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California Community Colleges Online Education Landscape Report

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Table of Contents

Executive Summary

The following report provides a high-level overview of online education at California Community Colleges (CCC) between 2008-2009 and 2017-2018 to better understand and describe changes in enrollment and outcomes for students enrolled in online courses over the past 10 years. The analysis of the online education landscape includes a snapshot of the fully-online program offerings in the state, course enrollment trends, course outcome trends, and the potential impact of the Online Education Initiative on online course outcomes.

Fully Online Program Offerings

Presently in the system, there are over 500 awards offered at about 40% of the CCC that can be completed fully online – with a majority of the awards being degree offerings (60.0%) and in CTE program areas (58.1%). The top three program areas where fully-online awards are offered are in business and management (155 awards), social sciences (70 awards), and information technology (66 awards).

Online Enrollment Trends

Online enrollments have been steadily increasing over the past 10 years. Overall, online enrollments grew 6.4% over the past 10 years, and the proportion of enrollments that are online relative to all enrollments grew by 8.2%. There has been little change in the gender distribution of online enrollments. However, reflecting changes in the system, online enrollments by Latinx students have grown the fastest relative to all other ethnic subgroups.

Online Outcome Trends

Online course outcomes (e.g., success and retention rates) have also been steadily increasing over the past 10 years; while outcomes in face-to-face (F2F) courses remain relatively flat. Online course success rates have improved at a rate that is four times greater than of F2F courses – with online courses improving by 23.0% and F2F only improving by 5.7% from 2008 to 2018. Similar trends are found when examining the rates by student characteristics such as gender and ethnicity, CTE status, program area, and transfer-level math and English courses.

Across program areas, the gap between online and F2F courses has closed for biological sciences and physical sciences – online course success rates in those program areas now exceed the rates of F2F courses (up to 2%) based on 2017-2018 data. Across transfer-level math and English courses, the success and retention rate improvements and gap between online and F2F are not as high as the overall – with English outcome and improvement rates being slightly higher than those found in math.

OEI Impact on Outcomes

Examining outcomes across the last three years of the first OEI grant; preliminary analysis suggests the OEI has had positive impacts on students' success in online courses – success and retention rates in a sample of OEI pilot sections, where students and faculty had access to a suite of resources/tools offered by the OEI, showed higher overall rates than in comparable online courses across the OEI pilot colleges and statewide.

Opportunities for the Online Education Initiative to Consider

Based on the online education landscape analysis, five opportunity areas have been identified for the Online Education Initiative to consider:

Opportunity #1: Target interventions to address online equity gaps

The overall success and retention rates and improvement rates for African-American, Pacific Islander, and American Indian students are the lowest among all ethnic groups – demonstrating a need to target interventions and/or resources to those students with the greatest need to support their success in online courses.

Opportunity #2: Advocate for improvements in systemwide data reporting for online programs by creating a flag for fully-online programs

Presently, it is not easy to identify fully online programs in the system. The identification of fully-online programs is done college by college, and it is unclear how each college is identifying and determining what is a fully-online program and what is not. With the exception of a flag that identifies the instructional method of courses in the system, there is no comparable flag in the system's reporting structure for programs. In order to improve systemwide data reporting for online programs, it is recommended that, at a minimum, a new data element be created in the state's program award data submission file that flags those programs that can be completed by all online courses. –The ability to accurately and consistently identify fully-online programs will help with outreach, planning, and coordination across the colleges and help the OEI and Online Community College strategically plan for courses and program areas.

Opportunity #3: Systemwide coordination for strategic enrollment planning for online coursework and completion

Improving reporting and tracking of fully-online programs and courses can lead to more effective systemwide coordination to support strategic enrollment planning for online coursework and completion across the system. For example, with the OEI and the Online Community College, systemwide coordination could help improve outreach efforts to target potential courses/programs for growth and participation, and more efficiently identify what other programs in the system could potentially be fully online.

Opportunity #4: Strengthen support/resources for online transfer-level math and English courses to offer colleges opportunities to scale up offerings in response to AB705.

With AB705 implementation underway, many CCC will be looking for curricular innovations to support the expected increasing number of students who will be placed into transfer-level math and English courses. For both English and math, enrollments in transfer-level sections have grown by over 100% since 2008 and the gap between online and face-to-face in success and retention rates is starting to narrow. Online instruction provides CCC with a myriad of options for supporting students that may be more readily available and accessible.

Opportunity #5: Dig deeper into online education spotlights

Of all TOP2 program areas, the success rate gaps between online and F2F closed for students enrolled courses in the biological sciences and physical sciences. Consider interviewing the faculty in these programs to learn more about what they are doing to better support online learning and how they are closing the gap (e.g., curricular innovations that can be applied to other discipline areas, specific resources/supports).

Introduction

The following report provides a high-level overview of online education at California Community Colleges (CCCs) between 2008-2009 and 2017-2018 to better understand and describe changes in enrollment and outcomes for students enrolled in online courses over the past 10 years.

The report includes a method/sources section that identifies the sources of data and information for the report; an analysis of the online education landscape that is divided into four major sections (fully-online program offerings in the state, course enrollment trends, course outcome trends, and the impact of the Online Education Initiative[1] on online course outcomes); a summary of the key findings; and opportunities for consideration.

Method and Sources

Data around fully-online program offerings were collected from a survey that was administered by the California Community College Chancellor's Office (CCCCO) as part of their efforts to evaluate online education in the state. Specifically, a portion of its *2017 Distance Education Report* contains a list of the colleges that offer fully-online programs, the names of those programs, and award type.

Statewide enrollment data were extracted from the CCCCO's DataMart website. The website provides users the options to view course enrollment, course success rates, and course retention rates for the state as a whole and for individual colleges. Data were collected for every summer, fall, winter, and spring term beginning with summer 2008 and ending with spring 2018. In this report, online enrollments are those whose distance education category is either "Delayed Interaction (Internet Based)" or "Simultaneous Interaction (Internet Based)."

Data for specific OEI pilot sections were collected annually by the Research and Planning Group, who served as the external evaluator for the OEI. OEI pilot colleges were given a list of courses and asked to upload course enrollment and student demographic data to a secure online server. The data were collected for the fall and spring terms between 2015-2016 and 2017-2018. It is important to note that not all colleges submitted data every term.

[1]The OEI is a collaborative effort among CCC whose goal is to ensure that significantly more students are able to complete their educational goals by increasing both access to and success in high-quality online courses. The report includes outcomes at the 24 CCC that are part of the initial OEI efforts. The list of the 24 pilot colleges is available in Appendix A.

Online Education Landscape

This section provides descriptive data on the current program offerings in the state that are fully online.

Fully Online Program Offerings

A number of colleges in the system currently offer the opportunity for students to earn a degree or certificate by enrolling exclusively in online courses. The list of colleges offering fully online programs comes from the CCCCO's *2017 Distance Education Report.*[2] This report is published by the CCCCO to provide a snapshot of the state of distance education and education technology systemwide. As part of its evaluation, the CCCCO distributed a survey to colleges in order to collect information about their distance education programs. One section of the survey asked colleges to list their fully-online programs.

Based on information from the report, there are 575[3] fully-online programs offered at 48 colleges in the state (see Table 1 below). Of these 575 programs, 60.0% were degree based, with 39.7% of programs offered as a certificate.

Table 1. Count of Fully-Online Programs: 2014-2016

Award Type	Number of Colleges	Percent	Number of Programs	Percent
Degree	42	87.5%	345	60.0%
Certificate	37	77.1%	228	39.7%
Unreported	1	2.1%	2	0.3%
Total	**48**		**575**	**100.0%**

Examining the programs by two-digit TOP code family, the most common type of fully-online program, with 155 offerings across the state, was in the business and management; with more degree offerings than certificates (95 vs. 60). The next two largest program areas were social sciences (70 offerings) and information technology (66 offerings); with both offering a greater share in certifcates than degrees that are fully online (Table 2).

[2] Link *2017 Distance Education* report: http://californiacommunitycolleges.cccco.edu/Portals/0/Reports/2017-DE-Report-Final-ADA.pdf

[3] Please note a discrepancy found in the narrative and appendix of the *2017 Distance Education* report: 576 programs were listed in narrative, but the appendix lists 575 programs.

Table 2. Count of Fully-Online Programs by Title and TOP Code: 2014-2016

Title	TOP2	Cert	Degree	NA	Total
Biological Sciences	04		2		2
Business and Management	05	95	60		155
Media Communications	06	11	6		17
Information Technology	07	51	13	2	66
Education	08	1	3		4
Engineering and Industrial Technologies	09	9	3		12
Fine and Applied Arts	10	5	11		16
Foreign Language	11		8		8
Health	12	8	5		13
Family and Consumer Sciences	13	25	11		36
Law	14	2	2		4
Humanities	15	2	16		18
Library Science	16	3	2		5
Mathematics	17		3		3
Psychology	20		12		12
Public and Protective Services	21	10	32		42
Social Sciences	22	2	68		70
Commercial Services	30	2	2		4
Interdisciplinary Studies	49	2	86		88
Overall Total		**228**	**345**	**2**	**575**

The list of programs was matched with program information from the CCCCO's program inventory to identify each program's TOP code and whether they were career technical education (CTE) focused. A large majority of colleges (87.5%) offered at least one fully-online CTE award, and a majority of the programs across all awards (58.1%) were fully-online CTE programs (Table 3).

Table 3. Count of Fully-Online Programs by CTE Status: 2014-2016

Award CTE Status	Number of Colleges	Percent	Number of Programs	Percent
CTE	42	87.5%	334	58.1%
Not CTE	38	79.2%	241	41.9%
Total	**48**		**575**	

Statewide Online Course Enrollment Trends

This section provides descriptive data on overall online enrollments, disaggregated by Taxonomy of Program (TOP) code, gender, ethnicity, career technical education (CTE) status, and math and English transfer status.

Total Online Enrollments: 10-Year Trends

Over the 10-year period from 2008-2009 through 2017-2018, online enrollments across the state have increased by 73%, going from 930,729 to 1,610,806 enrollments (Table 4). There was a dip in online enrollments in both the 2011-2012 and 2012-2013 academic years, but the proportion of online enrollments relative to overall enrollments was still increasing and statewide online enrollments have increased by over 8% every year since. Moreover, the percent of enrollments that are online has also increased steadily over the past 10 years; with the proportion of online enrollments going from 5% of all enrollments in 2008 to 15% of all enrollments in 2018.

Table 4. Statewide Online Enrollment Changes Between 2008-2009 and 2017-2018

Year	Online Enrollments	% Change Year to Year	Percent of Total Enrollments That Are Online	% Change Year to Year
2008-2009	930,729	--	9.4%	--
2009-2010	984,018	5.7%	9.9%	5.3%
2010-2011	1,015,372	3.2%	10.5%	6.1%
2011-2012	988,200	-2.7%	11.0%	4.8%
2012-2013	968,629	-2.0%	11.4%	3.6%
2013-2014	1,049,141	8.3%	12.0%	5.3%
2014-2015	1,160,986	10.7%	13.3%	10.8%
2015-2016	1,297,683	11.8%	14.8%	11.3%
2016-2017	1,437,325	10.8%	16.5%	11.5%
2017-2018	1,610,806	12.1%	19.0%	15.2%
Overall	**11,442,889**	**6.4%**	**12.7%**	**8.2%**

Despite the majority of fully-online program offerings being in CTE (see Table 2), proportional to all online course enrollments, CTE online course enrollments have hovered around 34% to 41% over the last 10 years (Table 5).

Table 5. Percent of Online Enrollments That Are CTE Between 2008-2009 and 2017-2018

Year	CTE Online Enrollments	All Online Enrollments	% of All Online Enrollments
2008-2009	357,098	930,729	38.4%
2009-2010	397,340	984,018	40.4%
2010-2011	418,565	1,015,372	41.2%
2011-2012	401,969	988,200	40.7%
2012-2013	385,493	968,629	39.8%
2013-2014	403,434	1,049,141	38.5%
2014-2015	436,197	1,160,986	37.6%
2015-2016	476,259	1,297,683	36.7%
2016-2017	514,602	1,437,325	35.8%
2017-2018	553,676	1,610,806	34.4%
2017-2018	553,676	1,610,806	34.4%

Online Enrollment Trends by Student Characteristics

Online enrollments by gender have not changed much between 2008 and 2018. The majority of online enrollments have been from female students (at least 60%) – a pattern that is reflected in the most recent academic year, as well as in 2008-2009 (Table 6).

Table 6. Online Enrollment by Gender: 2008-2009 vs. 2017-2018

	Total Online Enrollments		% Distribution of Online Enrollments		
Gender	**2008-2009**	**2017-2018**	**2008-2009**	**2017-2018**	**Difference**
Female	591,621	1,006,780	63.6%	62.5%	-1.1%
Male	330,785	588,647	35.5%	36.5%	1.0%
Overall	930,729	1,610,806			

Online enrollments by ethnicity have changed from 2008-2009 to 2017-2018 – with the greatest proportional changes experienced by Latinx and White students. Online enrollments by Latinx students increased by 19% points, while online enrollments by White students decreased 11% points (Table 7). The distribution of African-American, American Indian, Pacific Islander, and Unknown student groups were also lower in 2017-2018 relative to their proportions in 2008-2009.

Table 7. Online Enrollment by Ethnicity: 2008-2009 vs. 2017-2018

	Total Online Enrollments		% Distribution of Online Enrollments		
Ethnicity	**2008-2009**	**2017-2018**	**2008-2009**	**2017-2018**	**Percent Change**
African American	28,299	29,945	9.6%	7.3%	-2.3%
American Indian/ Alaskan Native	2,939	1,940	1.1%	0.6%	-0.5%
Asian	33,730	59,321	14.1%	14.7%	0.6%
Latinx	63,551	161,775	21.2%	39.7%	18.5%
Multi-Ethnicity*	205	21,399	0.0%	5.0%	5.0%
Pacific Islander	2,470	1,408	1.0%	0.5%	-0.5%
Unknown	36,390	8,198	11.9%	2.4%	-9.5%
White Non-Hispanic	119,464	139,941	41.2%	29.9%	-11.3%
Overall	930,729	1,610,806			

*Category was officially introduced in the summer of 2009; therefore, numbers for 2008-2009 are incomplete.

Online Enrollment Trends by Two-Digit TOP

Review of online enrollments by two-digit TOP codes assigned to courses in 2008-2009 compared to 2017-2018 reveal that the distribution of online courses by program area have changed very little. In this time period, most online enrollments were found in social sciences, business and management, and humanities (Table 8). However, of all these three program areas, there was only a slight increase in proportional online enrollments in social sciences and humanities (2% and 1%, respectively), and a decrease in proportional online enrollments in business and management (3%). This finding is surprising, considering most of the fully-online awards are in business and management (155 out of 575 awards statewide).

Table 8. Online Enrollments by 2-Digit TOP Code: 2008-2009 vs. 2017-2018

	Total Online Enrollments		% Distribution of Online Enrollments		
TOP2	**2008-2009**	**2017-2018**	**2008-2009**	**2017-2018**	**Percent Change**
Agriculture and Natural Resources-01	2,016	4,355	0.2%	0.3%	0.1%
Architecture and Related Technologies-02	816	1,344	0.1%	0.1%	0.0%
Biological Sciences-04	16,095	27,767	1.7%	1.7%	0.0%
Business and Management-05	148,793	209,099	16.0%	13.0%	-3.0%
Commercial Services-30	1,274	1,047	0.1%	0.1%	-0.1%
Education-08	49,057	75,290	5.3%	4.7%	-0.6%
Engineering and Industrial Technologies-09	3,581	8,167	0.4%	0.5%	0.1%
Environmental Sciences and Technologies-03	888	3,785	0.1%	0.2%	0.1%
Family and Consumer Sciences-13	46,575	106,082	5.0%	6.6%	1.6%
Fine and Applied Arts-10	62,000	122,127	6.7%	7.6%	0.9%
Foreign Language-11	11,328	22,925	1.2%	1.4%	0.2%
Health-12	14,369	39,161	1.5%	2.4%	0.9%
Humanities (Letters)-15	106,872	195,746	11.5%	12.2%	0.7%
Information Technology-07	72,178	98,638	7.8%	6.1%	-1.6%
Interdisciplinary Studies-49	23,800	43,995	2.6%	2.7%	0.2%

	Total Online Enrollments		% Distribution of Online Enrollments		
TOP2	**2008-2009**	**2017-2018**	**2008-2009**	**2017-2018**	**Percent Change**
Law-14	3,914	5,105	0.4%	0.3%	-0.1%
Library Science-16	9,487	15,540	1.0%	1.0%	-0.1%
Mathematics-17	61,196	84,918	6.6%	5.3%	-1.3%
Media and Communications-06	21,180	35,722	2.3%	2.2%	-0.1%
Physical Sciences-19	16,471	27,784	1.8%	1.7%	0.0%
Psychology-20	48,603	96,974	5.2%	6.0%	0.8%
Public and Protective Services-21	29,809	40,764	3.2%	2.5%	-0.7%
Social Sciences-22	180,427	344,471	19.4%	21.4%	2.0%
Total	**930,729**	**1,610,806**			

Online English and Math Enrollment Trends by Transfer Status

Enrollments in online transfer math courses have increased every year since 2013-2014; from 19,524 to 37,152 in 2017-2018 (Table 9). The number of online basic skills math courses has also been increasing over time, but started to decline in 2016-2017. A significant factor in this change may be statewide efforts to update placement processes and curricular practices, which resulted in fewer placements into lower-level math courses.

Table 9. Online Math Enrollments by Transfer Status Between 2008-2009 and 2017-2018

Year	Basic Skills	Year-to-Year Change	Transfer	Year-to-Year Change
2008-2009	14,117		18,360	
2009-2010	16,499	16.9%	19,346	5.4%
2010-2011	15,119	-8.4%	19,242	-0.5%
2011-2012	15,072	-0.3%	18,696	-2.8%
2012-2013	15,534	3.1%	18,053	-3.4%
2013-2014	17,817	14.7%	19,524	8.1%
2014-2015	18,221	2.3%	22,190	13.7%
2015-2016	19,973	9.6%	24,864	12.1%
2016-2017	19,562	-2.1%	30,302	21.9%
2017-2018	16,680	-14.7%	37,152	22.6%

Statewide enrollments in online Basic Skills English courses have stayed mostly flat over the 10-year period beginning in 2008-2009, with a few dips and spikes (Table 10). In contrast, online transfer English enrollments increased from 48,530 in 2008-2009 to 102,062 in 2017-2018, which represents an increase of 110%.

Table 10. Online English Enrollments by Transfer Status Between 2008-2009 and 2017-2018

Year	Basic Skills	Year-to-Year Change	Transfer	Year-to-Year Change
2008-2009	5,382		48,530	
2009-2010	5,989	11.3%	50,614	4.3%
2010-2011	6,239	4.2%	50,936	0.6%
2011-2012	6,533	4.7%	52,378	2.8%
2012-2013	5,708	-12.6%	51,567	-1.5%
2013-2014	4,282	-25.0%	57,353	11.2%
2014-2015	5,059	18.1%	64,591	12.6%
2015-2016	5,447	7.7%	75,640	17.1%
2016-2017	5,071	-6.9%	87,408	15.6%
2017-2018	5,634	11.1%	102,062	16.8%

Trends in Statewide Online Course Success and Retention Rates

This section includes descriptive information about the success and retention rates of students participating in online courses from the 2008-2009 to 2017-2018. Success and retention rates are calculated using the definitions specified by the California Community Colleges Chancellor's Office where success rate is the number of enrollments with grade of A, B, C, P, IA, IB, IC, IPP divided by the total number of enrollments and the retention rate is the number of enrollments with a grade of A, B, C, D, F, P, NP, I, IPP, INP, FW divided by the total number of enrollments.

Outcome Comparisons by Modality and Student Characteristics

Statewide, online course success and retention rates have been improving over the last 10 years, and the gap between online courses and face-to-face (F2F) has been closing (Table 11). While the F2F success and retention rates have remained relatively flat, the statewide online

success rates increased from 55.9% in 2008-2009 to 68.9% in 2017-2018 - an improvement rate of 23.3%; and the online retention rates increased from 75.0%% to 80.8%.

Table 11. Success and Retention Rate Trends: Modality Comparisons in 2008-2009 vs. 2017-2018

	Success Rate Comparisons			Retention Rate Comparisons		
Year	**Online**	**F2F**	**Gap**	**Online**	**F2F**	**Gap**
2008-2009	55.9%	69.6%	-13.7%	75.0%	85.0%	-10.0%
2009-2010	58.1%	70.3%	-12.2%	77.7%	85.7%	-8.0%
2010-2011	58.6%	70.6%	-12.0%	78.4%	85.8%	-7.4%
2011-2012	59.9%	70.9%	-11.0%	78.9%	86.1%	-7.2%
2012-2013	62.2%	71.9%	-9.7%	81.1%	87.3%	-6.2%
2013-2014	62.7%	71.6%	-8.9%	81.2%	87.2%	-6.0%
2014-2015	63.3%	71.7%	-8.4%	81.5%	87.1%	-5.6%
2015-2016	64.9%	72.4%	-7.5%	82.4%	87.3%	-4.9%
2016-2017	66.5%	73.2%	-6.7%	83.2%	87.7%	-4.5%
2017-2018	68.9%	73.6%	-4.7%	84.4%	87.8%	-3.4%
% Point Change 2008 vs. 2017	**13.0%**	**4.0%**	**9.0%**	**9.4%**	**2.8%**	**6.6%**
Improvement Rate 2008 vs. 2017	**23.3%**	**5.7%**	**65.7%**	**12.5%**	**3.3%**	**66.0%**

For both female and male students, gains in online course success and retention rates over the past 10 years have been relatively similar for both groups (Tables 12 and 13), with similar improvement rates (i.e., change in the success rate gaps) closing between online and face-to-face courses. Compared to female students, male students are experiencing a relatively higher rate of improvement in the success rate gap between their online and F2F courses compared to female students (71.6% vs 59.9% respectively), with both genders' improvement rate for retention at about the same rate. When comparing the success rate improvements from 2008-2009 and 2017-2018, online course success rates have increased substantially more than F2F success rates for both genders (Figure 1). Online success rates for both genders increased over 10% points for online courses when comparing those two points in time, whereas, for F2F success rates increased by less than half of that (3.2% for males and 4.7% for females). A similar trend was for retention rates, where the percentage point difference was greater for online courses by gender than it was for F2F from 2008-2009 to 2017-2018 (Figure 2).

Table 12. Success Rate Comparisons by Modality and Gender in 2008-2009 vs. 2017-2018

	2008-2009			2017-2018			Gap Difference	
Gender	**Online**	**F2F**	**Gap**	**Online**	**F2F**	**Gap**	**% Point**	**Improvement Rate**
Female	56.3%	70.0%	-13.7%	69.2%	74.7%	-5.5%	8.2%	59.9%
Male	55.1%	69.2%	-14.1%	68.4%	72.4%	-4.0%	10.1%	71.6%
Overall	55.9%	69.6%	-13.7%	68.9%	73.6%	-4.7%	9.0%	65.7%

Figure 1. Success Rate Differences by Modality and Gender in 2008-2009 vs. 2017-2018

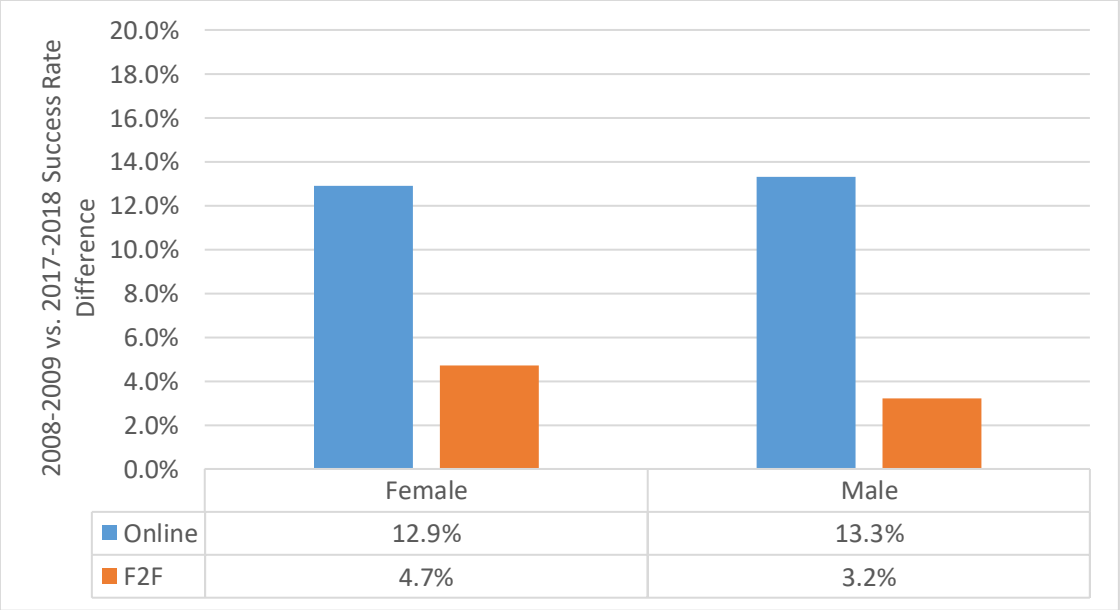
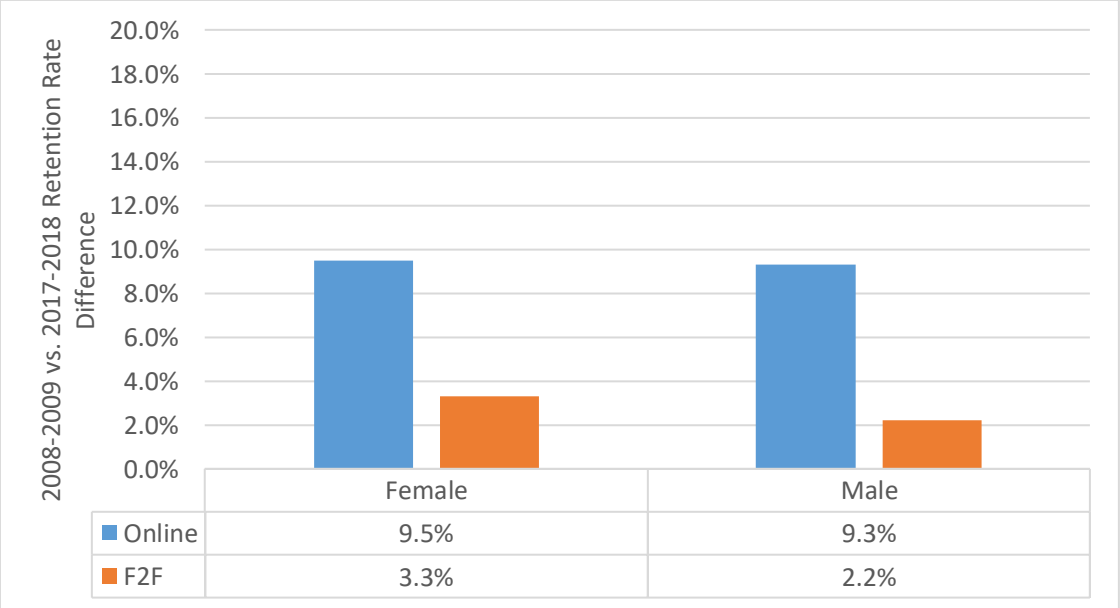


Table 13. Retention Rate Comparisons by Modality and Gender in 2008-2009 vs. 2017-2018

	2008-2009			2017-2018			Gap Difference	
Gender	**Online**	**F2F**	**Gap**	**Online**	**F2F**	**Gap**	**% Point**	**Improvement Rate**
Female	75.0%	84.7%	-9.7%	84.5%	88.0%	-3.5%	6.2%	63.9%
Male	74.9%	85.4%	-10.5%	84.2%	87.6%	-3.4%	7.1%	67.6%
Overall	75.0%	85.0%	-10.0%	84.4%	87.8%	-3.4%	6.6%	66.0%

Figure 2. Retention Rate Differences by Modality and Gender in 2008-2009 vs. 2017-2018



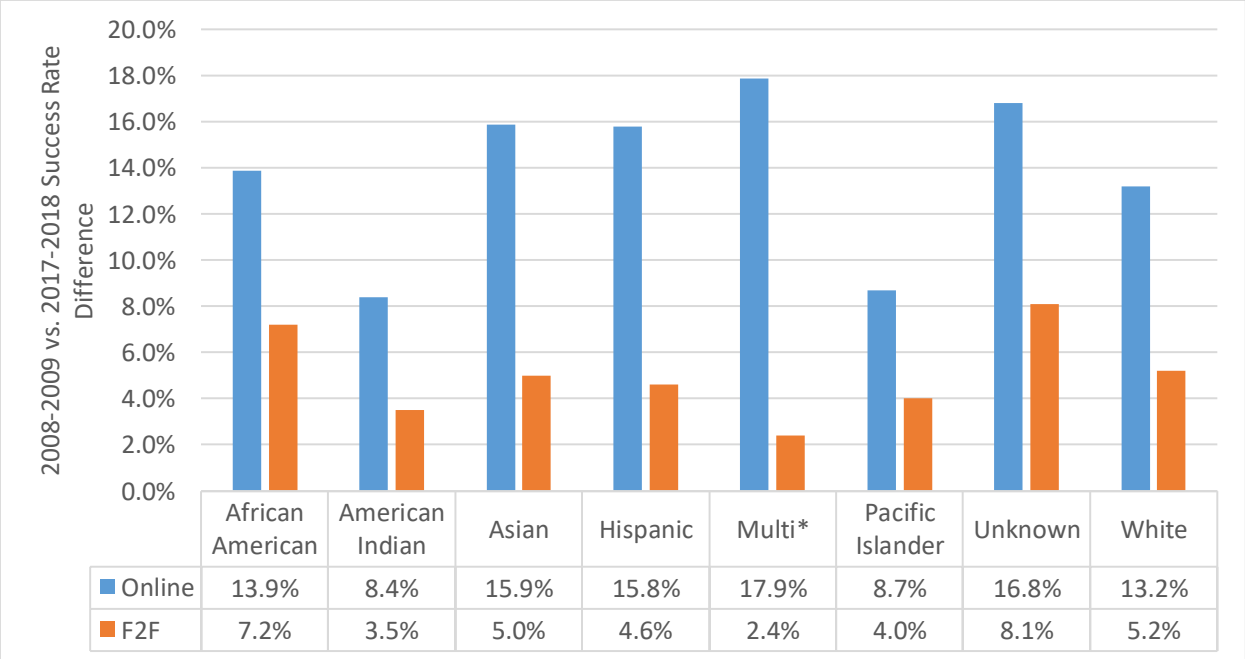
Review of the success and retention rates by ethnicity and modality reveals that Asian and White students have consistently over the years had the highest rates of success in online and F2F courses compared to all other groups (Table 13). However, across all ethnic groups, online success rates have been increasing over the 10-year period between 2008-2009 and 2017-2018, and the gap between online and F2F has also been closing across all the groups, and the success rate difference from 2008-2009 compared to 2017-2018 was greatest across all groups for online courses than it was for F2F (Figure 3). Multi-ethnic (17.9%) and unknown (16.8%) students had the greatest percentage point increase for online course success rates, while American Indian (8.4%) and Pacific Islander (8.6%) students had the lowest.

Although the success rates have been increasing over time, and the gap between online and F2F by ethnic group is also narrowing. Asian, multi-ethnicity, and Latinx students had the highest rates of improvement in the success rate gap difference between online and F2F relative to their peers (91.6%, 69.5%, 67.1% respectively) – with Asian students nearly closing the success rate gap between online and F2F courses in 2017-2018 when compared to their rate in 2008-2009. The improvement rates for African-American, Pacific Islander, and American Indian students are the lowest of all ethnic groups.

Table 13. Success Rate Comparisons by Modality and Ethnicity in 2008-2009 vs. 2017-2018

	2008-2009			2017-2018			Gap Difference	
Ethnicity	**Online**	**F2F**	**Gap**	**Online**	**F2F**	**Gap**	**% Point**	**Improvement Rate**
African American	39.3%	57.3%	-18.0%	53.2%	64.5%	-11.3%	6.7%	37.2%
American Indian	51.6%	64.9%	-13.3%	60.0%	68.4%	-8.4%	4.9%	36.8%
Asian	62.9%	74.8%	-11.9%	78.8%	79.8%	-1.0%	10.9%	91.6%
Latinx	48.6%	65.3%	-16.7%	64.4%	69.9%	-5.5%	11.2%	67.1%
Multi	48.2%	70.5%	-22.3%	66.1%	72.9%	-6.8%	15.5%	69.5%
Pacific Islander	51.2%	64.5%	-13.3%	59.9%	68.5%	-8.6%	4.7%	35.3%
Unknown	57.3%	71.9%	-14.6%	74.1%	80.0%	-5.9%	8.7%	59.6%
White	61.0%	73.8%	-12.8%	74.2%	79.0%	-4.8%	8.0%	62.5%
Overall	55.9%	69.6%	-13.7%	68.9%	73.6%	-4.7%	9.0%	65.7%

Figure 3. Success Rate Differences by Modality and Ethnicity in 2008-2009 vs. 2017-2018



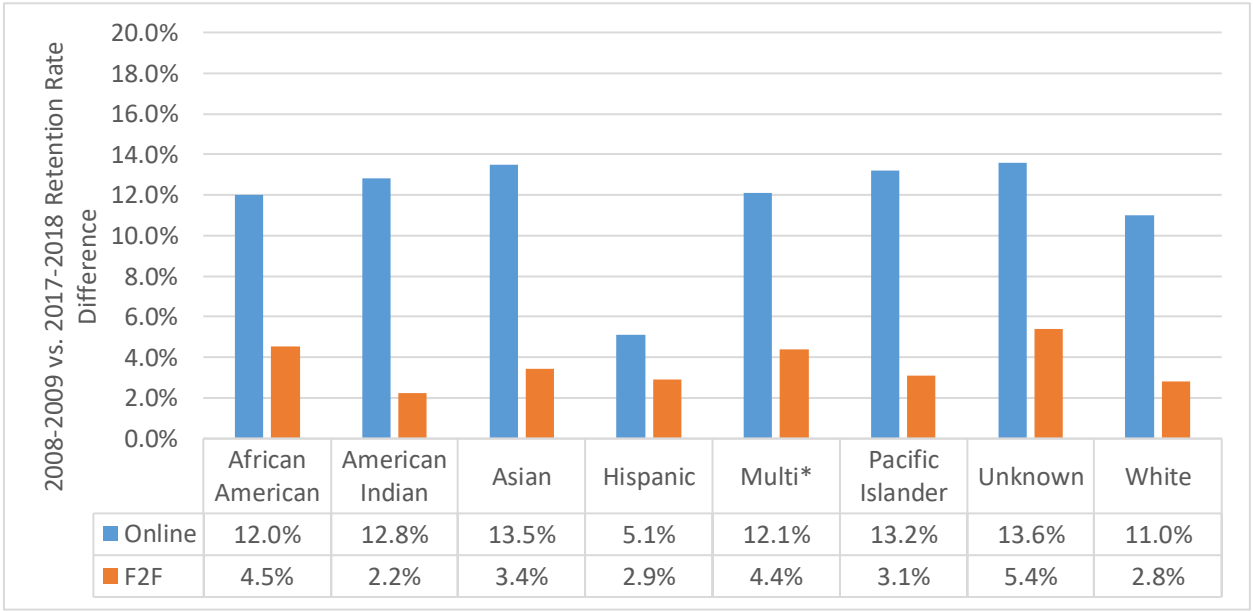
	African American	American Indian	Asian	Hispanic	Multi*	Pacific Islander	Unknown	White
Online	13.9%	8.4%	15.9%	15.8%	17.9%	8.7%	16.8%	13.2%
F2F	7.2%	3.5%	5.0%	4.6%	2.4%	4.0%	8.1%	5.2%

Similar trends are found when examining retention rates (Table 14). In general, African-American, American Indian, and Pacific Islander students have the lowest retention rates, however their rates are increasing and the gap between online and F2F is narrowing. In addition, the percentage point retention rates differences from 2008-2009 compared to 2017-2018 are also higher in online courses relative to F2F across all ethnic groups (Figure 4). Percentage point increases across all the ethnic groups range from 11.0% to 13.6% for online course retention rates, whereas for F2F it has only ranged from 2.2% to 5.4% across all ethnic groups.

Table 14. Retention Rate Comparisons by Modality and Ethnicity in 2008-2009 vs. 2017-2018

	2008-2009			2017-2018			Gap Difference	
Ethnicity	**Online**	**F2F**	**Gap**	**Online**	**F2F**	**Gap**	**% Point**	**Improvement Rate**
African American	66.0%	79.4%	-13.4%	78.0%	83.9%	-5.9%	7.5%	56.0%
American Indian	66.0%	82.9%	-7.8%	78.8%	85.1%	-6.3%	1.5%	19.2%
Asian	75.1%	86.7%	-9.3%	88.6%	90.1%	-1.5%	7.8%	83.9%
Latinx	77.4%	83.8%	-12.9%	82.5%	86.7%	-4.2%	8.7%	67.4%
Multi	70.9%	82.6%	-16.4%	83.0%	87.0%	-4.0%	12.4%	75.6%
Pacific Islander	66.2%	82.5%	-9.0%	79.4%	85.6%	-6.2%	2.8%	31.1%
Unknown	73.5%	85.8%	-10.3%	87.1%	91.2%	-4.1%	6.2%	60.2%
White	75.5%	86.6%	-8.3%	86.5%	89.4%	-2.9%	5.4%	65.1%
Overall	75.0%	85.0%	-10.0%	84.4%	87.8%	-3.4%	6.6%	66.0%

Figure 4. Retention Rate Comparisons by Modality and Ethnicity in 2008-2009 vs. 2017-2018



Outcome Comparisons by Modality and TOP Code

Statewide, the TOP2 courses that tend to have the lowest online course success rates have been in mathematics (17), foreign language (11), and architecture (02) (Table 15). From 2008-2009 to 2017-2018, the online success rates across all the TOP2 areas have improved, and the gap between online and F2F courses in those same areas have also narrowed, with the gaps in two TOP2 areas closing completely (Biological Sciences-04 and Physical Sciences-19). The success rate for online courses in both TOP2 areas was actually higher than it was in the F2F courses in 2017-2018. Moreover, the gap between online and F2F is also starting to close for courses in Foreign Language-11 and Social Sciences-22, where improvement rates in each area have reached close to 80%.

Table 15. Success Rate Comparisons by Modality and TOP Code in 2008-2009 vs. 2017-2018

TOP Code	2008-2009			2017-2018			Gap Difference	
	Online	F2F	Gap	Online	F2F	Gap	% Point	Improvement Rate
Agriculture and Natural Resources-01	57.7%	77.5%	-19.8%	70.6%	80.2%	-9.5%	10.3%	52.0%
Architecture and Related Technologies-02	49.0%	71.2%	-22.2%	65.9%	77.2%	-11.2%	11.0%	49.5%
Biological Sciences-04	59.2%	66.5%	-7.3%	70.6%	69.8%	0.7%	8.0%	109.6%
Business and Management-05	55.8%	67.1%	-11.3%	68.8%	73.9%	-5.0%	6.3%	55.8%
Commercial Services-30	60.6%	81.9%	-21.3%	69.1%	85.7%	-16.7%	4.6%	21.6%
Education-08	60.6%	75.1%	-14.5%	70.8%	82.4%	-11.5%	3.0%	20.7%
Engineering and Industrial Technologies-09	59.0%	80.6%	-21.6%	70.7%	84.1%	-13.3%	8.3%	38.4%
Environmental Sciences and Technologies-03	63.1%	76.2%	-13.1%	74.1%	82.0%	-7.9%	5.2%	39.7%
Family and Consumer Sciences-13	59.7%	72.4%	-12.7%	70.3%	77.8%	-7.4%	5.3%	41.7%
Fine and Applied Arts-10	61.0%	72.0%	-11.0%	72.2%	77.4%	-5.2%	5.8%	52.7%
Foreign Language-11	48.8%	68.1%	-19.4%	69.8%	74.0%	-4.2%	15.2%	78.4%
Health-12	71.3%	84.9%	-13.6%	78.3%	87.2%	-9.0%	4.6%	33.8%
Humanities (Letters)-15	54.5%	66.8%	-12.3%	67.0%	71.7%	-4.7%	7.6%	61.8%
Information Technology-07	57.2%	64.3%	-7.1%	67.4%	71.7%	-4.3%	2.8%	39.4%
Interdisciplinary Studies-49	57.6%	72.8%	-15.2%	69.4%	78.7%	-9.3%	5.9%	38.8%
Law-14	50.1%	72.2%	-22.1%	68.1%	79.1%	-11.1%	11.0%	49.8%
Library Science-16	56.8%	69.1%	-12.4%	72.8%	76.1%	-3.3%	9.1%	73.4%
Mathematics-17	42.2%	54.9%	-12.7%	52.6%	58.2%	-5.6%	7.1%	55.9%
Media and Communications-06	56.2%	70.7%	-14.4%	69.7%	77.6%	-7.9%	6.5%	45.1%

TOP Code	2008-2009			2017-2018			Gap Difference	
	Online	F2F	Gap	Online	F2F	Gap	% Point	Improvement Rate
Military Studies-18		51.0%			80.5%			
Physical Sciences-19	57.1%	67.4%	-10.4%	72.1%	71.7%	0.4%	10.8%	103.8%
Psychology-20	56.6%	65.7%	-9.1%	71.1%	73.1%	-2.0%	7.1%	78.0%
Public and Protective Services-21	62.6%	87.0%	-24.4%	69.2%	87.6%	-18.4%	6.0%	24.6%
Social Sciences-22	54.2%	64.8%	-10.7%	69.7%	72.0%	-2.3%	8.4%	78.5%
Total	**55.9%**	**69.4%**	**-13.5%**	**68.9%**	**73.6%**	**-4.7%**	**9.0%**	**65.2%**

Similar trends are found in success rates across the TOP2 areas and modality when examining the retention rates for online vs. F2F, and the gaps – where online retention rates are increasing over time and the gap is starting to close (Table 16). Similar to success rate trends, the gap is closing for courses taught via online vs. F2F in the Biological Sciences, Physical Sciences, and Foreign Language.

Table 16. Retention Rate Comparisons by Modality and TOP Code in 2008-2009 vs. 2017-2018

TOP Code	2008-2009			2017-2018			Gap Difference	
	Online	F2F	Gap	Online	F2F	Gap	% Point	Improvement Rate
Agriculture and Natural Resources-01	76.5%	90.2%	-13.8%	85.9%	91.8%	-6.0%	7.8%	56.5%
Architecture and Related Technologies-02	71.4%	84.7%	-13.3%	84.6%	88.8%	-4.2%	9.1%	68.4%
Biological Sciences-04	76.9%	82.1%	-5.2%	84.3%	84.4%	-0.2%	5.0%	96.2%
Business and Management-05	75.1%	82.9%	-7.8%	83.7%	87.5%	-3.7%	4.1%	52.6%
Commercial Services-30	80.5%	91.0%	-10.5%	84.9%	92.4%	-7.5%	3.0%	28.6%
Education-08	79.8%	87.1%	-7.3%	86.5%	90.9%	-4.4%	2.9%	39.7%
Engineering and Industrial Technologies-09	80.9%	91.0%	-10.1%	85.5%	93.0%	-7.5%	2.6%	25.7%
Environmental Sciences and Technologies-03	78.0%	89.6%	-11.5%	87.4%	92.8%	-5.4%	6.1%	53.0%
Family and Consumer Sciences-13	77.4%	86.5%	-9.1%	85.4%	90.1%	-4.7%	4.4%	48.4%
Fine and Applied Arts-10	79.5%	85.3%	-5.8%	86.5%	88.8%	-2.2%	3.6%	62.1%
Foreign Language-11	67.9%	81.6%	-13.7%	84.5%	86.1%	-1.6%	12.1%	88.3%
Health-12	83.7%	92.6%	-8.8%	89.5%	94.2%	-4.7%	4.1%	46.6%
Humanities (Letters)-15	71.2%	83.4%	-12.2%	82.2%	86.8%	-4.6%	7.6%	62.3%

TOP Code	2008-2009			2017-2018			Gap Difference	
	Online	F2F	Gap	Online	F2F	Gap	% Point	Improvement Rate
Information Technology-07	75.4%	82.0%	-6.7%	82.0%	85.6%	-3.5%	3.2%	47.8%
Interdisciplinary Studies-49	78.8%	88.2%	-9.4%	87.1%	91.3%	-4.3%	5.1%	54.3%
Law-14	61.3%	84.8%	-23.5%	83.1%	89.1%	-6.0%	17.5%	74.5%
Library Science-16	76.4%	86.9%	-10.5%	88.6%	89.8%	-1.2%	9.3%	88.6%
Mathematics-17	69.4%	77.9%	-8.5%	77.1%	81.1%	-4.0%	4.5%	52.9%
Media and Communications-06	75.2%	85.6%	-10.4%	85.1%	89.6%	-4.5%	5.9%	56.7%
Military Studies-18		85.9%			89.6%			
Physical Sciences-19	73.9%	82.4%	-8.5%	85.3%	85.7%	-0.5%	8.0%	94.1%
Psychology-20	76.0%	84.9%	-8.9%	86.3%	89.3%	-3.0%	5.9%	66.3%
Public and Protective Services-21	82.1%	94.3%	-12.1%	85.9%	94.6%	-8.8%	3.3%	27.3%
Social Sciences-22	73.2%	83.9%	-10.7%	84.8%	88.5%	-3.6%	7.1%	66.4%
Total	**75.0%**	**84.9%**	**-9.9%**	**84.4%**	**87.8%**	**-3.4%**	**6.5%**	**65.7%**

Outcome Comparisons by Modality and CTE Status

Over the past 10 years, course success and retention rates have been lower in online CTE courses vs. online non-CTE courses (Table 17). However, following general statewide trends, the success and retention rates in online CTE courses have increased over time, and at a greater rate than non-CTE courses, with the gap in both success and retention rates slowly closing. Online CTE vs. non-CTE success rate gaps have improved by 68% and retention rate gaps have improved by 62%. By modality, online CTE courses have also been typically lower in terms of success and retention than in F2F CTE courses, but the rates have been improving over time, with the gap between online vs. F2F for CTE courses also starting to close (Table 18).

Table 17. Online Success and Retention Rate Comparisons by CTE Status Between 2008-2009 and 2017-2018

	Success Rate			Retention Rate		
	CTE	**Non-CTE**	**Difference**	**CTE**	**Non-CTE**	**Difference**
2008-2009	58.0%	68.5%	-10.6%	76.6%	84.3%	-7.7%
2009-2010	59.5%	69.3%	-9.8%	78.5%	85.1%	-6.6%
2010-2011	59.8%	69.6%	-9.8%	78.8%	85.2%	-6.4%
2011-2012	61.4%	70.0%	-8.6%	79.5%	85.5%	-6.0%
2012-2013	63.8%	71.0%	-7.3%	81.4%	86.8%	-5.3%
2013-2014	63.9%	70.8%	-6.9%	81.6%	86.7%	-5.1%
2014-2015	64.5%	70.8%	-6.3%	81.8%	86.5%	-4.7%
2015-2016	66.2%	71.5%	-5.3%	82.8%	86.8%	-4.0%
2016-2017	67.5%	72.3%	-4.8%	83.4%	87.2%	-3.7%
2017-2018	69.5%	72.9%	-3.4%	84.4%	87.3%	-2.9%
% Point Change 2008 vs. 2017	**11.5%**	**4.4%**	**7.2%**	**7.8%**	**3.0%**	**4.8%**
2008 to 2017 Improvement Rate	**19.8%**	**6.4%**	**67.9%**	**10.2%**	**3.6%**	**62.3%**

Table 18. CTE Success and Retention Rate Comparisons by Modality Between 2008-2009 and 2017-2018

	Success Rates			Retention Rates		
Year	**Online**	**F2F**	**Gap**	**Online**	**F2F**	**Gap**
2008-2009	58.0%	76.0%	-18.0%	76.6%	88.2%	-11.6%
2009-2010	59.5%	76.2%	-16.8%	78.5%	88.6%	-10.2%
2010-2011	59.8%	76.5%	-16.7%	78.8%	88.6%	-9.8%
2011-2012	61.4%	76.3%	-14.9%	79.5%	88.6%	-9.2%
2012-2013	63.8%	77.2%	-13.5%	81.4%	89.6%	-8.2%
2013-2014	63.9%	77.2%	-13.4%	81.6%	89.6%	-8.0%
2014-2015	64.5%	77.7%	-13.2%	81.8%	89.6%	-7.8%
2015-2016	66.2%	78.9%	-12.6%	82.8%	90.1%	-7.3%
2016-2017	67.5%	80.1%	-12.6%	83.4%	90.7%	-7.3%
2017-2018	69.5%	80.7%	-11.2%	84.4%	91.0%	-6.6%
% Point Change 2008 vs. 2017	**11.5%**	**4.7%**	**6.8%**	**7.8%**	**2.8%**	**5.0%**
2008 to 2017 Improvement Rate	**19.8%**	**6.2%**	**37.8%**	**10.2%**	**3.2%**	**43.1%**

Transfer-Level Math and English Outcome Comparisons by Modality

The data show that success and retention rates in online transfer-level math and English courses have been steadily increasing over time (Tables 19 and 20). The gaps between online and F2F courses in transfer-level math courses are also steadily closing. Since 2008-2009, the percentage point improvement in online transfer-level math courses was 5.2%, whereas it was only 1.4% points for F2F.

Table 19. Transfer-Level Math Success and Retention Rate Comparisons by Modality Between 2008-2009 and 2017-2018

	Success Rates			Retention Rates		
Academic Year	**Online**	**F2F**	**Gap**	**Online**	**F2F**	**Gap**
2008-2009	50.9%	60.8%	-9.9%	72.3%	78.2%	-5.8%
2009-2010	53.0%	61.1%	-8.1%	74.2%	78.6%	-4.4%
2010-2011	51.4%	60.9%	-9.5%	72.7%	78.6%	-5.9%
2011-2012	51.1%	61.2%	-10.1%	72.8%	79.3%	-6.4%
2012-2013	53.1%	62.4%	-9.3%	74.7%	80.8%	-6.0%
2013-2014	54.0%	62.2%	-8.2%	75.3%	80.9%	-5.7%
2014-2015	54.6%	61.9%	-7.3%	75.8%	80.6%	-4.8%
2015-2016	54.5%	62.1%	-7.6%	75.3%	80.9%	-5.5%
2016-2017	56.1%	62.3%	-6.2%	77.0%	81.0%	-4.0%
2017-2018	56.1%	62.2%	-6.1%	76.9%	81.1%	-4.2%
% Point Change 2008 vs. 2017	**5.2%**	**1.4%**	**3.8%**	**4.6%**	**2.9%**	**1.6%**
2008 to 2017 Improvement Rate	**10.2%**	**2.3%**	**38.4%**	**6.4%**	**3.7%**	**27.6%**

Table 20. Transfer-Level English Course Success and Retention Rate Comparisons by Modality Between 2008-2009 and 2017-2018

	Success Rates			Retention Rates		
Academic Year	**Online**	**F2F**	**Gap**	**Online**	**F2F**	**Gap**
2008-2009	55.5%	68.1%	-12.7%	70.8%	82.1%	-11.3%
2009-2010	57.5%	69.4%	-11.9%	73.1%	83.3%	-10.3%
2010-2011	58.5%	69.9%	-11.4%	73.7%	83.3%	-9.6%
2011-2012	59.8%	70.8%	-11.0%	75.3%	84.2%	-8.9%
2012-2013	61.7%	71.9%	-10.1%	77.4%	85.8%	-8.4%
2013-2014	61.5%	71.4%	-10.0%	77.7%	85.6%	-7.9%
2014-2015	61.7%	71.4%	-9.6%	77.7%	85.5%	-7.8%
2015-2016	62.5%	71.5%	-9.0%	78.7%	85.8%	-7.0%
2016-2017	63.6%	71.7%	-8.2%	79.4%	86.1%	-6.7%
2017-2018	65.0%	71.4%	-6.4%	80.3%	86.1%	-5.8%
% Point Change 2008 vs. 2017	**9.5%**	**3.3%**	**6.3%**	**9.5%**	**4.0%**	**5.5%**
2008 to 2017 Improvement Rate	**17.1%**	**4.8%**	**49.6%**	**13.4%**	**4.9%**	**48.7%**

The OEI's Impact on Online Course Outcomes

This section contains course success and retention rates for OEI pilot sections. Data for these sections has been requested annually from OEI pilot colleges since the 2014-2015 academic year. The data colleges submit includes course characteristics, student gender and ethnicity information, and course grades. The course data includes enough information to identify the four-digit TOP code for each course. Data for summer and winter terms were not collected for any academic year for these colleges

The tables in this section contain three separate groups; the OEI Pilot Section data, online course data from the 24 OEI colleges (including data for both pilot and non-pilot sections), and statewide online course data. The OEI Pilot Section data only reflects data from colleges who submitted a data file for every academic year (2014-2015, 2016-2017, and 2017-2018).[4] Data for the latter two groups was collected from DataMart. In order to better compare outcomes, the four-digit TOP codes collected from the pilot data were matched with online enrollments from the OEI colleges and statewide data. Therefore, the OEI Colleges and Statewide data contain only course information from the same TOP codes as the submitted pilot college data for each academic year.

Over the three years where data were submitted, OEI pilot sections had a 67.8% success rate, which was higher than both the OEI college rate (65.1%) and the statewide rate (63.5%) (Table 21). In addition, the success rates in each year submitted was also higher for OEI pilot sections than it was for the overall rates from OEI pilot colleges as a whole, and statewide.

Table 21. OEI Pilot Section Success Rate Comparisons

	OEI Pilot Sections		OEI Colleges		Statewide	
Year	**Enrollments**	**Success Rate**	**Enrollments**	**Success Rate**	**Enrollments**	**Success Rate**
2015-2016	4,211	68.3%	126,079	62.7%	467,803	61.1%
2016-2017	3,602	68.3%	126,891	65.1%	517,791	62.7%
2017-2018	4,069	66.8%	130,714	67.6%	698,782	65.6%
Three Year Total	**11,882**	**67.8%**	**383,684**	**65.1%**	**1,684,376**	**63.5%**

[4] Includes data from 15 colleges. See Appendix B for the list of colleges.

The three-year retention rate for OEI pilot sections was 85.0%, which was slightly higher than the retention rate for similar courses at OEI colleges (82.8%) and at the state level (81.7%) (Table 22). During the 2017-2018 academic year, retention rates for pilot sections were slightly lower than for similar OEI college courses (82.6% and 83.4%, respectively).

Table 22. OEI Pilot Section Retention Rate Comparisons

	OEI Pilot Sections		OEI Colleges		Statewide	
Year	**Enrollments**	**Retention Rate**	**Enrollments**	**Retention Rate**	**Enrollments**	**Retention Rate**
2015-2016	4,211	86.0%	126,079	82.2%	467,803	80.5%
2016-2017	3,602	86.6%	126,891	82.7%	517,791	81.5%
2017-2018	4,069	82.6%	130,714	83.4%	698,782	82.7%
Total	**11,882**	**85.0%**	**383,684**	**82.8%**	**1,684,376**	**81.7%**

Pilot Section Outcomes by TOP Code

Success rates for the cohorts by four-digit TOP code for the three academic years reveal the highest success rates in OEI Pilot Sections relative to the college and statewide were courses in the Creative Writing programs, with success rate up to 21.2% point higher than the OEI College overall, and Information Technology programs with rates 11.7% points higher than the OEI College overall. OEI Pilot Sections in the Dramatic Arts had success rates 20.7% points lower than those in OEI College courses. It is important to note that for both Creative Writing and Dramatic Arts, the enrollment size for the OEI Pilot Sections were low and so caution should be taken not to over-generalize these findings for those programs.

Table 23. OEI Pilot Section Success Rate Comparisons by TOP Code: 2015-2016 to 2017-2018 Combined

	OEI Pilot Sections		OEI Colleges		Statewide	
TOP Code	Enrollments	Success Rate	Enrollments	Success Rates	Enrollments	Success Rates
Accounting-0502	40	72.5%	9,568	73.9%	40,872	69.4%
Administration of Justice-2105	563	63.1%	15,052	61.6%	63,814	64.9%
Anthropology-2202	687	69.9%	20,512	69.1%	82,724	65.6%

TOP Code	OEI Pilot Sections		OEI Colleges		Statewide	
	Enrollments	Success Rate	Enrollments	Success Rates	Enrollments	Success Rates
Business and Commerce, General-0501	40	67.5%	1,868	66.7%	24,469	68.5%
Child Development/Early Care and Education-1305	494	68.6%	33,685	69.7%	137,659	67.2%
Creative Writing-1507	21	95.2%	100	74.0%	586	77.6%
Digital Media-0614	56	67.9%	2,290	66.8%	9,838	62.1%
Dramatic Arts-1007	39	43.6%	947	64.3%	8,207	66.9%
Economics-2204	1,147	70.6%	19,068	73.6%	89,117	69.7%
English-1501	1,946	67.8%	53,416	63.3%	231,085	61.2%
Geography-2206	491	69.7%	10,562	67.9%	38,003	66.5%
Geology-1914	889	70.1%	6,772	73.8%	15,199	72.4%
History-2205	565	67.4%	40,382	63.2%	179,932	62.6%
Information Technology, General-0701	62	75.8%	3,315	64.1%	21,999	66.7%
Kinesiology-1270	23	82.6%	1,253	74.3%	6,378	69.5%
Mathematics, General-1701	240	57.9%	41,243	49.6%	184,805	49.8%
Nutrition, Foods, and Culinary Arts-1306	87	60.9%	2,875	66.4%	22,596	69.9%
Philosophy-1509	681	66.4%	17,809	65.1%	67,328	63.2%
Political Science-2207	644	63.2%	21,515	64.8%	103,059	64.2%
Psychology, General-2001	1,746	64.7%	43,097	67.6%	191,326	66.0%
Sociology-2208	1,367	72.1%	28,600	68.7%	135,097	64.9%
Speech Communication-1506	54	79.6%	9,755	72.8%	30,283	70.5%
Total	**11,882**	**67.8%**	**383,684**	**65.1%**	**1,684,376**	**63.5%**

In terms of retention rates, , the same general pattern was found, where Creating Writing sections in the OEI Pilot Sections had the highest retention rates relative to the sections Statewide and OEI Colleges, and the low retention rates in the OEI Pilot Sections for Dramatic Arts, relative to the rates in OEI Colleges and Statewide (Table 24).

Table 24. OEI Pilot Section Retention Rate Comparisons by TOP Code: 2015-2016 to 2017-2018 Combined

	OEI Pilot Sections		OEI Colleges		Statewide	
TOP Code	Enrollments	Retention Rate	Enrollments	Retention Rate	Enrollments	Retention Rate
Accounting-0502	40	82.5%	9,568	85.2%	40,872	82.5%
Administration of Justice-2105	563	81.3%	15,052	85.1%	63,814	84.7%
Anthropology-2202	687	87.8%	20,512	85.5%	82,724	83.3%
Business and Commerce, General-0501	40	82.5%	1,868	83.6%	24,469	84.3%
Child Development/Early Care and Education-1305	494	90.9%	33,685	85.2%	137,659	84.2%
Creative Writing-1507	21	95.2%	100	86.0%	586	87.0%
Digital Media-0614	56	87.5%	2,290	82.4%	9,838	79.6%
Dramatic Arts-1007	39	46.2%	947	79.8%	8,207	84.9%
Economics-2204	1,147	83.7%	19,068	87.0%	89,117	85.0%
English-1501	1,946	86.9%	53,416	80.7%	231,085	78.7%
Geography-2206	491	83.9%	10,562	84.9%	38,003	83.1%
Geology-1914	889	86.6%	6,772	86.6%	15,199	85.7%
History-2205	565	82.5%	40,382	81.2%	179,932	81.1%
Information Technology, General-0701	62	77.4%	3,315	83.0%	21,999	82.6%

	OEI Pilot Sections		OEI Colleges		Statewide	
TOP Code	Enrollments	Retention Rate	Enrollments	Retention Rate	Enrollments	Retention Rate
Kinesiology-1270	23	95.7%	1,253	86.6%	6,378	86.4%
Mathematics, General-1701	240	81.3%	41,243	74.5%	184,805	75.9%
Nutrition, Foods, and Culinary Arts-1306	87	73.6%	2,875	78.3%	22,596	84.3%
Philosophy-1509	681	88.5%	17,809	82.1%	67,328	80.3%
Political Science-2207	644	85.7%	21,515	81.9%	103,059	81.6%
Psychology, General-2001	1,746	81.9%	43,097	84.8%	191,326	84.1%
Sociology-2208	1,367	86.2%	28,600	85.7%	135,097	83.1%
Speech Communication-1506	54	88.9%	9,755	88.7%	30,283	85.5%
Total	**11,882**	**85.0%**	**383,684**	**82.8%**	**1,684,376**	**81.7%**

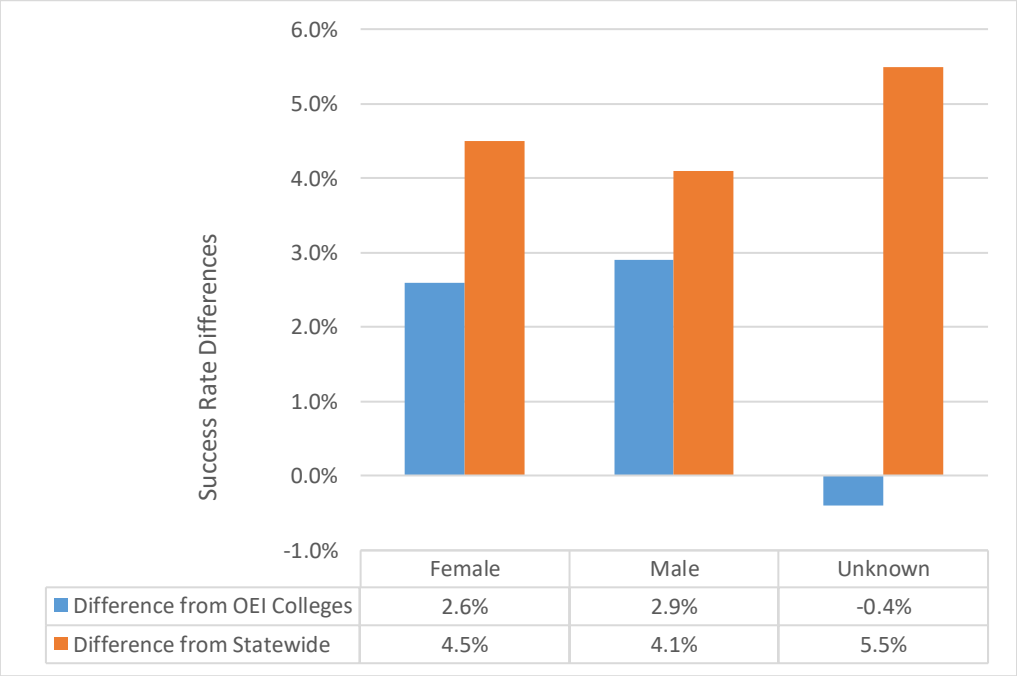
OEI Pilot Section Success and Retention Rates by Gender

Both female and male students in OEI Pilot Sections had success rates that were higher than those in OEI College online courses, and Statewide online courses (Table 25). Males had success rates 2.9% points higher in OEI Pilot Sections compared to OEI College online courses, and rates 4.0% points higher than males statewide. Females had success rates 2.6% points higher than OEI courses, and rates 4.5% points higher than the statewide rate (Figure 5).

Table 25. OEI Pilot Section Success Rate Comparisons by Gender: 2015-2016 to 2017-2018 Combined

	OEI Pilot Sections		OEI Colleges		Statewide	
Gender	**Enrollments**	**Success Rate**	**Enrollments**	**Success Rates**	**Enrollments**	**Success Rates**
Female	7,629	68.2%	249,109	65.6%	1,098,936	63.7%
Male	4,125	67.1%	131,353	64.2%	567,915	63.0%
Unknown	128	67.2%	3,222	67.6%	17525	61.7%
Total	**11,882**	**67.8%**	**383,684**	**65.1%**	**1,684,376**	**63.5%**

Figure 5. OEI Pilot Section Comparisons by Gender: Success Rate Differences from OEI Colleges and Statewide for 2015-2016 to 2017-2017 Combined



Retention rates for both female and male students in OEI Pilot Sections were slightly higher compared to students enrolled in online courses at OEI Colleges and Statewide (Table 26).

Table 26. OEI Pilot Section Retention Rate Comparisons by Gender: 2015-2016 to 2017-2018 Combined

	OEI Pilot Sections		OEI Colleges		Statewide	
Gender	**Enrollments**	**Retention Rate**	**Enrollments**	**Retention Rate**	**Enrollments**	**Retention Rate**
Female	7,629	85.3%	249,109	83.1%	1,098,936	81.9%
Male	4,125	84.6%	131,353	82.2%	567,915	81.4%
Unknown	128	84.4%	3,222	84.0%	17525	80.2%
Total	**11,882**	**85.0%**	**383,684**	**82.8%**	**1,684,376**	**81.7%**

OEI Pilot Section Success and Retention Rates by Ethnicity

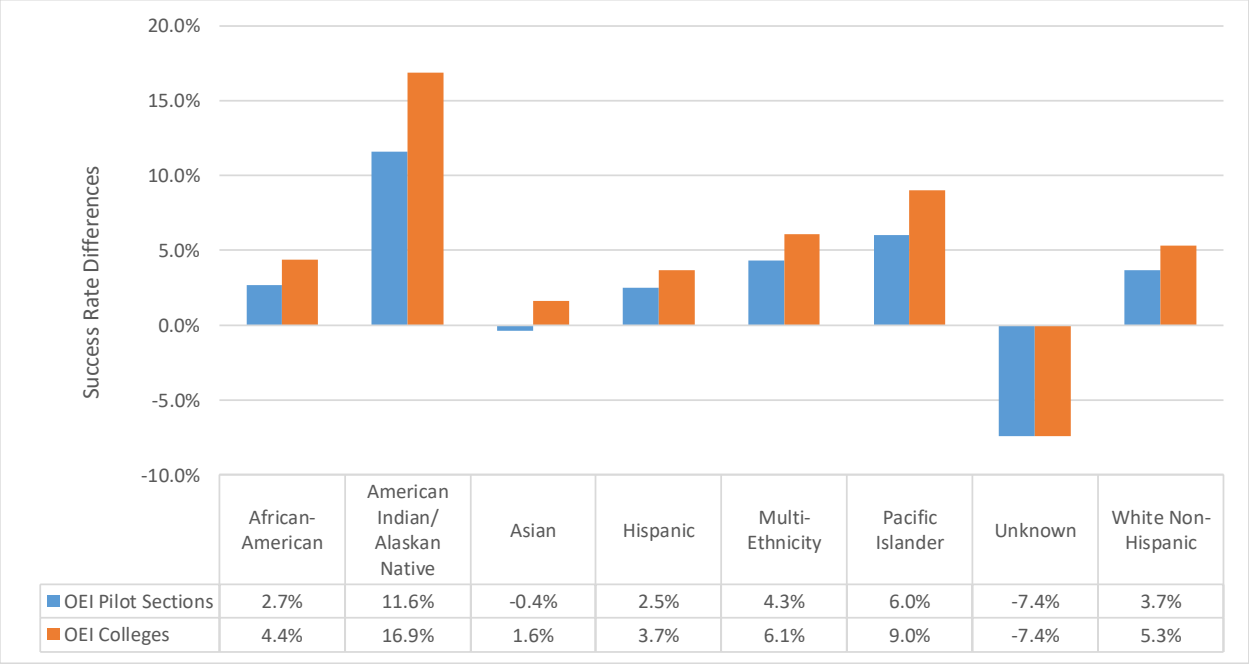
Except for students in the Unknown category, all ethnic subgroups in OEI pilot sections had higher success rates in their courses compared to those in OEI College online courses and

statewide online courses (Table 27). In particular, American Indian/Alaskan Native students had success rates 11.6% points higher than the OEI College rate, and 16.9% points higher than the Statewide rate (Figure 6). While African-American, Hispanic and Pacific Islander success rates were higher in OEI Pilot Sections, they still performed below the average across the board.

Table 27. OEI Pilot Section Success Rates Comparisons by Ethnicity: 2015-2016 to 2017-2018 Combined

	OEI Pilot Sections		OEI Colleges		Statewide	
Ethnicity	**Enrollments**	**Success Rate**	**Enrollments**	**Success Rates**	**Enrollments**	**Success Rate**
African- American	744	52.8%	26,885	50.1%	61,001	48.4%
American Indian/ Alaskan Native	57	75.4%	1,589	63.8%	4,802	58.5%
Asian	1,287	75.8%	47,424	76.2%	160,344	74.2%
Hispanic	4,304	62.2%	154,324	59.7%	403,193	58.5%
Multi-Ethnicity	1,014	66.6%	18,849	62.3%	51,256	60.5%
Pacific Islander	68	63.2%	1,450	57.2%	4,344	54.2%
Unknown	410	62.9%	6,395	70.3%	23,622	70.3%
White Non-Hispanic	3,998	74.8%	126,768	71.1%	360,376	69.5%
Total	**11,882**	**67.8%**	**383,684**	**65.1%**	**1,068,938**	**63.5%**

Figure 6. OEI Pilot Section Comparisons by Ethnicity: Success Rate Differences from OEI Colleges and Statewide for 2015-2016 to 2017-2017 Combined



Overall, students in every ethnic subgroup in OEI pilot sections had retention rates that were higher than those enrolled in similar OEI pilot college and statewide online courses (Table 28). Aside from American Indian/Alaskan Native students, students in the Multi-Ethnicity category had the largest retention rate difference; 3.3% points higher than the OEI pilot college rate, and 4.0% points higher than the statewide rate.

Table 28. OEI Pilot Section Retention Rate Comparisons by Ethnicity: 2015-2016 to 2017-2018 Combined

	OEI Pilot Sections		OEI Colleges		Statewide	
Ethnicity	**Enrollments**	**Retention Rate**	**Enrollments**	**Retention Rate**	**Enrollments**	**Retention Rate**
African-American	744	78.9%	26,885	77.4%	61,001	75.4%
American Indian/ Alaskan Native	57	91.2%	1,589	82.6%	4,802	79.1%
Asian	1,287	86.8%	47,424	87.3%	160,344	86.3%
Hispanic	4,304	83.5%	154,324	80.6%	403,193	79.7%
Multi-Ethnicity	1,014	84.3%	18,849	81.0%	51,256	80.3%
Pacific Islander	68	80.9%	1,450	77.9%	4,344	76.6%
Unknown	410	81.2%	6,395	85.1%	23,622	85.1%
White Non-Hispanic	3,998	87.8%	126,768	85.1%	360,376	84.3%
Total	**11,882**	**85.0%**	**383,684**	**82.8%**	**1,068,938**	**81.7%**

Summary of Findings and Opportunities

Presently in the system, there are over 500 awards offered at about 40% of the CCCs that can be completed fully online – with a majority of the awards being degree offerings (60.0%) and in CTE program areas (58.1%). The top three program areas were fully-online awards are offered are in business and management (155 awards), social sciences (70 awards), and information technology (66 awards).

Online enrollments have been steadily increasing over the past 10 years. Overall, online enrollments grew 6.4% over the past 10 years, with the proportion of online enrollments relative to all enrollments grew by 8.2%. There has been little change in the gender distribution of online enrollments. However, reflecting changes in the system, online enrollments by Latinx students have grown the fastest relative to all other ethnic subgroups. Despite a general growth found across most program areas in online instruction; the proportion of business and management online courses has actually decreased – a surprising finding, given that business and management has the most offerings in the system as a fully-online program.

Online course outcomes (e.g., success and retention rates) have also been steadily increasing over the past 10 years; with outcomes in F2F courses remaining relatively flat. Online course success rates have improved at a rate of four times greater than in F2F courses – with online courses improving by 23.0% and F2F only improving by 5.7% from 2008 to 2018. Similar trends are found when examining the rates by student characteristics such as gender and ethnicity, CTE status, program area, and transfer-level math and English courses.

However, the improvement rates in online courses across the categories mentioned vary. The improvement rate between online and F2F success rate differences by ethnic group is highest for Asian, multi-ethnicity, and Latinx students relative to their peers (online and F2F gap rate improvement rates of 91.6%, 69.5%, 67.1% respectively for the groups mentioned)– with Asian students nearly closing the success rate gap between online and F2F courses in 2017-2018 when compared to their rate in 2008-2009. The improvement rates for African-American, Pacific Islander, and American Indian students are the lowest of all ethnic groups. A similar trend is found across ethnic groups when examining retention rates.

Across program areas, the gap between online and F2F courses has closed for biological sciences and physical sciences – online course success rates in those program areas now exceed the rates of F2F courses (up to 2%) based on 2017-2018 data. Across transfer-level math and English courses, the success and retention rate improvements and gap between online and F2F are not as high as the overall – with English outcome and improvement rates being slightly higher than that found in math.

Examining the outcomes across the last three years of the first OEI grant; preliminary analysis of the outcomes suggests the OEI has had positive impacts on students' success in online courses – success and retention rates in a sample of OEI pilot sections where students and faculty had access to a suite of resources/tools offered by OEI showed higher overall rates than in comparable online courses across the OEI pilot colleges and statewide.

Opportunities for the Online Education Initiative to Consider

Based on the online education landscape analysis, five opportunity areas have been identified for the Online Education Initiative to consider:

Opportunity #1: Target interventions to address online equity gaps

The overall success and retention rates and improvement rates for African-American, Pacific Islander, and American Indian students are the lowest among all ethnic groups – demonstrating a need to target interventions and/or resources to those students with the greatest need to support their success in online courses.

Opportunity #2: Advocate for improvements in systemwide data reporting for online programs by creating a flag for fully-online programs

Presently, it is not easy to identify fully online programs in the system. The identification of fully-online programs is done college by college, and it is unclear how each college is identifying and determining what is a fully-online program and what is not. With the exception of a flag that identifies the instructional method of courses in the system, there is no comparable flag in the system's reporting structure for programs. In order to improve systemwide data reporting for online programs, it is recommended that, at a minimum, a new data element be created in the state's program award data submission file that flags those programs that can be completed by all online courses. The ability to accurately and consistently identify fully-online programs will help with outreach, planning, and coordination across the colleges and help the OEI and Online Community College strategically plan for courses and program areas.

Opportunity #3: Systemwide coordination for strategic enrollment planning for online coursework and completion

Improving reporting and tracking of fully-online programs and courses can lead to more effective systemwide coordination to support strategic enrollment planning for online coursework and completion across the system. For example, with the OEI and the Online Community College, systemwide coordination could help improve outreach efforts to target potential courses/programs for growth and participation, and more efficiently identify what other programs in the system could potentially be fully online.

Opportunity #4: Strengthen support / resources for online transfer-level math and English courses to offer colleges opportunities to scale up offerings in response to AB705.

With AB705 implementation underway, many CCC will be looking for curricular innovations to support the expected increasing number of students who will be placed into transfer-level. For both English and math, enrollments in transfer-level sections have grown by over 100% since 2008 and the gap between online and face-to-face is starting to narrow. Online instruction provides CCC with a myriad of options for supporting students that may be more readily available and accessible in an online environment.

Opportunity #5: Dig deeper into online education spotlights

Of all TOP2 program areas, the success rate gaps between online and F2F closed for students enrolled courses in the biological sciences and physical sciences. Consider interviewing the faculty in these programs to learn more about what they are doing to better support online learning and how they are closing the gap (e.g., curricular innovations that can be applied to other discipline areas, specific resources/supports).

Appendix A: OEI Pilot Colleges

1. Antelope Valley College
2. Barstow College
3. Butte College
4. Cabrillo College
5. Coastline Community College
6. College of the Canyons
7. Columbia College
8. Foothill College
9. Fresno City College
10. Hartnell College
11. Imperial Valley College
12. Lake Tahoe Community College
13. Mira Costa College
14. Monterey Peninsula College
15. Mt. San Antonio College
16. Mt. San Jacinto College
17. Ohlone College
18. Los Angeles Pierce College
19. Rio Hondo College
20. Saddleback College
21. Shasta College
22. Ventura College
23. Victor Valley College
24. West Los Angeles College

Appendix B: OEI Pilot Sections

1. Cabrillo College
2. Coastline Community College
3. College of the Canyons
4. Columbia College
5. Foothill College
6. Fresno City College
7. Imperial Valley College
8. Lake Tahoe Community College
9. Mira Costa College
10. Monterey Peninsula College
11. Mt. San Antonio College
12. Rio Hondo College
13. Saddleback College
14. Ventura College
15. West Los Angeles College

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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