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Math & English Completion & AB705: fall term comparison

College of the Canyons

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Table of Contents

Introduction & Background	2
Method	2
Results.....	2
AB705 Impact on English.....	2
English Throughput.....	4
AB705 Impact on Math.....	7
Math Throughput	9
AB705 Impact on Math <i>and</i> English	11
Summary of Findings.....	11
Recommendations.....	12

Table of Figures

Figure 1. Percent Placing into Transfer-level English by Race/ethnicity	3
Figure 2. Success in ENGL-101 (entry-level, transfer) for 3 fall terms.....	4
Figure 3. English Transfer-level completion in the fall term among Newly-assessed students* by year.....	5
Figure 4. Transfer-level English Completion in the Fall Term among New Students by Year and Race/Ethnicity.....	6
Figure 5. Disproportionate Impact for Throughput in English by Race/Ethnicity.....	6
Figure 6. Percent Placing into Transfer-level Math by Race/ethnicity	7
Figure 7. Success in Transfer-Level Math for 3 fall terms	8
Figure 8. Math Transfer-level completion in the fall term among Newly-assessed students* by year	9
Figure 9. Transfer-level Math Completion in the Fall Term among New Students by Year and Race/Ethnicity	10

Tables

Table 1. English Course Summary Data fall 2018 vs. fall 2019.....	4
Table 2. Math Course Summary Data fall 2018 vs. fall 2019.....	8
Table 3. Disproportionate Impact for Throughput in Math by Race/Ethnicity.....	10
Table 4. Math and English Transfer-level Completion among First-time* Students	11

Introduction & Background

Effective fall 2019, the Math and English departments implemented changes in placement and course offerings in compliance with AB-705¹. 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 2019.

The results of these analyses have broad implications as completion of transfer-level Math & English is also a metric in the Student Centered Funding formula (SCFF)², and Student Equity and Achievement (SEA)³ plan as a leading indicator for overall student degree/certificate completion.

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 2019 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. The grades report and demographics reports from Informer 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

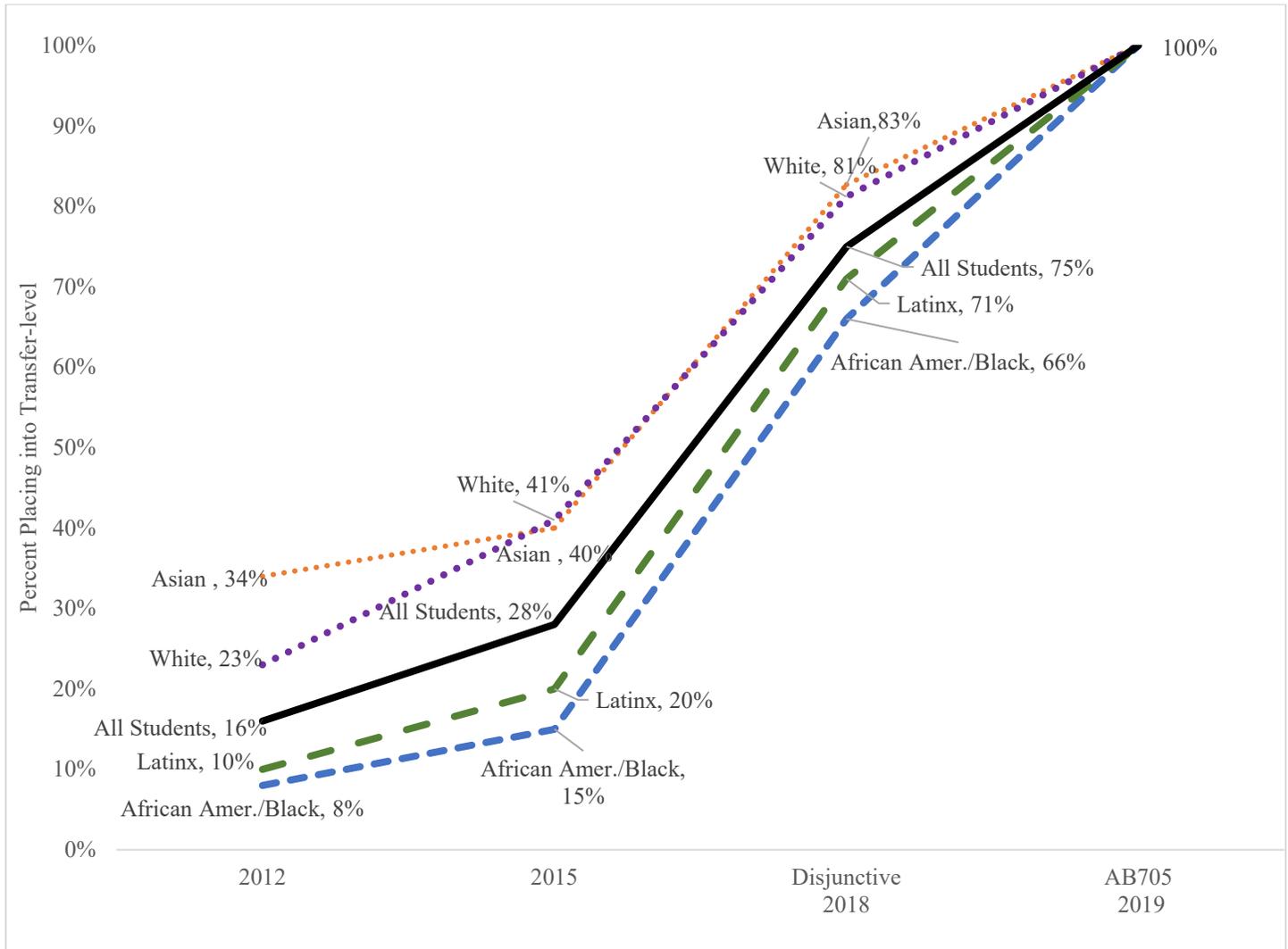
College of the Canyons efforts of addressing placement gaps preceded the AB705 mandate. In light of AB705, all students were given access to a new 4-unit version of the ENGL-101 course (previously 3 units) and below-transfer courses were not offered in fall 2019. A separate, optional, noncredit support course was also offered. The new ENGL-101 courses, in addition to adding class time included changes to the curriculum (i.e. adding a full-length book, and incorporating metacognition). Rates of placement into transfer-level English are provided in Figure 1, indicating an elimination of disproportionate impact when it comes to access to transfer-level courses.

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/seaxecsummary-real.pdf

Figure 1. Percent Placing into Transfer-level English by Race/ethnicity



The overall success rate for English Composition (ENGL-101, entry-level Transfer) has decreased between 2017 and 2019. However, the number of students who have enrolled in and then passed a transfer level English course/ENGL-101 (1,786) is slightly higher than the prior term when disjunctive placement was implemented, and 38% higher than when placement was based on Accuplacer (2017) (Figure 2). Retention rates stayed relatively stable from 2017-2019: 87% in fall 2017; 85% in fall 2018 and 85% in fall 2019 with AB 705 implementation.

Figure 2. Success in ENGL-101 (entry-level, transfer) for 3 fall terms

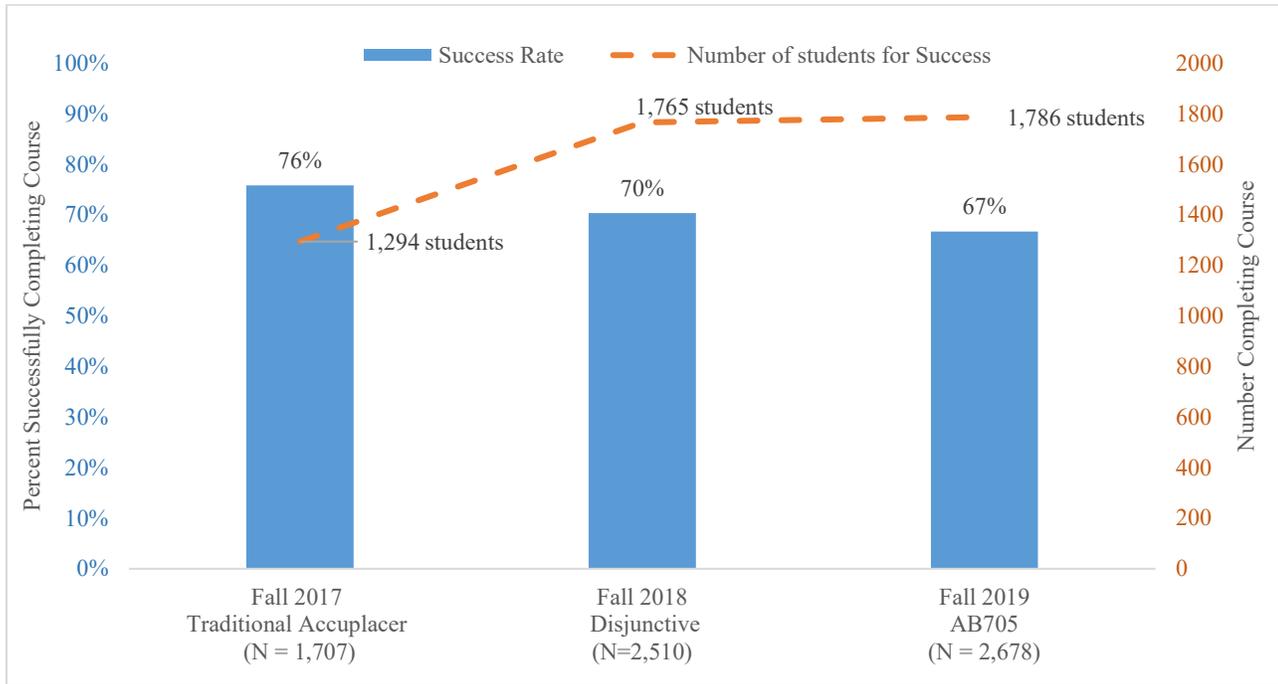


Table 1. English Course Summary Data fall 2018 vs. fall 2019

Level	Course Name	# of Sections		Total Enrolled		Success (%)		Retention (%)	
		2018 Fall	2019 Fall	2018 Fall	2019 Fall	2018 Fall	2019 Fall	2018 Fall	2019 Fall
Transfer Level	Composition (ENGL-101)	78	89	2,510	2,678	70%	67%	85%	85%
	ENGL-103/H & higher	54	56	1,349	1,345	79%	76%	89%	86%
Below Transfer	ENGL- 089/091/094/096	35		769		58%		78%	

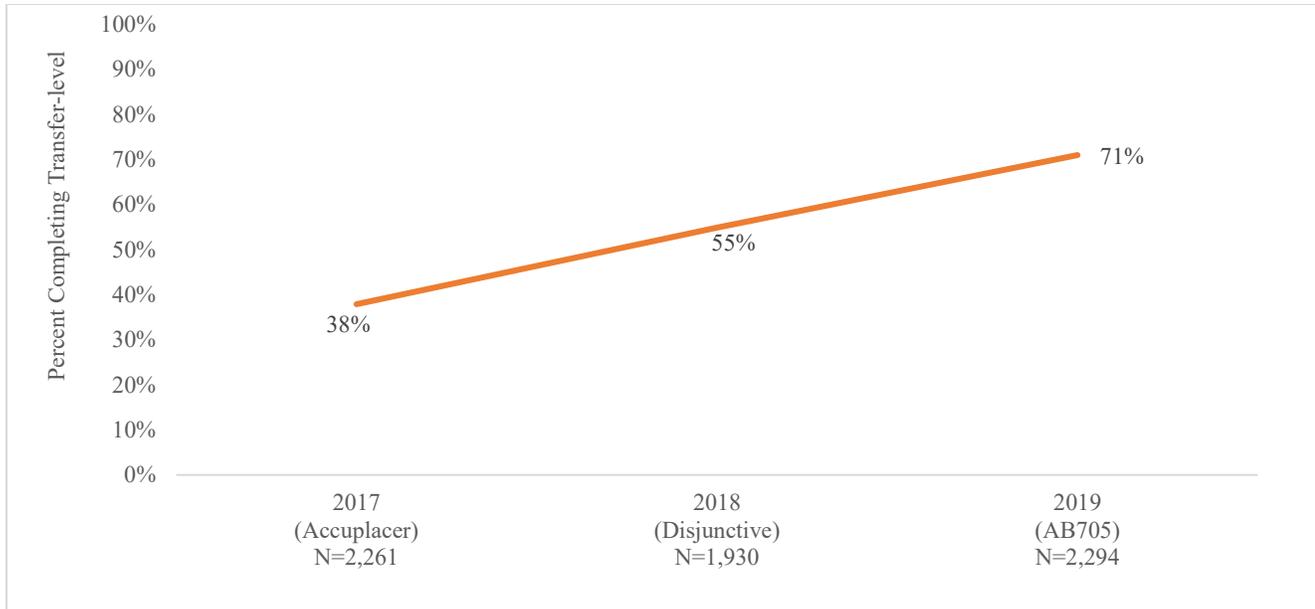
English Throughput

Throughput data was examined for the fall 2019 term in comparison to the previous 3 terms, starting with a baseline of 2017 before disjunctive placement were implemented. Throughput is defined as the percentage of newly-assessed⁴ students who completed at least one transfer-level English course in the fall term. The throughput rate was the highest in the 2019 fall

⁴ Newly-assessed students are those who assessed in the given year. Although it includes first-time students entering the college, it is not limited to them, and also includes students who were given the eligibility to re-assess in spite of having enrolled in an English course previously.

term when all students were given access to ENGL-101 yielding an increase of 16 percentage points among newly placed students over the prior fall term (Figure 3).

Figure 3. English Transfer-level completion in the fall term among Newly-assessed students* by year



*Percentage is out of students who assessed and enrolled in an English course in the given term and indicates completion of ENGL-101 or a higher course.

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 Latinx students disproportionate impact with regard to throughput in English was eliminated (Table 3).

Figure 4. Transfer-level English Completion in the Fall Term among New Students by Year and Race/Ethnicity

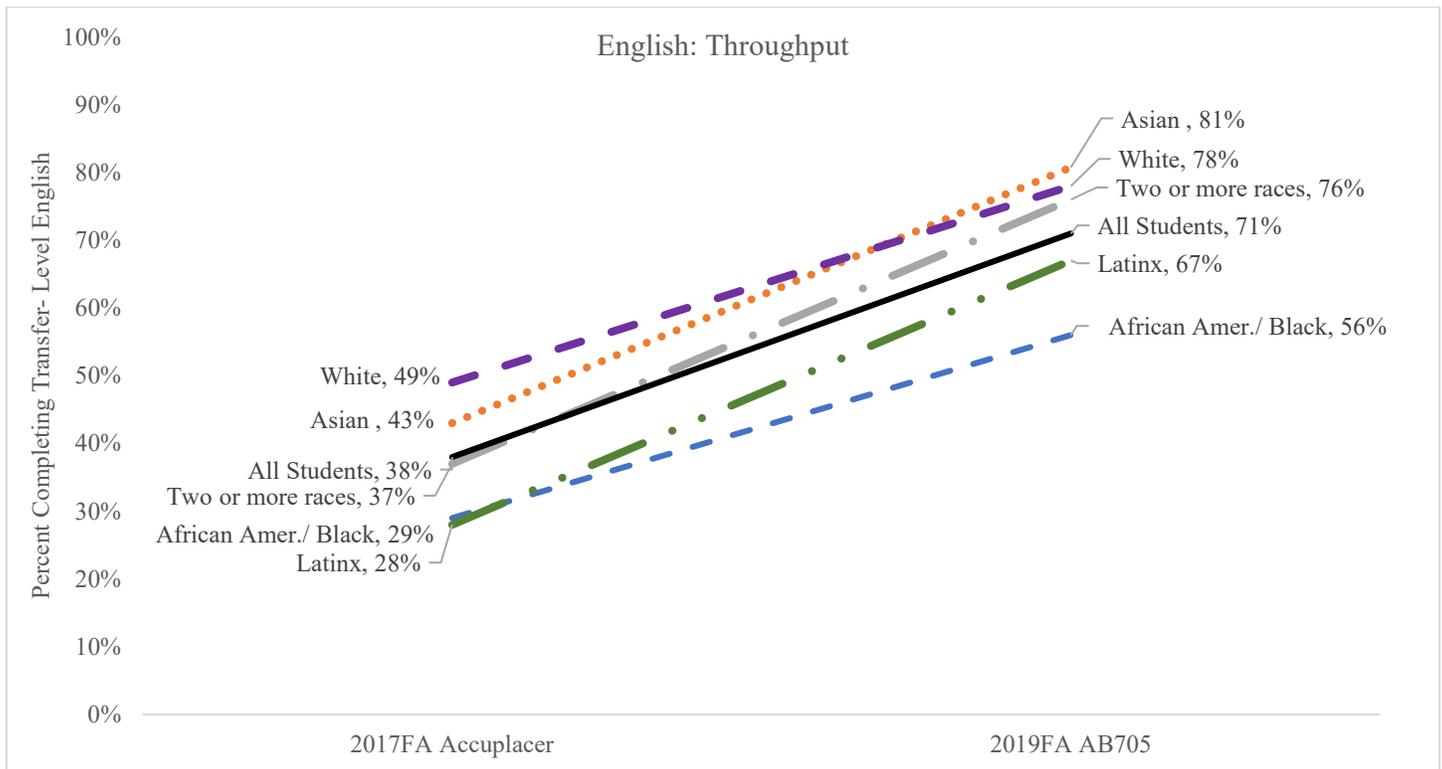


Figure 5. Disproportionate Impact for Throughput in English by Race/Ethnicity

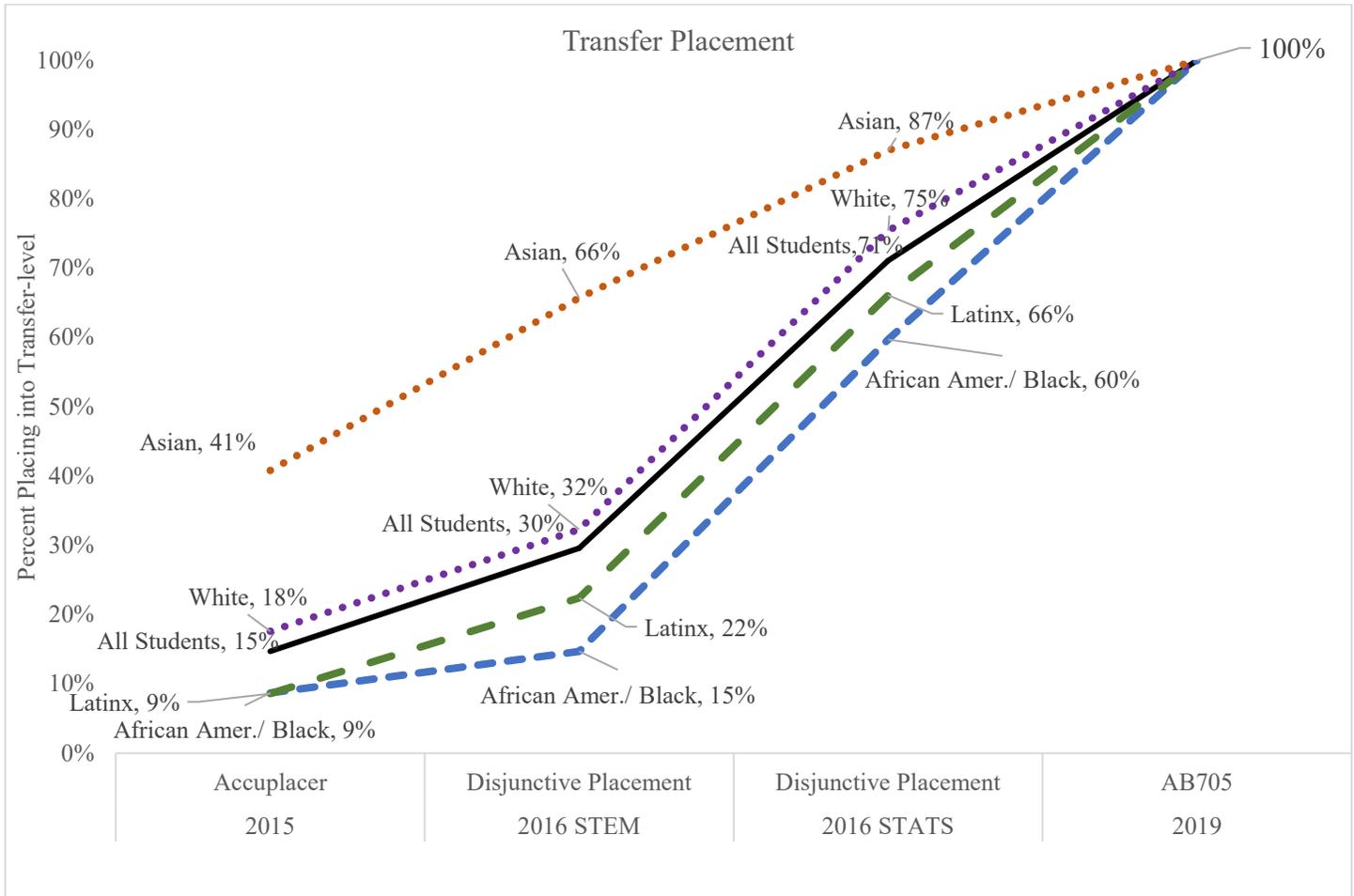
	80% of Overall		80% of Other ⁵	
	2017FA Accuplacer	2019FA AB705	2017FA Accuplacer	2019FA AB705
African American/Black	76%	79%	75%	79%
Asian	132%	114%	120%	115%
Latinx	78%	94%	63%	88%
White	131%	110%	151%	112%
Two or more races	97%	107%	97%	108%

⁵ Since Latinx- 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.

AB705 Impact on Math

The math department at College of the Canyons began implementing disjunctive placement in 2016 where students were given a Statistic placement and a B-STEM placement based on their high school performance measures. 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 Accuplacer. Figure 5 provides the trend data for placement in Transfer-level by Race/ethnicity.

Figure 6. Percent Placing into Transfer-level Math by Race/ethnicity



An aggregated examination of success and retention rates (Table 4) for entry-level transfer courses, and below-transfer level courses was compared between fall 2018 and fall 2019. First, enrollment in below-transfer courses was one-fourth the size of the enrollment in transfer-level courses in the prior fall term. Moreover, success and retention rates in below-transfer level courses were lower in the fall 2019 term (success 39% in fall 2019 vs. 53% in fall 2018 and retention 68% in fall 2019 vs. 79% in fall 2018).

Similarly for transfer-level courses in the B-STEM pathway, success and retention rates were substantially lower in the AB705 term in comparison to the previous term (success 42% in fall 2019 vs. 66% in fall 2018 and retention 64% in fall 2019 vs. 82% in fall 2018) with a 20% increase in enrollment.

Transfer-level courses in the Liberal Arts Pathway had a 65% increase in enrollment and the course success rate was slightly lower (72% in fall 2019 vs. 77% in fall 2018) and retention remained similar.

Figure 7. Success in Transfer-Level Math for 3 fall terms

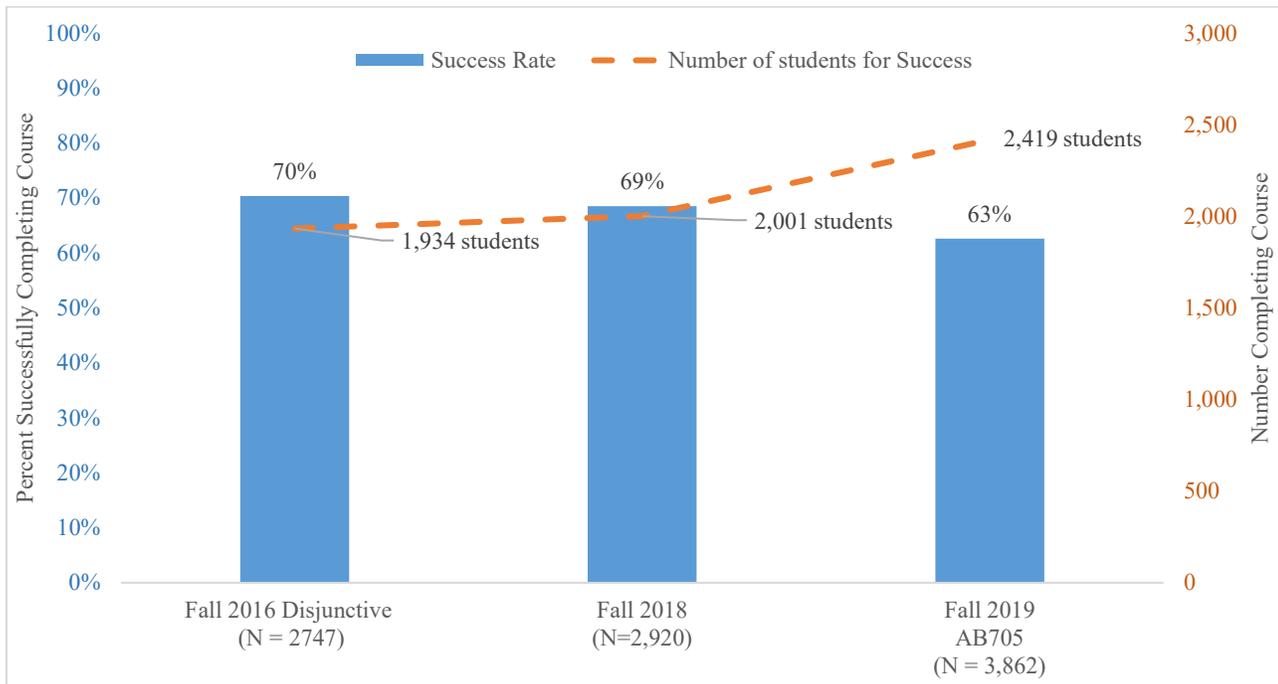


Table 2. Math Course Summary Data fall 2018 vs. fall 2019

	# of Sections		Enrollment (N)		Success (%)		Retention (%)	
	2018 Fall	2019 Fall	2018 Fall	2019 Fall	2018 Fall	2019 Fall	2018 Fall	2019 Fall
Transfer-Level: B-STEM ¹	19	25	573	687	66%	42%	82%	64%
Transfer-Level: Liberal Arts ²	39	63	1195	1977	77%	72%	88%	87%
Transfer-Level: Other ³	36	37	1152	1198	61%	59%	78%	72%
Below-Transfer ⁴	88	29	2,546	638	53%	39%	79%	68%

*Excludes courses with fewer than 2 sections offered in the fall term.

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)

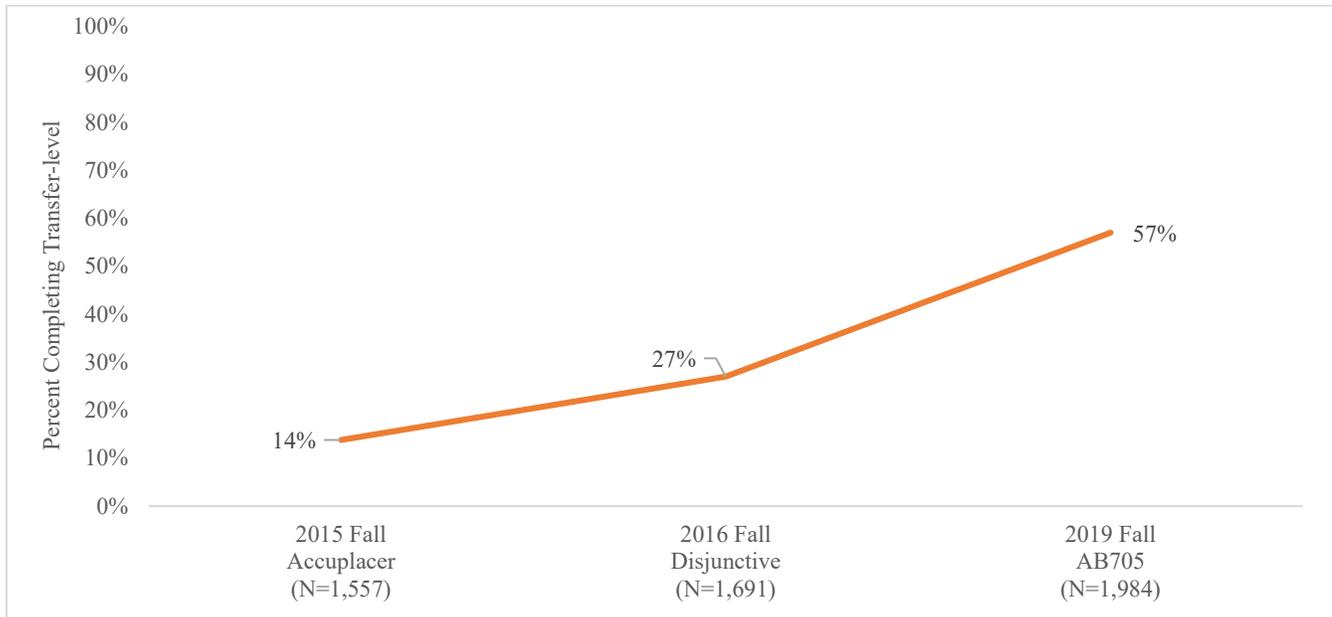
3. Other (PreCalc, Calc I-III, Diff.Eq, Linear Alg., Math Analysis)

4. Below-transfer (Pre-Alg, Elem. Alg., Interm.Alg, Interm.Alg. for Statistics, Geometry)

Math Throughput

Throughput data was examined for the fall 2019 term in comparison to two prior fall terms, 2015, when Accuplacer was used and 2016 when disjunctive placement was implemented. Throughput is defined as the percentage of newly-assessed⁶ students who completed at least one transfer-level math course in the fall term. The throughput rate was the highest in the 2019 fall term when AB705 changes were implemented yielding an increase of 30 percentage points among newly placed students over the prior fall term (Figure 8).

Figure 8. Math Transfer-level completion in the fall term among Newly-assessed students* by year



*Percentage is out of students who assessed and enrolled in a math course in the given term.

Disaggregating throughput rate by race/ethnicity showed that rates of transfer-level completion in math increased for all groups substantially (Figure 9). 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 Latinx students). In 2016 African American/Black students' rate was at 50% of the 80% benchmark, and increased to 74% of the 80% benchmark in 2019. Among Latinx students, disproportionate impact for throughput in math was also substantially reduced between 2016 and 2019.

⁶ Newly-assessed students are those who assessed in the given year. Although it includes first-time students entering the college, it is not limited to them, and also includes students who were given the eligibility to re-assess in spite of having enrolled in a math course previously.

Figure 9. Transfer-level Math Completion in the Fall Term among New Students by Year and Race/Ethnicity

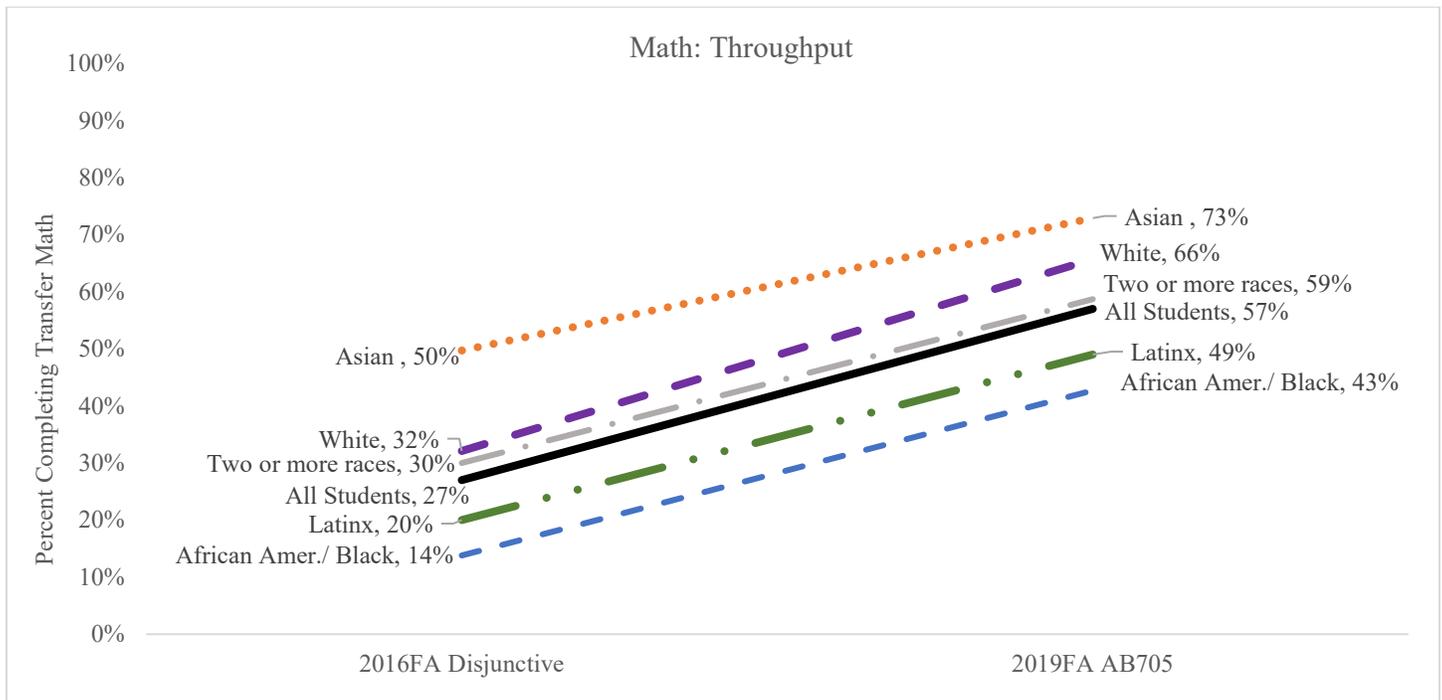


Table 3. Disproportionate Impact for Throughput in Math by Race/Ethnicity

	80% of Overall		80% of Other ⁷	
	2016FA Disjunctive	2019FA AB705	2016FA Disjunctive	2019FA AB705
African American/Black	50%	75%	49%	74%
Asian	181%	127%	199%	133%
Latinx	73%	86%	59%	77%
White	117%	115%	125%	119%
Two or more races	111%	102%	112%	103%

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

⁷ Since Latinx- 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.

AB705 Impact on Math *and* English

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. This throughput rate increased from 25% to 48% over the prior fall term (2018), and the volume increased from 281 to 363 students. Table 4 provides the rates for three terms indicating placement changes that were in effect during that term. Close to a quarter (23%) of the students who enroll in both Math and English in their first-term, do not complete either transfer-level course.

Table 4. Math and English Transfer-level Completion among First-time* Students

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

*Out of students who were enrolled in both English and math courses, and the fall term was the student's first-term (limited to enrollment in 'credit' courses). This is a 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. In fall 2019, transfer level completion increased 2-fold in English and nearly 4-fold in math for newly-assessed students compared to when Accuplacer was used for placement.
- Changes created by AB705 have assisted in closing the equity gap among African American/Black and Latinx students in throughput for English and math, respectively, *eliminating* disproportionate impact for English and *nearly* eliminating it in math.
- Course success rates in transfer-level English and math, respectively, were overall lower and there was minimal to no change in overall course retention rates.
- With regard to throughput of students completing *both* transfer-level English and transfer-level math in the fall term, the rate increased from 25% to 48% among First-time students who were enrolled in both subjects.

Recommendations

Upon review of the results on the impact of AB705 on Math and English, the following recommendations should be taken into consideration:

- Explore options for providing support for students in entry-level, transfer B-STEM Math courses and English-101 in response to lower course success rates on average.
- Explore options for providing support and guidance for students who do not complete either transfer-level Math or English.
 - 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.