I. groups (i.e. African American/Black students and Latino/a/x students) (Table 4.). In 2016, African American/Black students' rate was at 50% of the 80% benchmark, and increased to 74% of the 80% benchmark in 2019, and remained similar at 73% of the benchmark in 2020. This represents a 77% decrease in the DI gap, from 30 percentage points to 7 below the 80% threshold. Among Latino/a/x students, disproportionate impact for throughput in math was also substantially reduced between 2016 and 2019, and eliminated in 2020.

Table 5. Disproportionate Impact for Throughput in Math by Race/Ethnicity

	80% of Overall			80% of Other[7]		
	2016FA Disjunctive	2019FA AB705	2020FA AB705+ COVID19	2016FA Disjunctive	2019FA AB705	2020FA AB705+ COVID19
African American/Black	**50%**	**75%**	**73%**	**49%**	**74%**	**73%**
Asian	181%	127%	127%	199%	133%	132%
Hispanic/Latino/a/x	**73%**	86%	91%	**59%**	**77%**	82%
White	117%	115%	111%	125%	119%	115%
Two or more races	111%	102%	94%	112%	103%	93%

Red/Orange/Bold indicates disproportionate impact (<80% benchmark)

AB705 Impact on Math & English: One Semester Throughput in both Subjects

Another measure included in the analyses on the impact of AB705 was the number of students who complete both math and English transfer-level in their first fall term after enrolling in both. One drastic change over the fall 2019 year was the number of first-time students who enrolled in *both* Math and English in fall 2020 decreased substantially from prior fall terms. One contributing factors in light of the pandemic (COVID19) and transition to remote operations was the major 63.3% decline in the number of first-time students enrolling at the college in general in fall 2020.

Table 6. First-time student enrollment in both Math & English in fall terms

	2017 FA	2018 FA	2019 FA	2020 FA	Change over 2019
All Enrolled-headcount*	17,557	17,395	17,266	16,580	-4.1%
First-time Student**	3,173	3,338	3,753	1,377	**-63.3%**
Enrolled in Math *and* English	1,452	1,378	1,131	388	**-65.7%**
Percent of first-time enrolling in Math & English	45.8%	41.3%	30.1%	28.2%	-6.3%

*usx enrollment file, excludes ISAs, includes Non-credit enrollments
**first-time status is determined based on the sb15=1 referential code

The throughput rate, consisting of the number of students who complete both math and English out of all who enroll in both in the given fall term, changed from 25% pre AB705 to 48% post AB705, and decreased slightly to 38% COVID19 fall term. Table 4 provides the rates for three terms indicating placement changes that were in effect during that term. As of fall

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[7] Since Latino/a/x- identifying students represent the largest group in the overall student population, the 80% of 'Other' measure was used to assess disproportionate impact when the group's rate is removed and compared to the rate of all other race/ethnicity groups, combined.

2020, more than one-third (37%) of students who enroll in both Math and English in their first-term, do not complete either transfer-level course.

The dip in the rate for completing both transfer-level Math and English is also driven by the increase in the number of Ws and EWs in English courses between fall 2019 and fall 2020 over the same time period of online instruction due to COVID19 (581 in fall 2019 and 902 in fall 2020).The rate of EWs, and Ws for English did not change as much from fall 2018 to 2019.

Table 7. Math and English Transfer-level Completion among First-time[1] students who enrolled in both Math & English

	Fall 2017	Math Disjunctive, English Accuplacer	Fall 2018	English and Math Disjunctive	Fall 2019	AB705	Fall 2020	AB705 + COVID19
	N	Percent	N	Percent	N	Percent	N	Percent
Completed both Transfer Math & English	**139**	**14%**	**281**	**25%**	**363**	**48%**	**143**	**38%**
Completed Transfer English only	150	15%	374	34%	162	22%	65	17%
Completed Transfer Math only	94	9%	30	3%	52	7%	25	7%
Did not complete either	622	62%	420	38%	175	23%	139	37%
Total[1]	1,005		1,105		752		372	

1. Out of students who were enrolled in both English and math courses, and the fall term was the student's first-term ever (limited to enrollment in 'credit' courses). This is a more conservative parameter than the data with regard to "New" students in prior sections of this report. Excludes students who complete PSYCH-104 and SOCI-137 (Statistics in Social Sciences courses).

Summary of Findings

- Increased access to transfer-level courses along with support components and curriculum changes in light of AB705 had the highest impact on throughput. With the fall 2019 implementation of AB705, transfer-level completion increased 2-fold in English and nearly 4-fold in math for newly-assessed students compared to when Accuplacer was the major metric used for placement. The rate changed slightly from fall terms 2019 to 2020 with an increase for Math (57% to 63%) and decrease in throughput rate for English (71% to 68%).

- Changes created by AB705 have assisted in dramatically closing the equity gap among African American/Black and Latino/a/x students in throughput for English and math, respectively. In the subsequent fall term (2020), disproportionate impact was eliminated among Latino/a/x students in both English and math, respectively and D.I. remained similar among African American/Black students when compared to the first term of implementing AB705 (fall 2019).

- Course success rates relatively stable from 2019 to 2020; in transfer-level English they was slightly lower and slightly higher in math. Retention rate in transfer-level English was lower and for math, it increased for all pathways.

- Among first-time students who were enrolled in both subjects, throughput of completing *both* transfer-level English and transfer-level math decreased from 48% to 38% in second fall term under AB705, which also was the first COVID19 fall term. This is partially explained by the big increase in withdraws (Ws and EWs) in English.

Recommendations

Upon review of the results on the impact of AB705 on Math and English throughput in the second fall-term implementation, the following recommendations should be taken into consideration:

- Continue to explore options for providing online support for students in all entry-level English-101 and transfer-level math courses in response to lower course success rates in light of COVID19.

- Monitor first-time enrollments for fall 2021 to see if their remains a dramatic decrease in first-time students taking both math and English in their first semester.

- Continue monitoring data to assess the impact on throughput beyond the first-semester with regard to re-enrollment and repeat success in transfer-level courses within one-year.

For questions, or more detailed information on this research brief, contact Preeta Saxena, Ph.D., Senior Research Analyst preeta.saxena@canyons.edu, or Vida Manzo, Ph.D., Senior Research Analyst, vida.manzo@canyons.edu or Daylene Meuschke, Ed.D., Associate V.P. Institutional Research, Planning and Institutional Effectiveness at daylene.meuschke@canyons.edu.