

# Districtwide Distance Education Strategic Planning Session

September 16, 2016

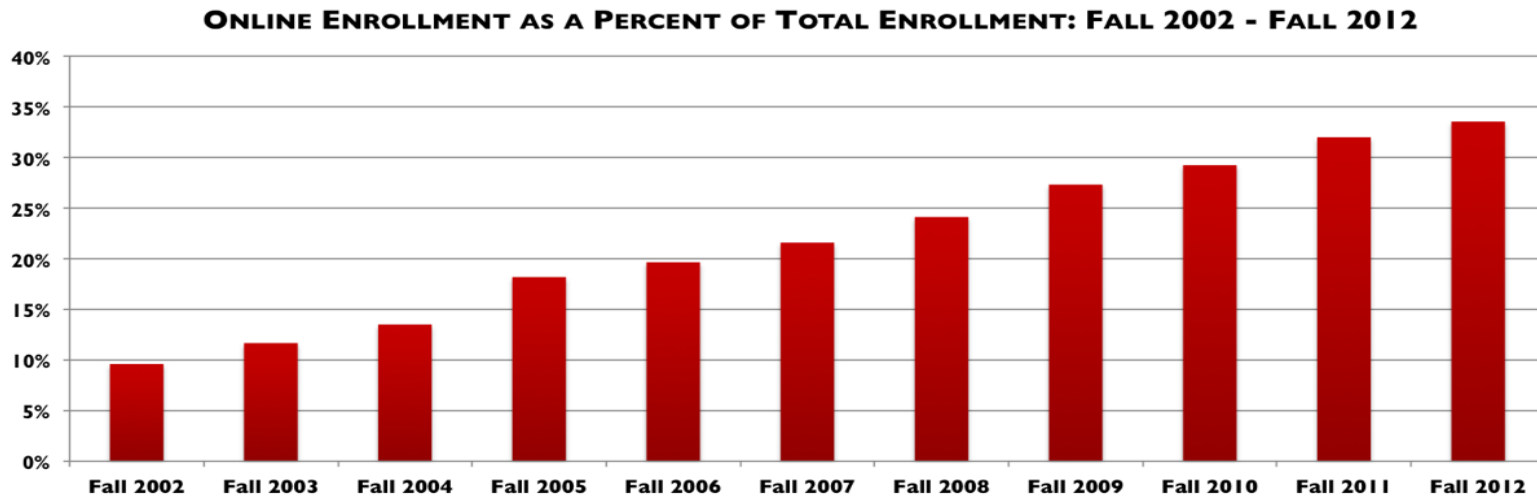
*Gregory Stoup*  
*Contra Costa Community College District*  
*Office of Research & Planning*

# A quick overview of what we will be reviewing

- A snapshot of a few important state and national trends in online education
  - enrollment by demographic groups
  - online participation rates
  - gaps in performance
- District trends in online enrollment, participation rates and performance gap
- Salient findings from 2013 technology usage survey

# A brief national overview of Distance Education

Demand for online courses continue to grow nationwide



- 7.1 million students took at least one online course in fall 2012
- Most enrolled online courses are in Information Technology and Business Management.
- Persistent performance gaps by student ethnicity, gender and age.

# National Center for Education Statistics

**Table 1. Number and percentage of students enrolled at Title IV institutions, by distance education enrollment status, student level, control and level of institution, and other selected characteristics: United States, fall 2012**

Student level, control and level of institution, region, institution size, institutional category, and Tribal or Historically Black College and University status	Total	Students enrolled exclusively in distance education courses		Students enrolled in some but not all distance education courses		Students not enrolled in any distance education courses	
		Number	Percent	Number	Percent	Number	Percent
Total	21,147,055	2,642,158	12.5	2,809,942	13.3	15,694,955	74.2
<b>Student level</b>							
Undergraduate <sup>1</sup>	18,236,340	2,002,815	11.0	2,582,475	14.2	13,651,050	74.9
Degree/certificate-seeking	16,225,545	1,807,860	11.1	2,466,785	15.2	11,950,900	73.7
Non-degree/certificate-seeking	1,623,082	192,594	11.9	113,683	7.0	1,316,805	81.1
Graduate	2,910,715	639,343	22.0	227,467	7.8	2,043,905	70.2
<b>Control and level of institution</b>							
Public	14,996,482	1,249,135	8.3	2,406,908	16.0	11,340,439	75.6
4-year	8,092,727	574,709	7.1	1,223,442	15.1	6,294,576	77.8
2-year	6,845,174	674,134	9.8	1,182,801	17.3	4,988,239	72.9
Less-than-2-year	58,581	292	0.5	665	1.1	57,624	98.4
Private nonprofit	3,975,542	467,528	11.8	259,843	6.5	3,248,171	81.7
4-year	3,916,356	466,730	11.9	257,599	6.6	3,192,027	81.5
2-year	47,524	798	1.7	2,198	4.6	44,528	93.7
Less-than-2-year	11,662	0	0.0	46	0.4	11,616	99.6
Private for-profit	2,175,031	925,495	42.6	143,191	6.6	1,106,345	50.9
4-year	1,470,191	901,601	61.3	121,684	8.3	446,906	30.4
2-year	413,377	21,711	5.3	19,749	4.8	371,917	90.0
Less-than-2-year	291,463	2,183	0.7	1,758	0.6	287,522	98.6





**PPIC**

PUBLIC POLICY  
INSTITUTE OF CALIFORNIA

## Online Learning and Student Outcomes in California's Community Colleges

May 2014

Hans Johnson • Marisol Cuellar Mejia

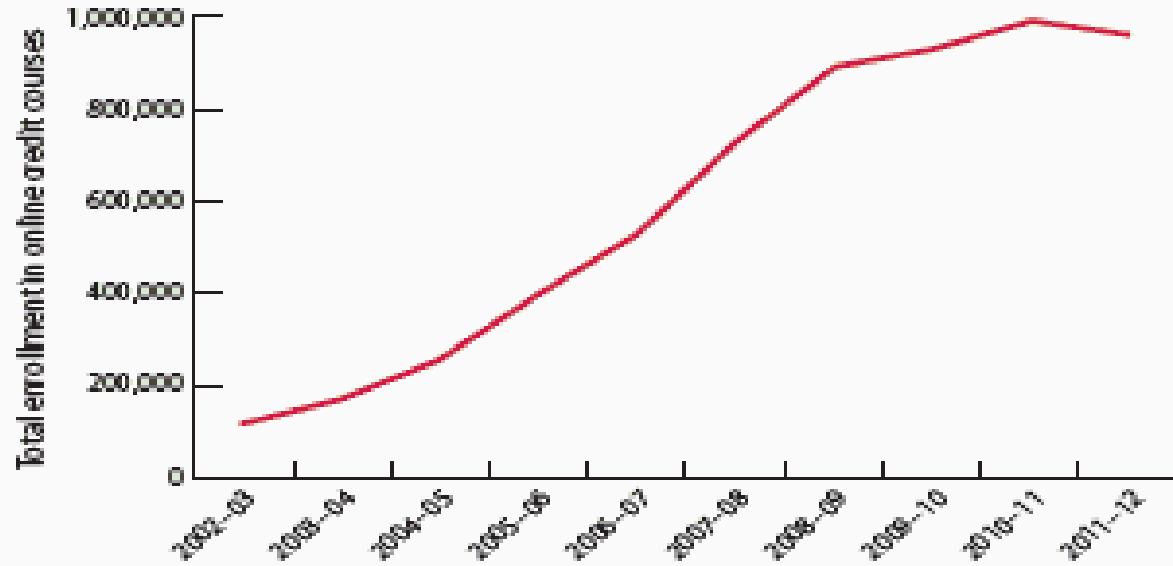
with research support from Kevin Cook

*Supported with funding from the Donald Bren Foundation*

To provide something in the way of a baseline for our District information, we begin by examining findings from a recent study of statewide online patterns among California Community Colleges

# California Community Colleges have experienced steady growth in online enrollments.

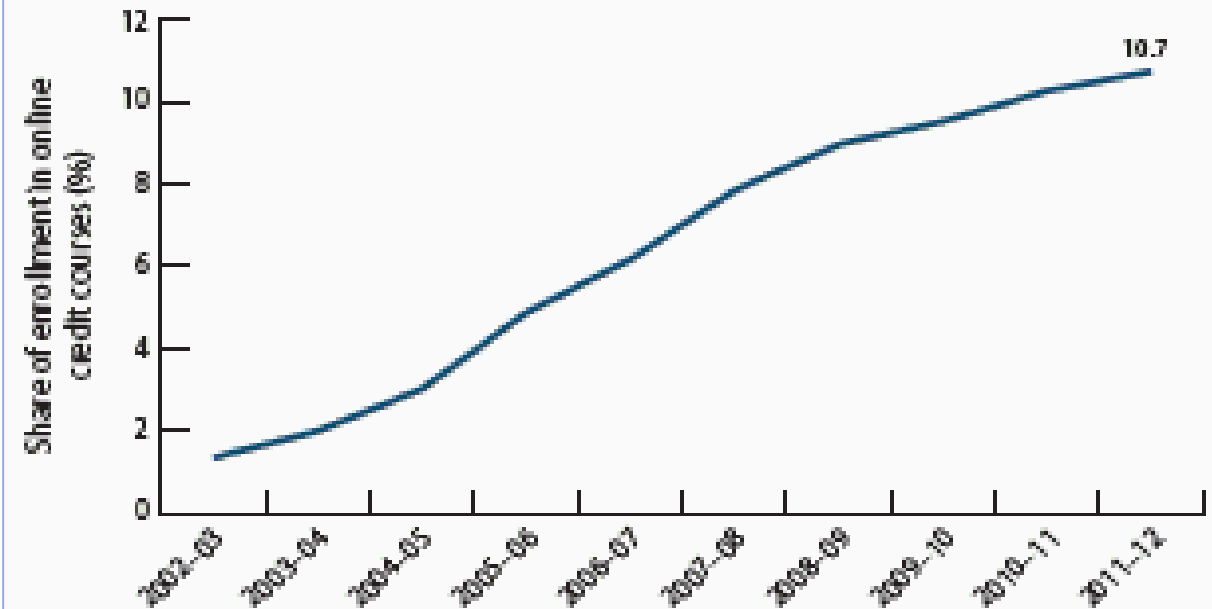
**Figure 1. Online enrollment has soared**



Total enrollment in online courses grew exceptional fast from 2002/03 through 2008/09 before it began to slow as the state began to enter a period of declining enrollments overall.

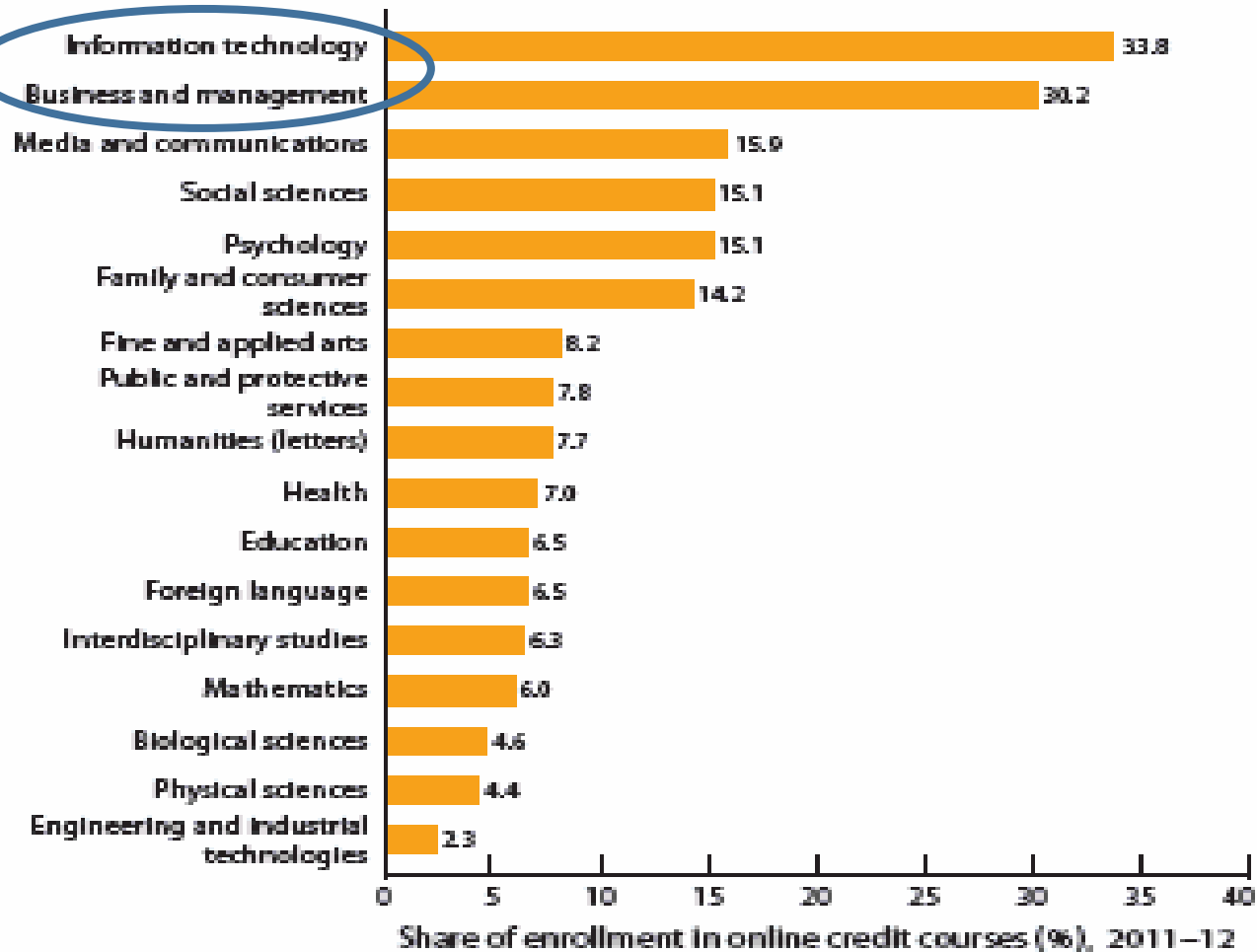
The participation in online courses, measured as the percent of overall enrollments, has grown rather steadily from 2002/03 through 2011/12.

**Figure 2. One of every nine student course enrollments is in an online course**



# Distance Education in California Community Colleges

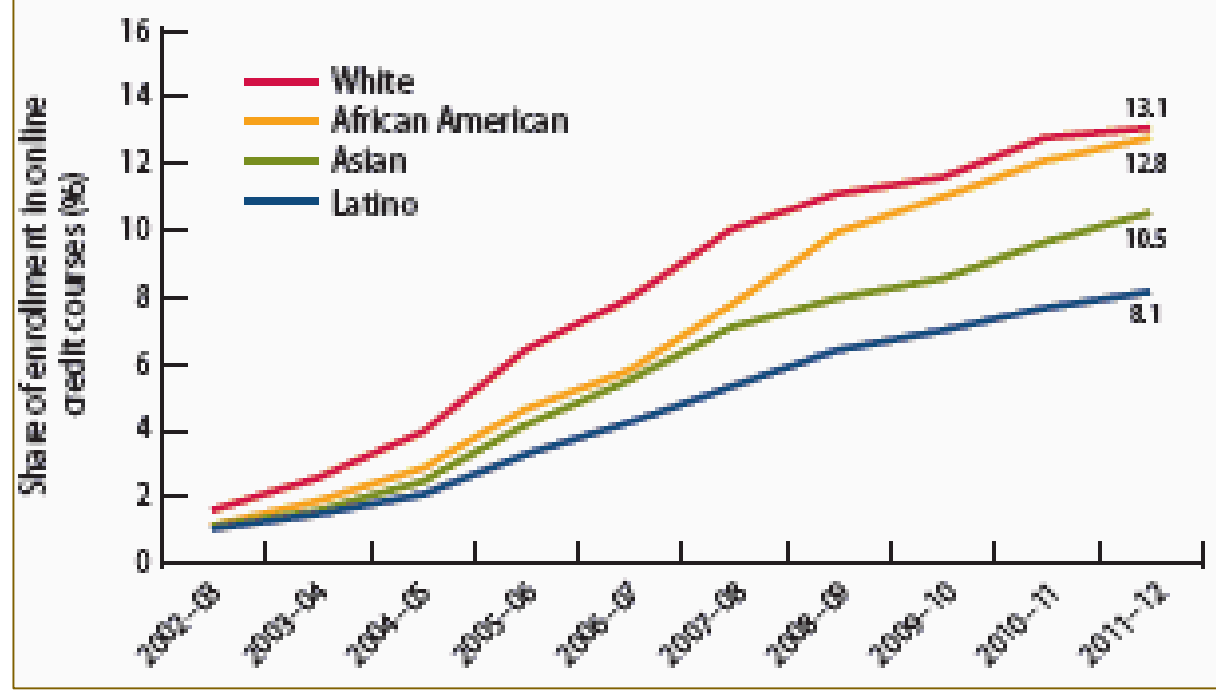
Figure 3. Online offerings vary widely across subjects



Reflecting a similar pattern to the national trends, online enrollments in California Community Colleges is highest within the **Information Technology** and **Business Management** disciplines

# Statewide participation rates in online courses are increasing across multiple groups

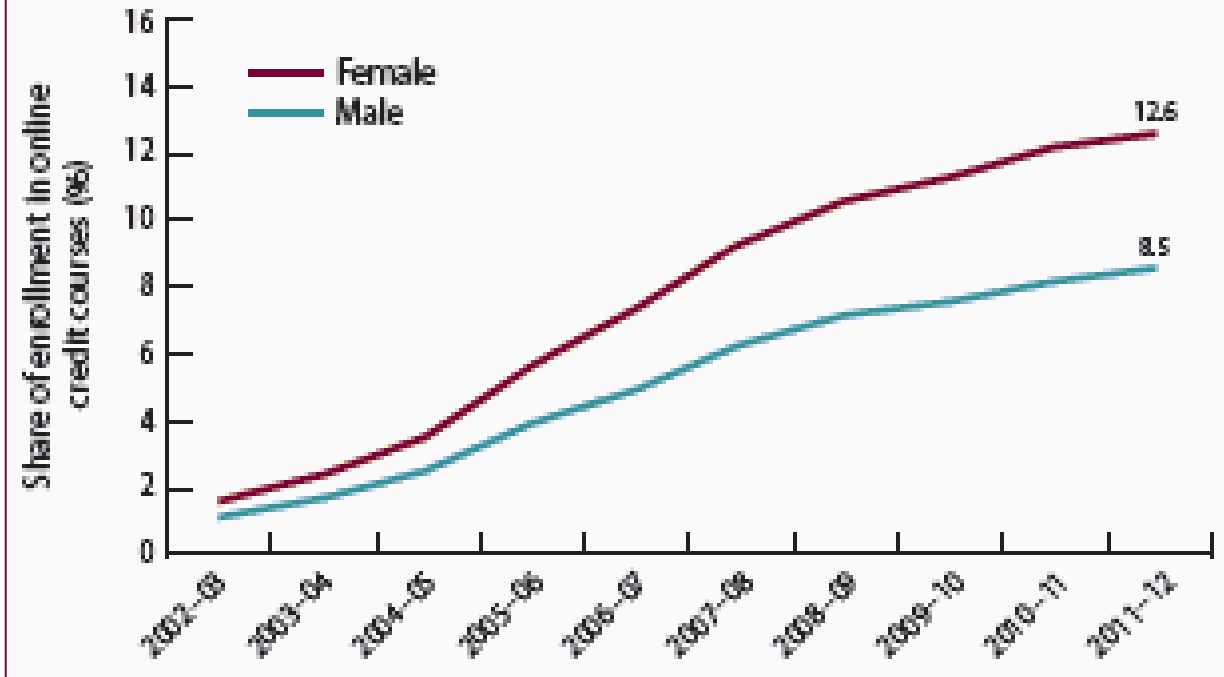
Figure 4a. Latinos are less likely than other students to take online courses



Participation rates have increased steadily across all four ethnicity groups tracked by the PPIC report. Note that African-American students exhibit the second highest participation rate in the state in 2011/12.

Participation rates among female students are not only higher than males but the gap appears to be widening across the state.

Figure 4b. Male students are less likely than female students to take online courses



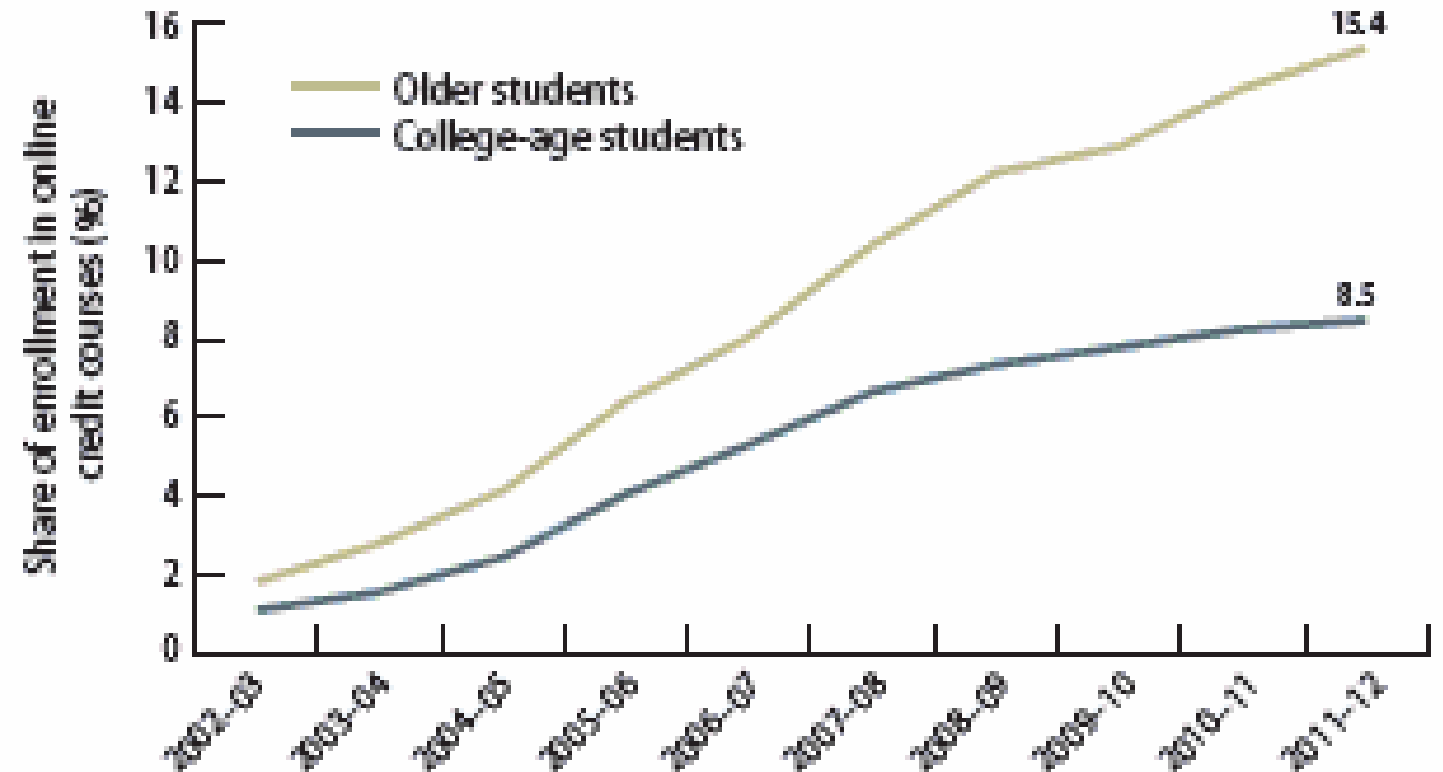


## Statewide participation rates in online courses are increasing across multiple groups

The PPIC report examine participation rates across two student age groups: those less than 25 years old (College-age students) and those 25 years and older.

Statewide the online participation rate of student 25 and older is rapidly outpace student under 25 while the growth in the participation rate for college-age students appears to be flattening.

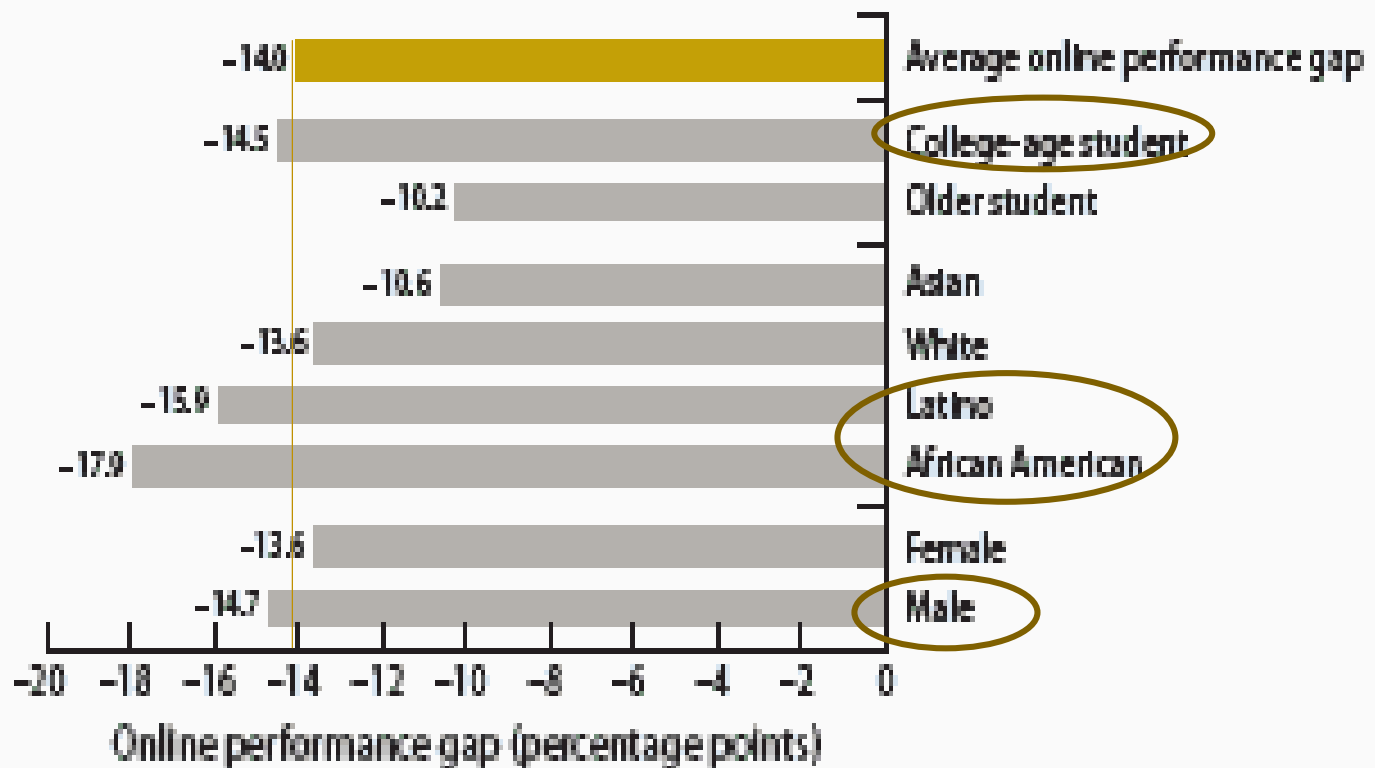
Figure 4c. College-age students are less likely than older students to take online courses



# Statewide performance gaps in online courses

**Figure 7. Some students perform particularly poorly in online courses**

**A. Student demographic characteristics**



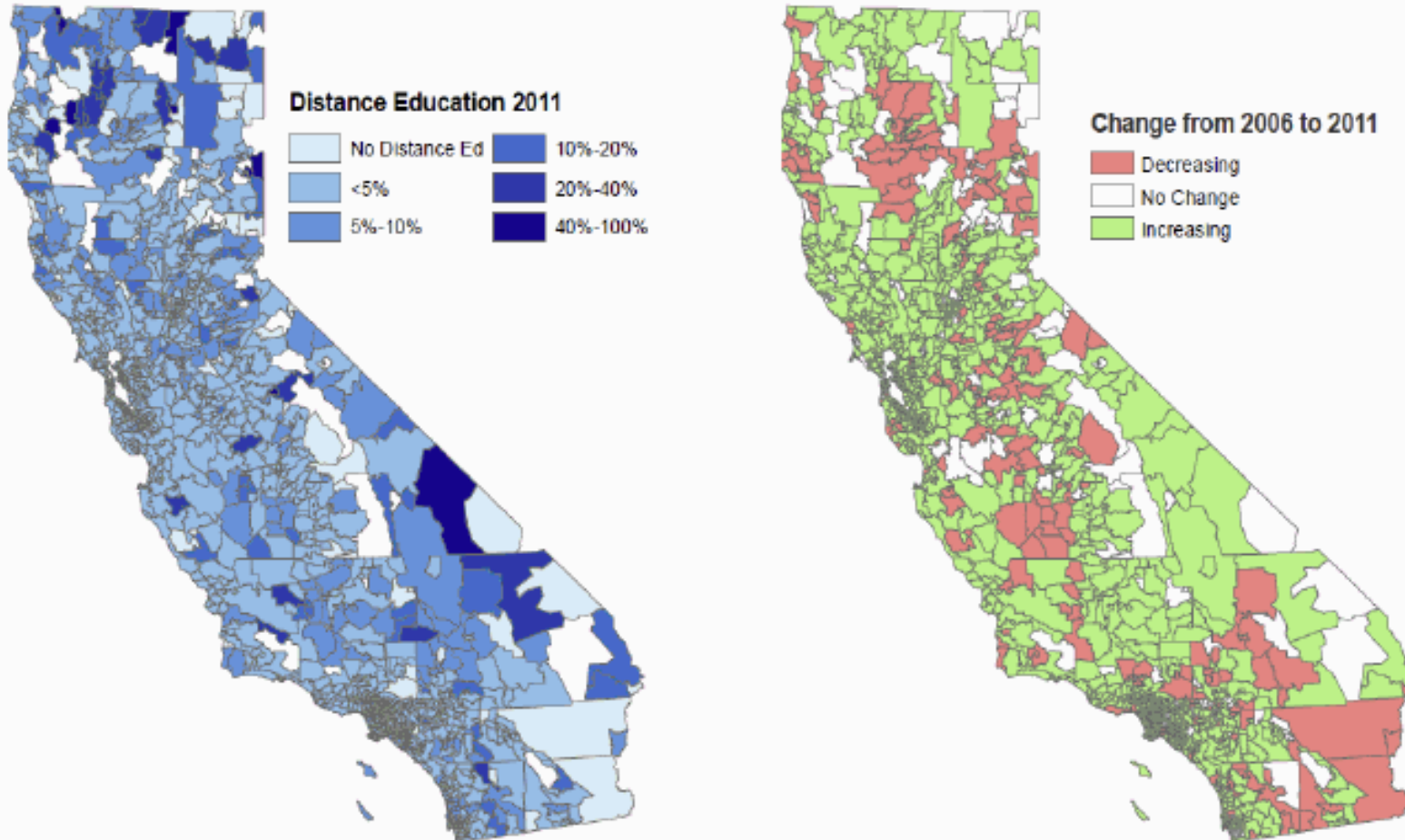
The PPIC reports that on average course success rates in online course are 14 percentage points lower than those in traditional face-to-face courses.

Statewide the performance gaps are largest for college-age students (less than 25 years old), Latino, African-American and Male students.

# 2013 CCCCO Distance Education Report

## California Community Colleges

*Percent distance education enrollments by zip code*



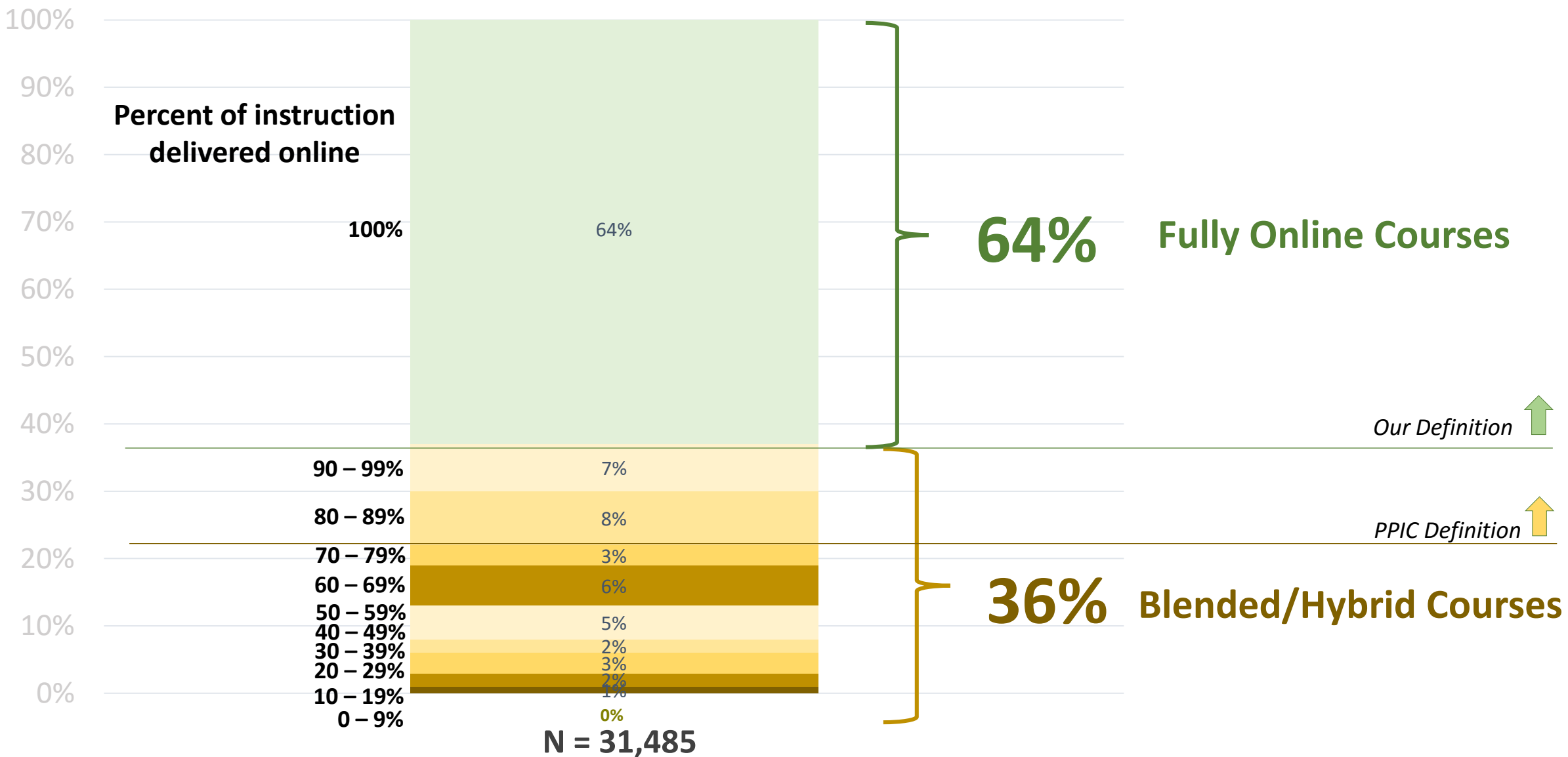
# Summary of the Statewide Story

- Online enrollment is nearly 1 million; over half CCCs offer at least one completely online degree.
- Online enrollment continues to grow much faster than face-to-face enrollments.
- Online participation rates are growing in every student demographic category.
- Online offerings are most prevalent in Information technology and business management programs.
- Online course success rates are 14 percentage points lower than traditional courses overall with larger gaps experienced by younger students, African-Americans, Latinos and male students.
- The PPIC Report also observed that most online courses offered within the California Community College system appear to be relatively simple, consisting primarily of video lectures & PowerPoint files.

# Summary of 4CD district data

- Classification of online course by percentage of online instruction
- Ten year online enrollment growth trends
- Participation rate trends by student demographic groups
- Online performance gaps and trends
- Student technology usages and preferences

# Summary of district online by pct of online component (2015/16)



# Summary of college online by pct of online component (2015/16)

4CD

CCC

DVC

LMC

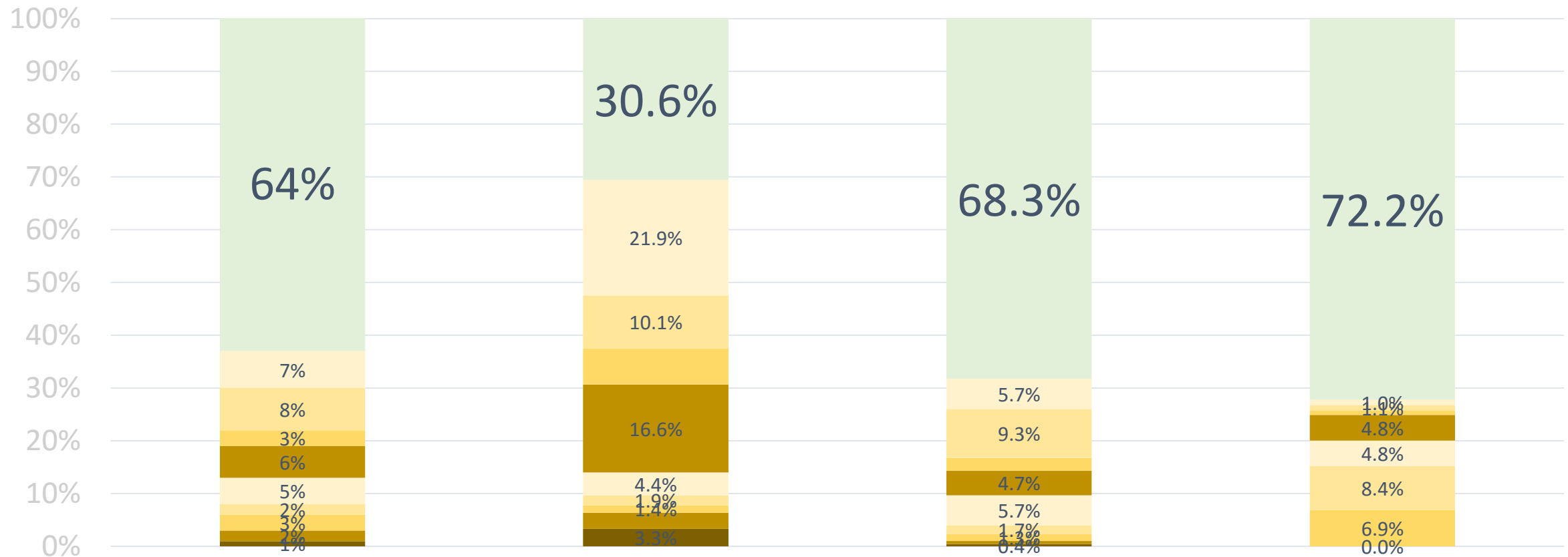
Enrollments:

N = 31,485

N = 4,039

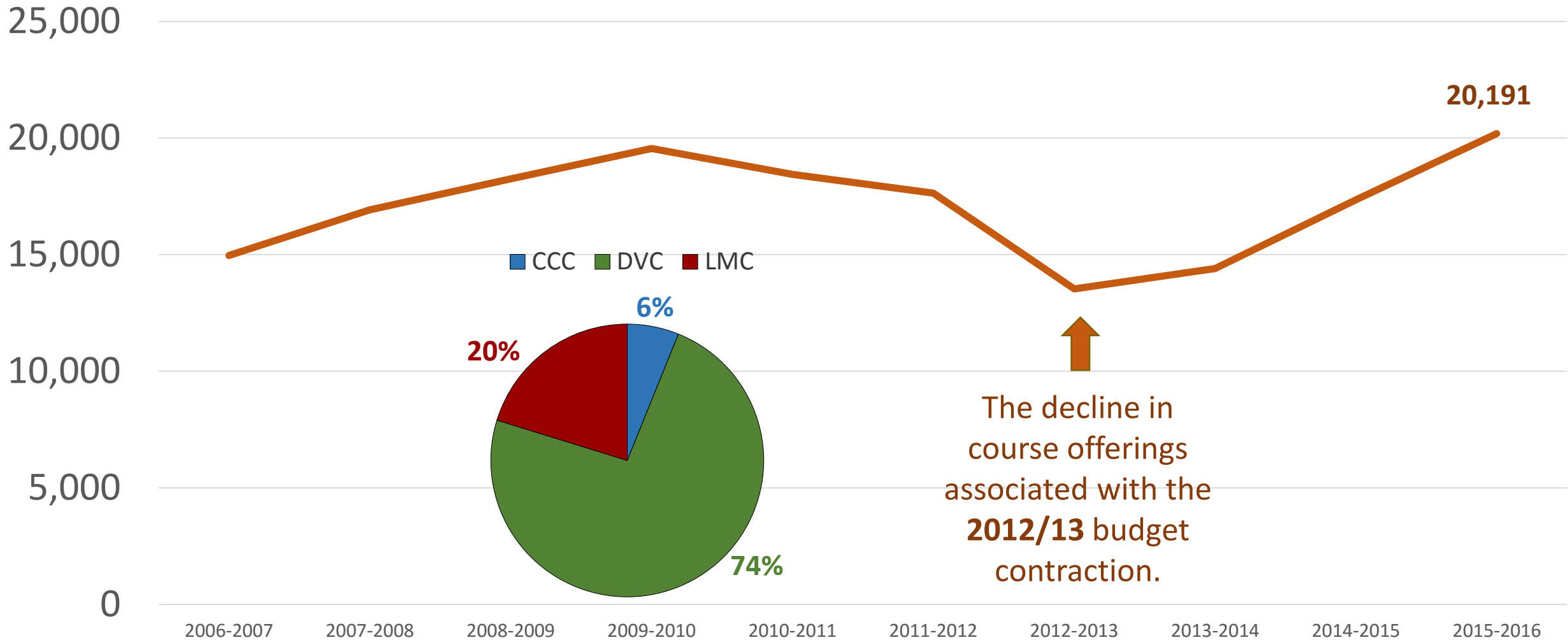
N = 21,786

N = 5,660



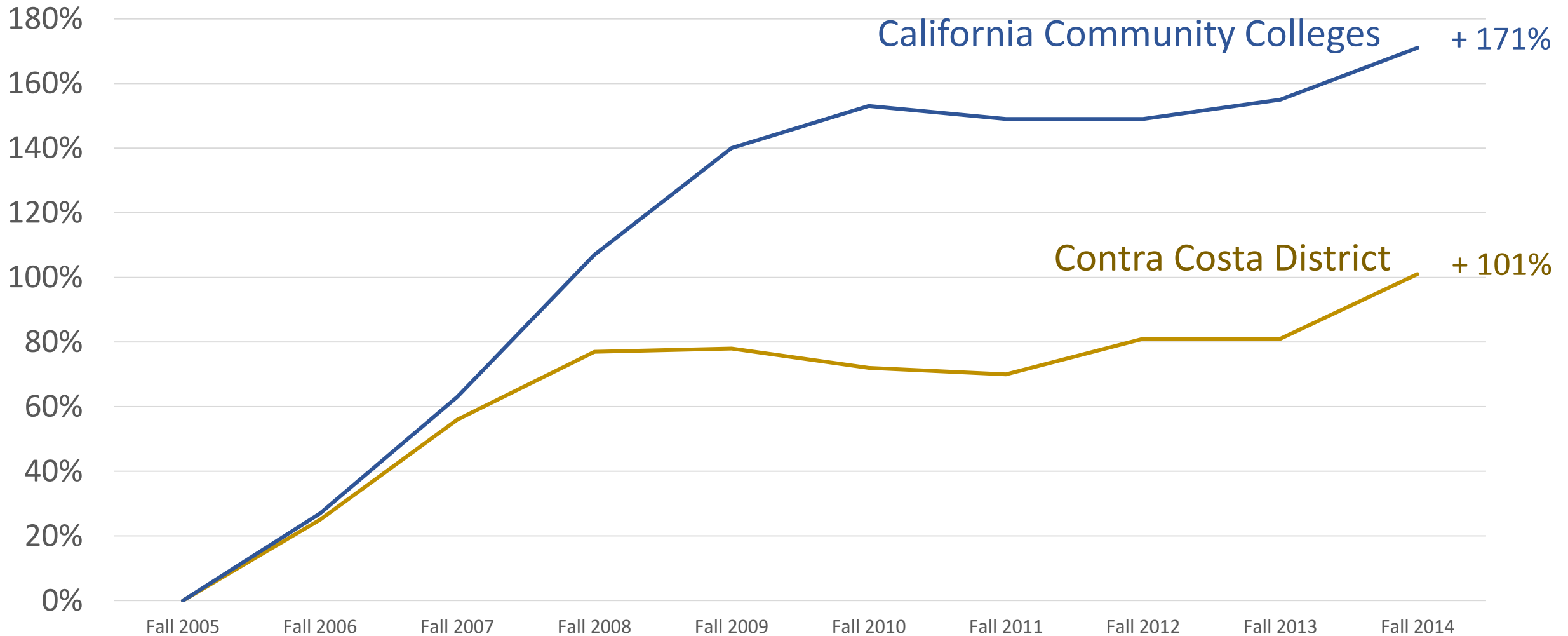
Note: the appendix slides provide a comparison of the District's performance using the same definition as the PPIC Report .

# Ten year trend in 100% online enrollments

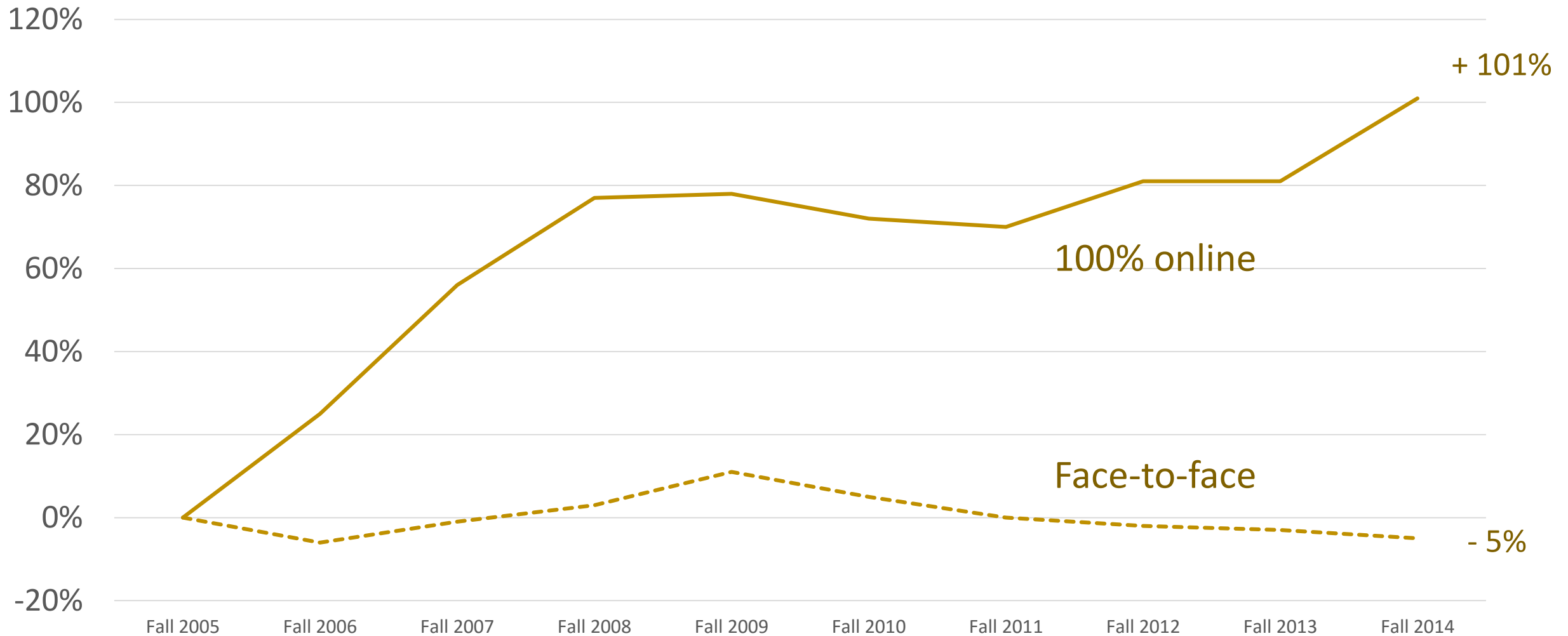




# Percent growth in online enrollments, CA vs 4CD

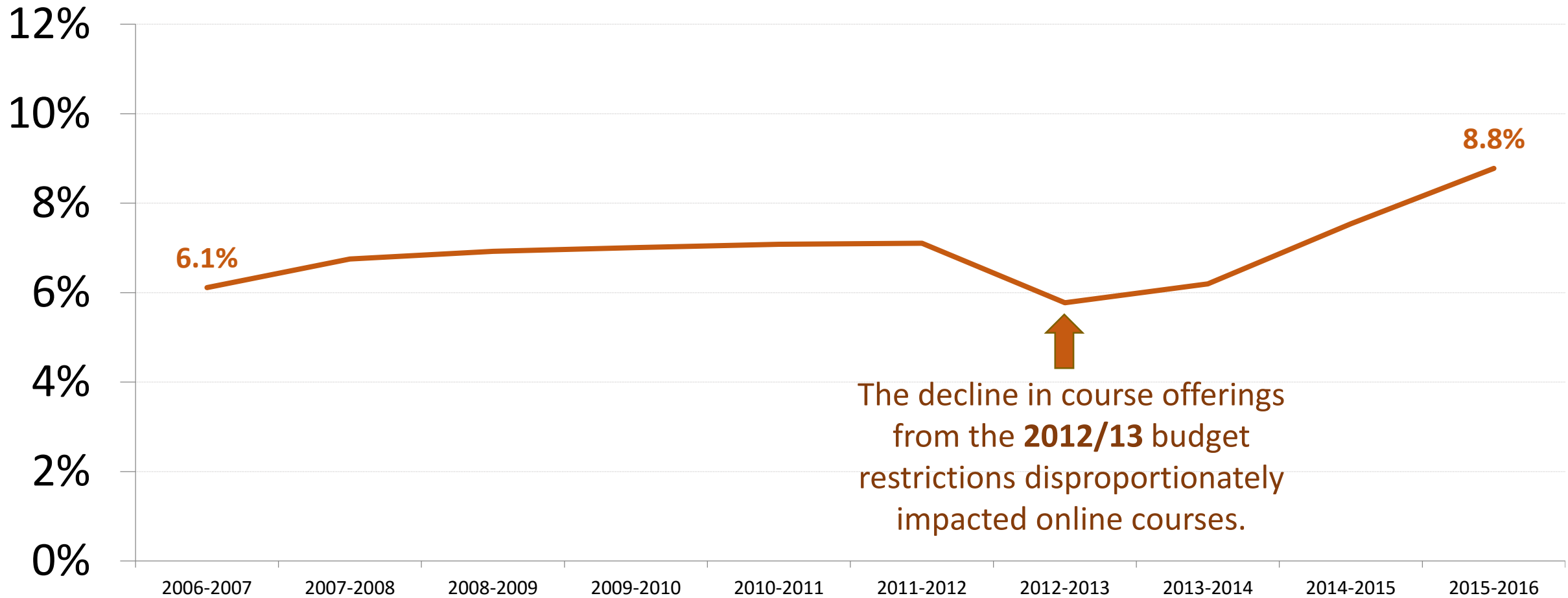


# Percent growth in online enrollments face-to-face vs 100% online, 4CD

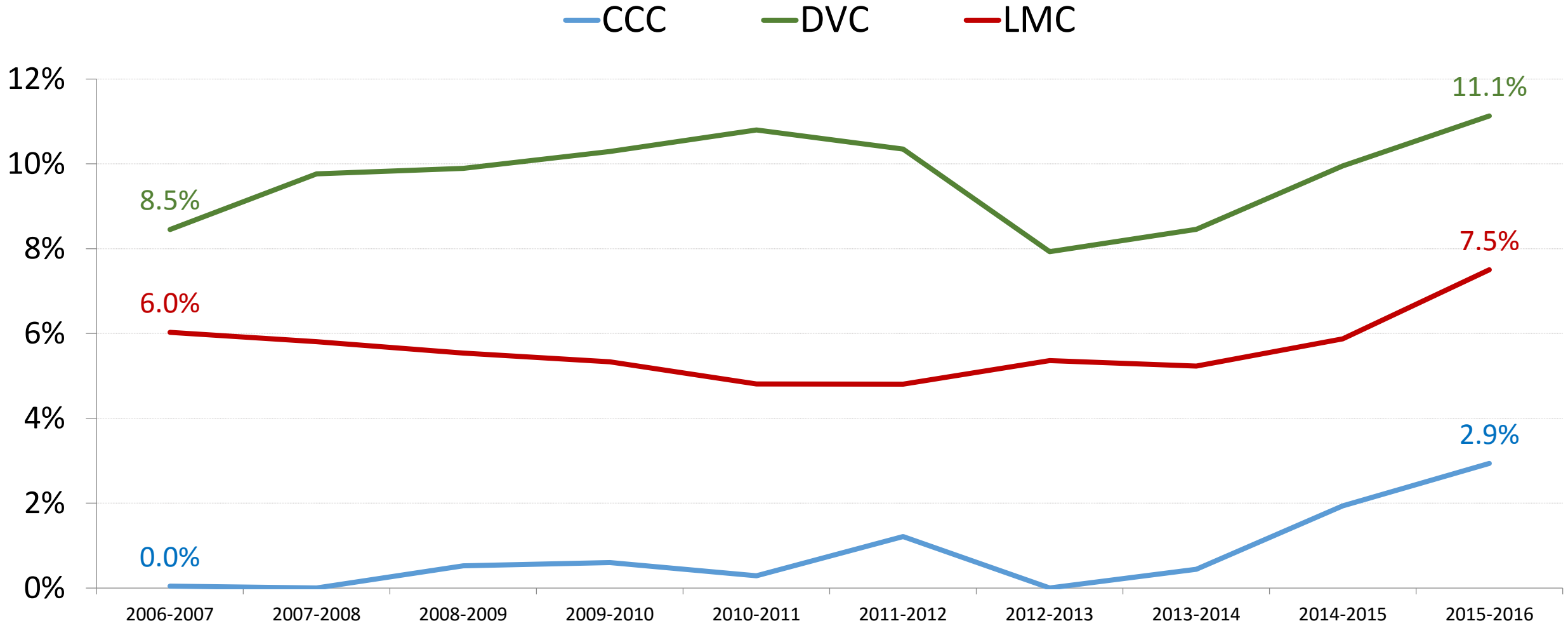


# Tend year trend in district online participation rates

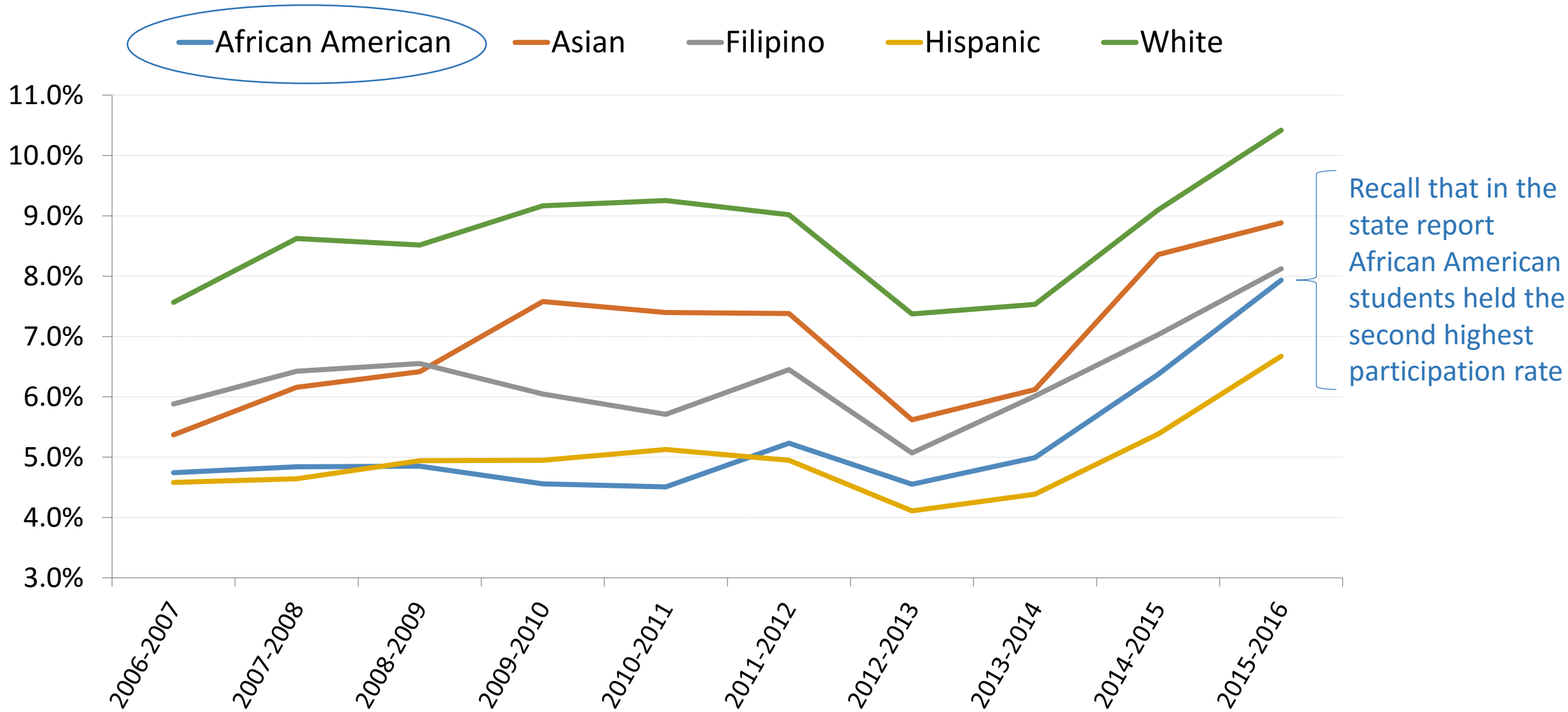
## Percent of enrollments that are 100% online



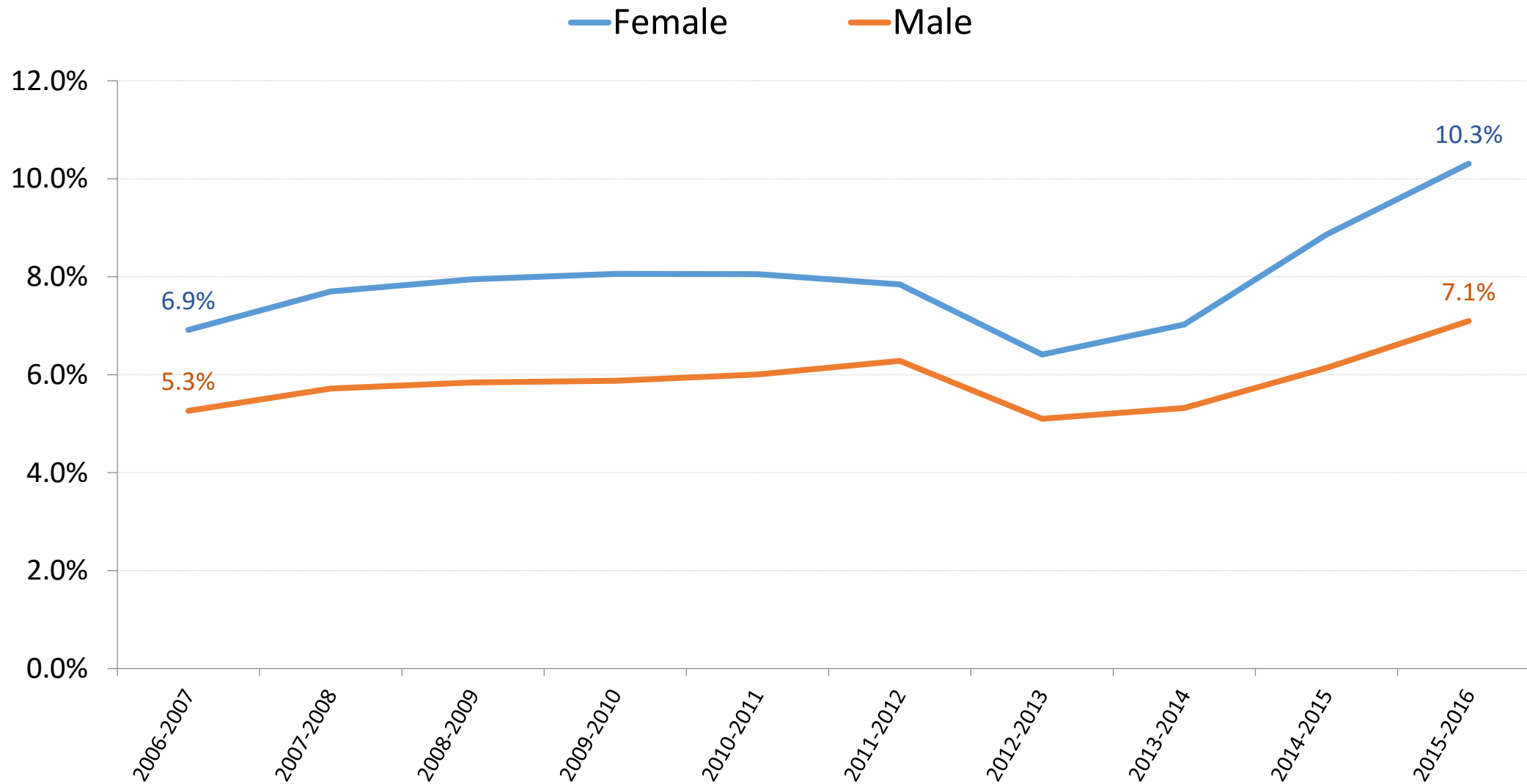
# Overall online participation rates for the colleges



# Participation rates for online course by student ethnicity



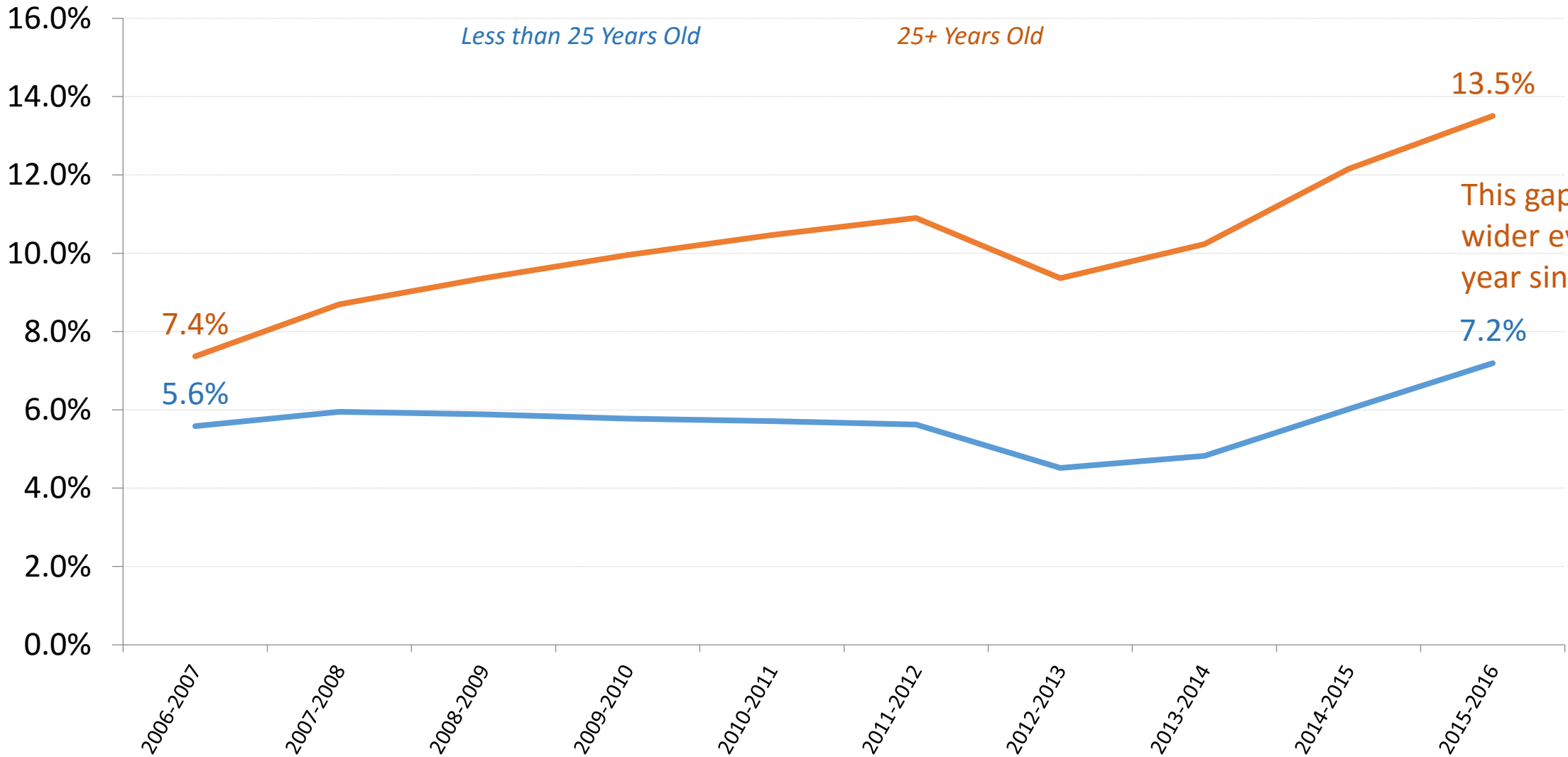
# Participation rates for online course by student gender



Note that the current gap by gender is the widest it has been since 2006/07

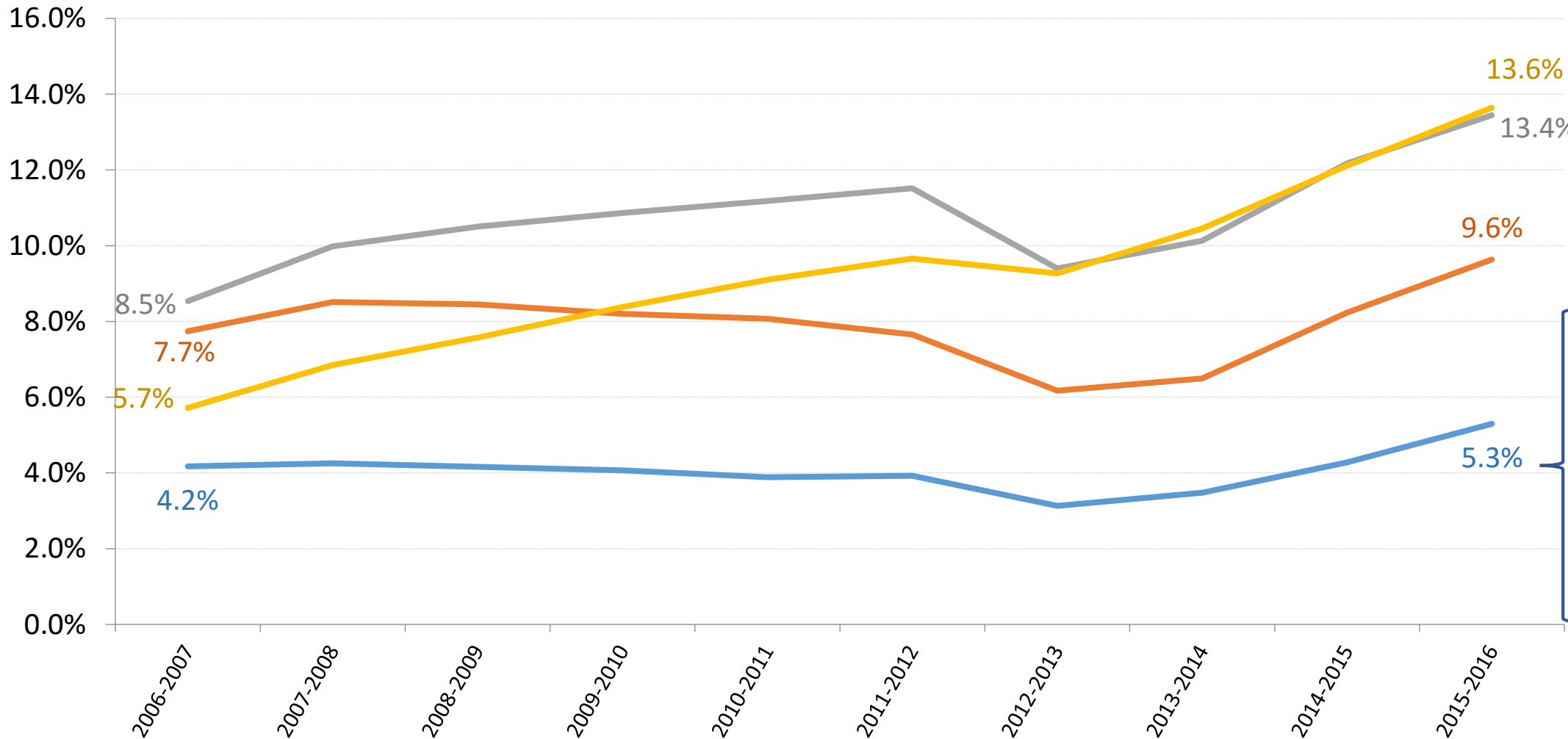
# Participation rates for online course by student age

— College Age      — Older Students



# Participation rates using a more detailed view of student age

- A Less than 20 years old
- B 20 to 24 years old
- C 25 to 39 years old
- D 40 or more years old



The 40+ age group is experiencing the fastest growth rate

Recent High School grads enroll in online courses to a lesser degree than older students



# Summary of participation rates for 4CD online courses

Percentage of courses enrolled that were online (2014/15)

## Student Ethnicity

African-American	7.9 %
Asian	8.9 %
Filipino	8.1 %
Hispanic	6.7 %
White	10.4 %

## Student Age Group

Less than 25 Years old	7.2 %
25+ Years old	13.5 %

## Student Gender

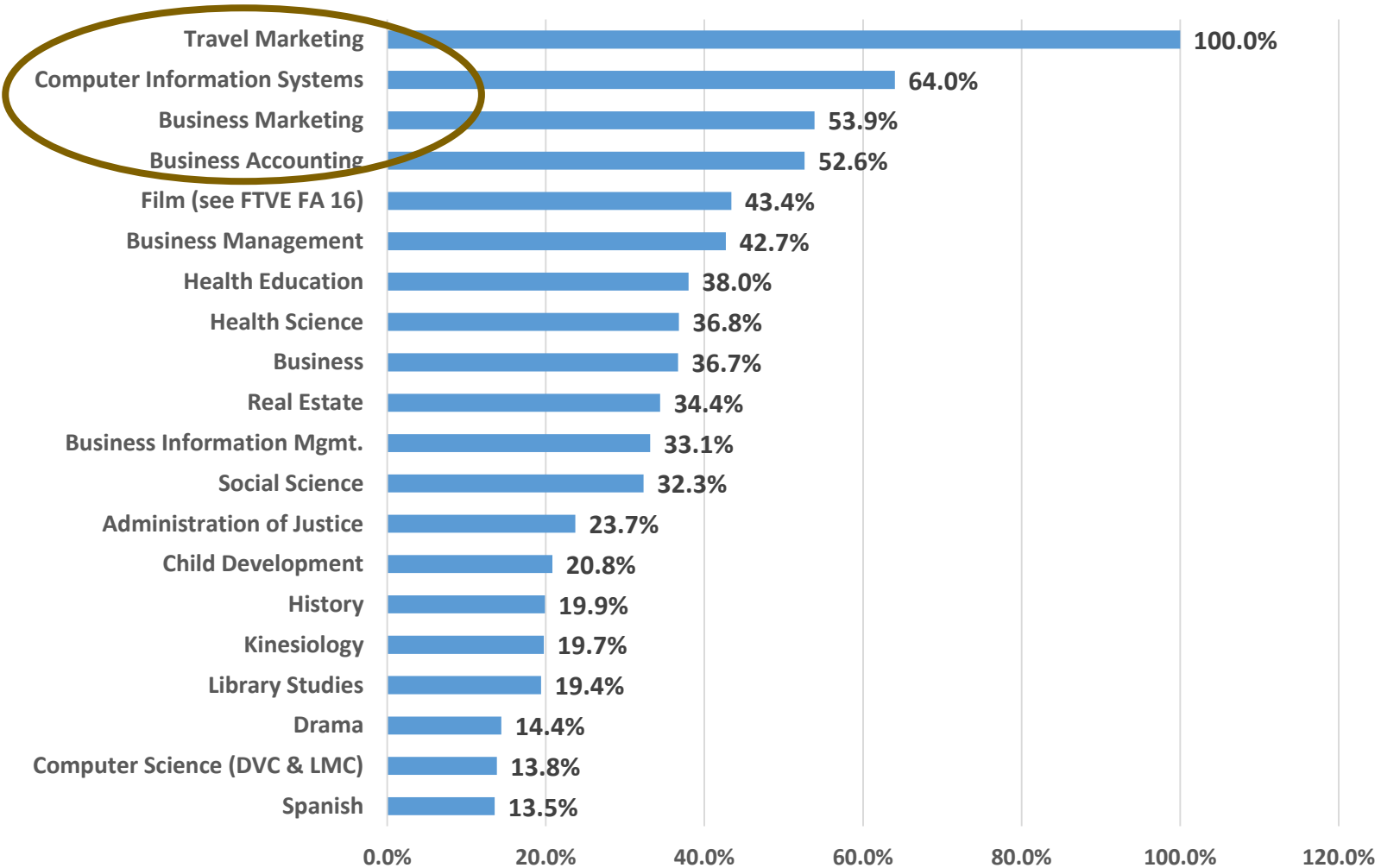
Female	10.3 %
Male	7.1 %

The cohorts exhibiting the highest participation rates are consistent with those found in the statewide report

- Between 2006/07 and 2015/16 online participation rates have increased for every student demographic category within ethnicity, age and gender

# Participation in online course by discipline

Share of online enrollment within subject area (2015/16)



Examining the online share of enrollments by discipline for our District reveals the highest concentration in **Travel Marketing** with **Computer Information Systems** and several **Business related** subjects having more than half of their enrollments in online courses.

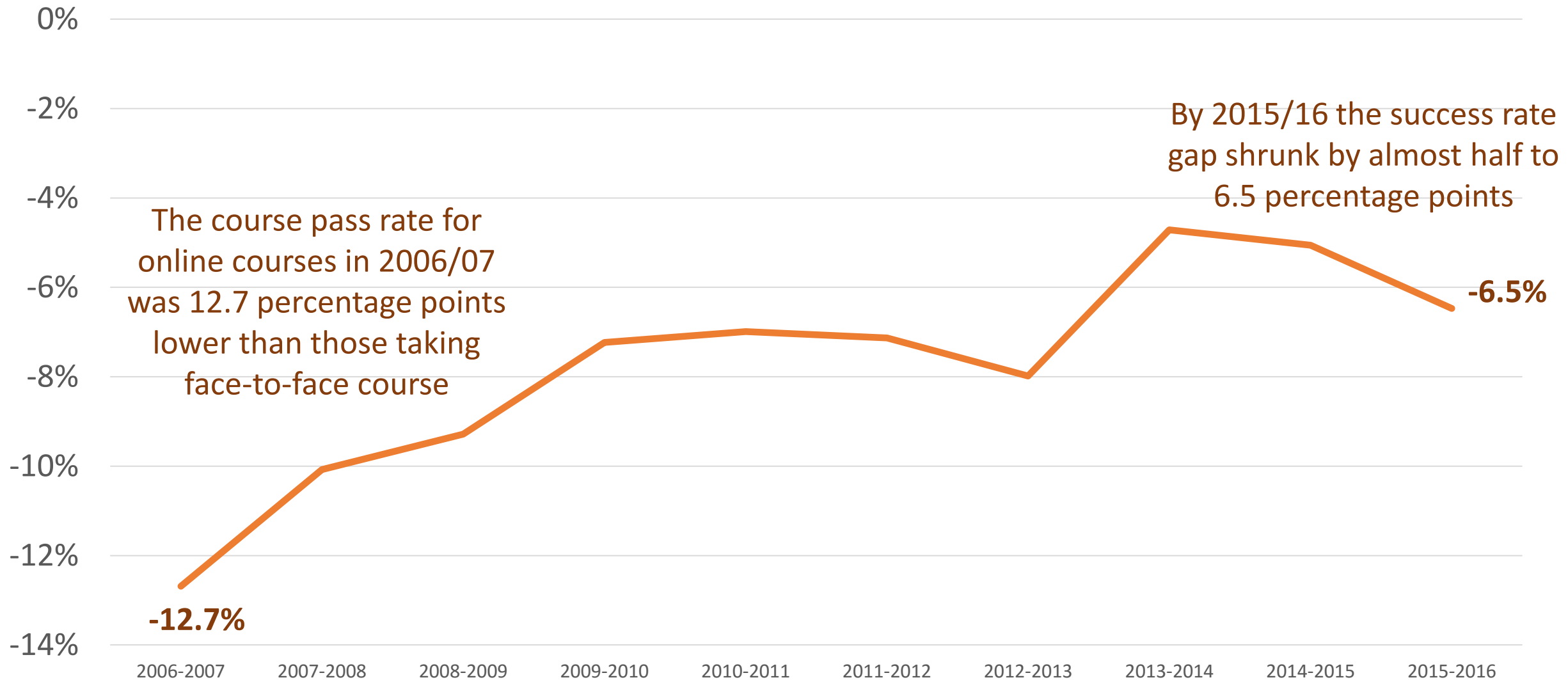
# Examining online performance gaps

What is the performance gap?

*The standard measurement of the “online performance gap” is the percentage point difference in performance students experience in online courses compared to their experience in traditional courses, reported as a negative percentage.*

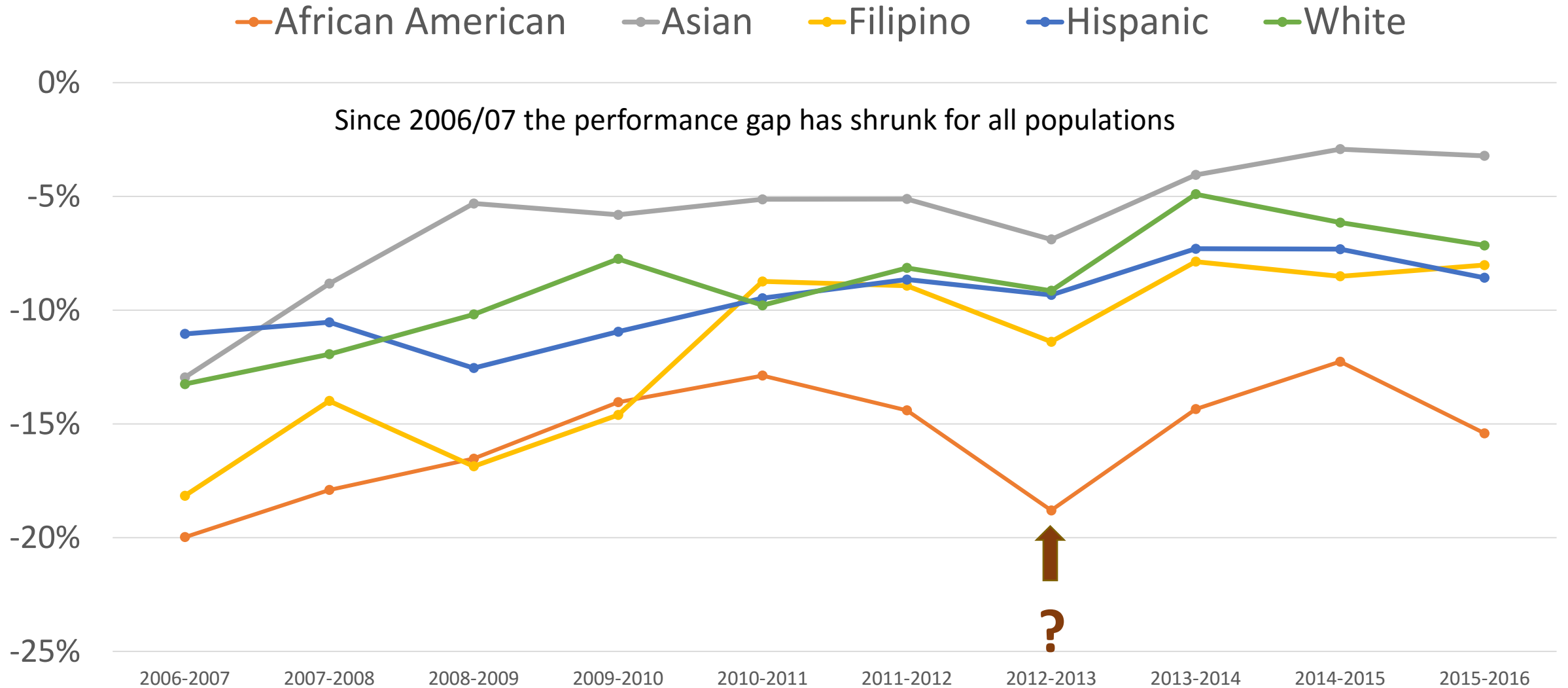
# Ten year trend in online performance gap

(percentage point difference in course success rates, online minus face-to-face)



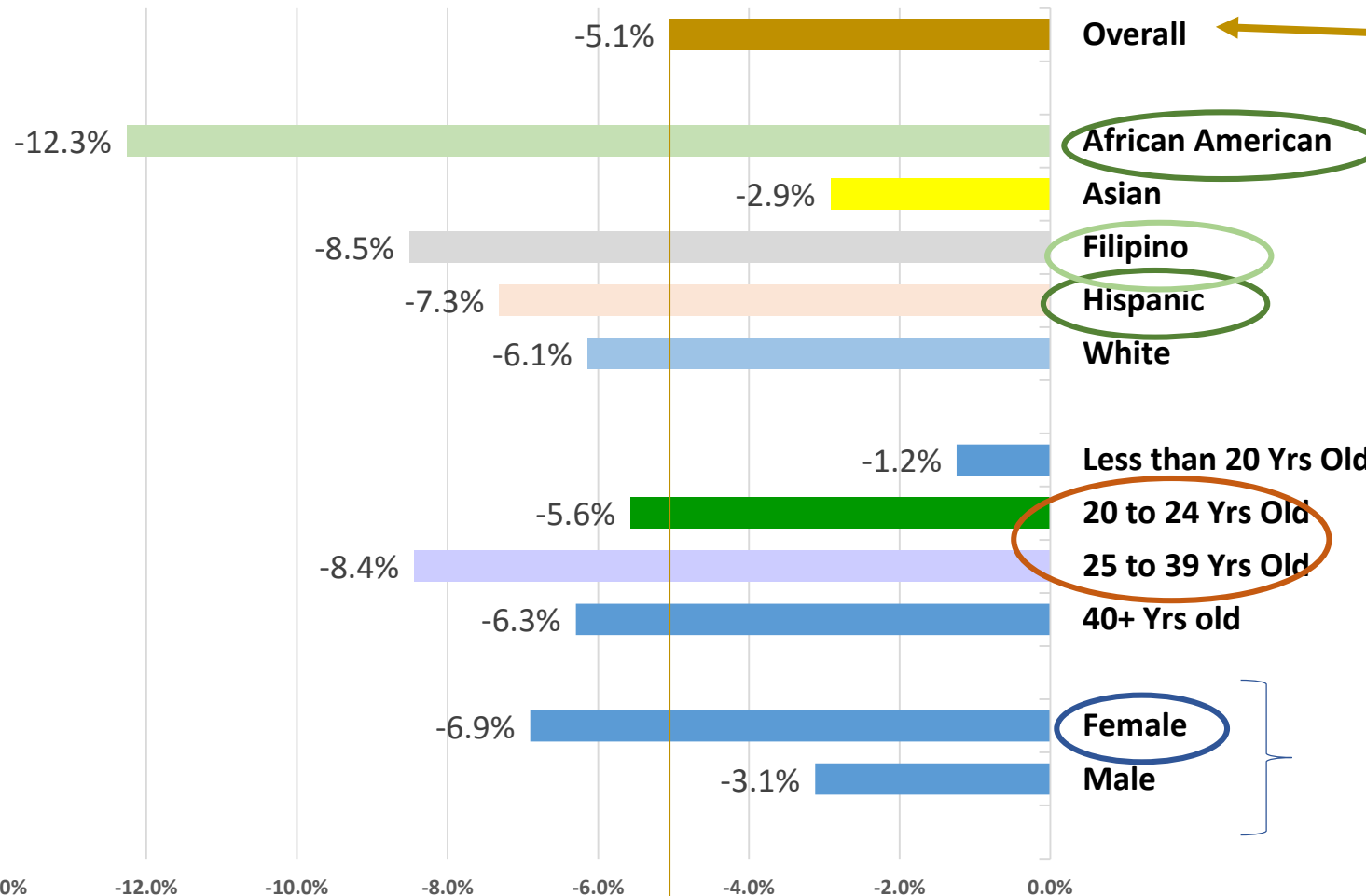
# Ten year trend in online performance gap

(percentage point difference in course success rates, online minus face-to-face)



# Online success rates are lower than face-to-face success rates for every student demographic

Gap in success rate of online courses vs traditional F2F courses



The District's overall performance gap of 5.1% is half that of the statewide average.\*

Paralleling the state level findings, the District's African Americans and Hispanic populations experience the largest performance gaps.

The state report found that students under the age of 25 had a larger performance gap than those 25 and over.

Where we diverge from the state findings is in having our female students experience a larger gap in course success rates than males.

# Summary Contra Costa District online course enrollments activity and student performance

- Total enrollment in online courses is at 20,200 (approaching 9% of total enrollments) and growing
- 22% of 4CD students enroll in at least one online course, up from 15% ten years ago.
- Growth in 4CD online enrollments (100% online courses) have not kept pace with the state average.
- District online participation rates are growing in every student demographic category
- District online offerings are most prevalent in business management disciplines. Travel Marketing and CIS courses also have a large share of their enrollments in online courses.
- Consistent with statewide findings, 4CD's online course success rates are lower than traditional courses for every student demographic category.
- However, the gaps in success rates, across nearly all student populations, is shrinking and nearly all the gaps are smaller at our District than what has been observed statewide.\*

# Technology Survey, Salient Findings

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## Summary of findings from the ECAR Study of Undergraduate Students and Technology, 2013

Gregory M Stoup  
Sr. Dean of Research and Planning  
Contra Costa Community College District



# Survey overview

The on-line survey was conducted in Spring of 2013. Email invitations were extended to all students at the three colleges. The response totals for the three colleges were:

<b>Contra Costa College</b>	<b>143</b>
<b>Diablo Valley College</b>	<b>673</b>
<b>Los Medanos College</b>	<b>206</b>
<b>District Total</b>	<b>1,002</b>

Nationwide the survey achieved 100,300 responses including 18,148 from students enrolled at community colleges. In this summary, unless otherwise noted, the national benchmark findings will refer to responses from community colleges only.

# Noteworthy findings related to technology ownership.

## Percent of students owning these devices:

Technology	Contra Costa College	Diablo Valley College	Los Medanos College	District Average	National Community College Benchmark
Smartphone	65.0%	74.3%	72.3%	72.6%	73.5%
Tablet	33.6%	33.7%	29.6%	32.9 %	32.8%
e-reader	16.1%	16.0%	15.5%	15.9%	17.6%
Laptop	71.3%	86.3%	79.1%	82.8%	84.3%
Desktop	55.9%	49.0%	56.8%	51.6%	55.0%

- Districtwide ownership rates parallel the national benchmark in all categories.
- Contra Costa College respondents show slightly lower ownership rates for both smartphones and laptops relative to the rest of the District and the national benchmark.

# Noteworthy findings related to technology usage.

## Percent of student respondents saying they use the device for academic purposes :

Technology	Contra Costa College	Diablo Valley College	Los Medanos College	District Average	National Community College Benchmark
Smartphone	52.6%	56.8%	55.0%	55.9%	54.8%
Tablet	35.5%	34.3%	30.6%	33.7 %	34.4%
e-reader	16.6%	13.2%	11.8%	13.4%	14.1%
Laptop	85.0%	89.3%	84.8%	87.7%	91.3%
Desktop	70.3%	59.2%	66.1%	62.1%	64.0%

- Districtwide ownership rates closely parallel the national benchmark.
- Contra Costa respondents did report moderately higher usage of desktops. This is consistent with the slightly higher ownership percentages reported on the previous table.

## Percent of student respondents indicating the degree to which their instructors effectively use technology to support their academic success:

Frequency	Contra Costa College	Diablo Valley College	Los Medanos College	District Average	National Community College Benchmark
Most Instructors	29.6%	41.3%	37.1%	38.8%	39.8%
All Instructors	26.8%	14.9%	23.4%	18.3 %	28.1%
<b>Total</b>	<b>56.4%</b>	<b>56.2%</b>	<b>60.5%</b>	<b>57.1%</b>	<b>67.9%</b>

- There is a 10% gap on the ratings of overall effectiveness between the District and the national benchmark.

## Percent of student respondents indicating how important it is to them that they receive better training at using available technologies to learn, study or complete coursework:

Importance	Contra Costa College	Diablo Valley College	Los Medanos College	District Average	National Community College Benchmark
Very Important	23.8%	22.7%	18.9%	22.1%	23.3%
Extremely Important	36.4%	25.3%	31.1%	28.0 %	28.0%
<b>Total</b>	<b>60.2%</b>	<b>48.0%</b>	<b>50.0%</b>	<b>50.1%</b>	<b>51.3%</b>

- Respondents from our District closely track those nationwide on this measure.
- Contra Costa respondents are more likely to view training as important to their academic success. In fact, more than one out of three Contra Costa respondents evaluate the need as extremely important.

Noteworthy findings related to student indication of the type of technology training they most need.

**Percent of student respondents indicating in what ways they would prefer to receive more technical training (of those indicating that a training need was something they viewed as very or extremely important ):**

Technology	Contra Costa College	Diablo Valley College	Los Medanos College	District Average	National Community College Benchmark
Face-to-face course training	57.7%	56.4%	66.3%	58.5%	56.1%
On-line course training	53.6%	42.6%	33.7%	42.7 %	42.8%

- Respondents Districtwide closely track those nationwide.
- Los Medanos respondents prefer traditional face-to-face training nearly two to one over on-line training.

Noteworthy findings related to the degree to which each technology contributes to their academic success.

## Respondents indicating the importance each technology is to achieving academic success:

Technology	Contra Costa College	Diablo Valley College	Los Medanos College	District Average	National Community College Benchmark
Library website	38.3%	19.5%	24.9%	23.3%	25.1%
College website	46.8%	34.1%	38.9%	36.8%	40.7%
Open-ed resources	23.9%	21.0%	26.6%	22.5%	23.1%
Course Mgmt Sys.	21.3%	16.4%	41.7%	22.3%	40.7%

- Diablo Valley respondents report a lower rating in each resource area, lower than the other District colleges and lower than the national benchmark
- Consistent with their previous finding indicating a desire for more communications through course management systems, Los Medanos respondents also indicate that CMS technology is extremely important to their academic success, far more so than elsewhere in the District but on par with the national profile.

Noteworthy findings related to student assessment of the effectiveness of different learning environments.

## Respondents identifying the course and classroom environments where they feel they tend to learn the most:

Learning Environment	Contra Costa College	Diablo Valley College	Los Medanos College	District Average	National Community College Benchmark
Course w/ no On-line components	23.8%	24.2%	22.9%	23.9%	21.9%
Course w/ some On-line components	44.8%	55.1%	53.7%	53.4%	54.2%
Completely On-line course	8.4%	6.2%	6.8%	6.6%	9.8%
No preference	23.1%	14.6%	16.6%	16.2%	14.1%

- Consistent with the national average, respondents in our District indicate that the Hybrid course format that includes both face-to-face and on-line components creates the best environment for their learning.
- It's worth noting that Contra Costa respondents did identify the Hybrid option to a lesser degree than either their sister colleges or the nation.



## Percentage of respondents identifying that they have taken a completely on-line course in the past year:

Type/location of on-line course	Contra Costa College	Diablo Valley College	Los Medanos College	District Average	National Community College Benchmark
Yes & offered by their college	27.1%	38.5%	38.2%	36.9%	50.8%
Yes & offered by a different college	10.0%	6.3%	4.9%	6.5%	5.4%
MOOC	2.4%	5.0%	3.4%	4.3%	2.6%

- Respondents from our District are far less likely than those nationwide to have reported that they took a completely on-line course in the past year. And despite the rapid growth of on-line offerings nationwide, respondents were not too likely to enroll in either an online course offered by another college or a MOOC.
- While it is a small percentage overall, Contra Costa respondents are nearly twice as likely to report that they enrolled in a fully on-line course at another college in the past year.

# One closing comment

## Online education and long term student outcomes

*Students taking online courses experience slightly higher levels of degree completion and transfer than students taking exclusively face-to-face courses.*

*This is an area needing further research, but it is theorized that online course taking tends to shorten the time to degree.*

# *I think we made it*

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Any nagging questions or reactions before we segue to the breakout group discussion?

# Breakout Group Discussions:

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- What do you believe is the fundamental goal of offering distance education options to students?
- What do you believe will help students be more successful in distance education courses?
- What do we need to do to offer quality distance education courses/programs within the District?
- What support and infrastructure is needed to support student success and quality distance education offerings?
- If there were no limits on funding, what is your vision of what we want our distance education/online offerings to look like within the District?

## *It has been a pleasure*

Special thanks to the Contra Costa District research staff who demonstrated outstanding data collection and analysis in support of the findings included in this report

Francisco Balderas

Joy Hakola-Dardin

Marilyn Sargent

Rolando Valdez

Helen Wu

# Appendix

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A comparison of participation rates and online performance gaps by applying the PPIC definition of online and face-to-face instruction

# Apples-to-apples comparison of participation rates

Here is a comparisons of the participation rates between our District and the PPIC report when we apply the PPIC online definition as courses designated as being at least 80% online to our District student data.

## Online Participation Rates

	<u>4CD</u>	<u>PPIC</u>
Overall	10.8%	10.7%
African-Americans	10.0%	12.8%
Asians	11.5%	10.5%
Filipino	10.5%	n.a.
Hispanic	8.3%	8.1%
White	12.5%	13.1%
Less than 25 Yrs Old	8.9%	8.5%
25+ Yrs Old	16.5%	15.4%
Female	12.5%	12.6%
Male	8.9%	8.5%

# Apples-to-apples comparison of online performance gaps

Here is a comparisons of the online performance gaps (the percentage point difference in course success rates that online courses display relative to face-to-face-course) between our District and the PPIC report when we apply the PPIC online definition as courses designated as being at least 80% online and the tradition course benchmark as 0% to 30% online to our District student data.

Percentage point difference in course success rates  
(online minus face-to-face)

	<u>4CD</u>	<u>PPIC</u>
Overall	-6.5%	-14.0%
African-Americans	-15.3%	-17.9%
Asians	-6.1%	-10.6%
Hispanic	-10.5%	-15.9%
White	-7.5%	-13.6%
Less than 25 Yrs Old	-5.9%	-14.5%
25+ Yrs Old	-8.8%	-10.2%
Female	-8.2%	-13.6%
Male	-4.9%	-14.7%



# Summary of findings from the ECAR Study of Undergraduate Students and Technology, 2013

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This document focused on the most salient findings from the ECAR study. We encourage you to review all the survey findings included the full ECAR data report.

A copy of this presentation and the full ECAR report is available on the District Research web page at:

<http://www.4cd.edu/research/default.aspx>.

# 2013 CCCCCO Distance Education Report

## Distance Education and Traditional Education Course Sessions 2005-12

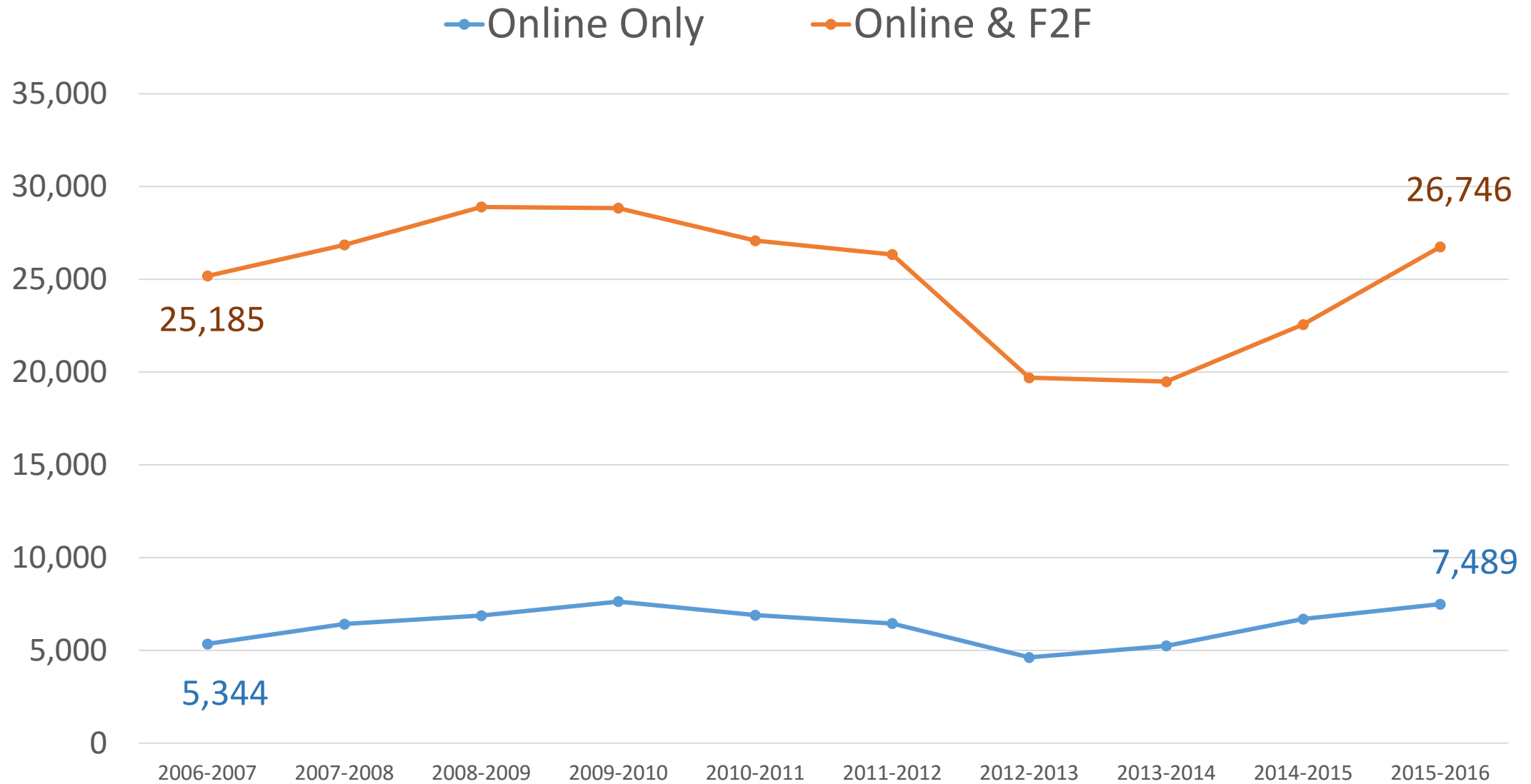
<b>Fiscal Years</b>	<b>Distance Education</b>	<b>Traditional Education</b>	<b>Percentage</b>
<b>2005-06</b>	21,407	456,644	4.69%
<b>2006-07</b>	26,121	465,680	5.61%
<b>2007-08</b>	32,380	486,866	6.65%
<b>2008-09</b>	39,178	482,756	8.12%
<b>2009-10</b>	39,964	440,933	9.06%
<b>2010-11</b>	43,561	419,466	10.38%
<b>2011-12</b>	41,246	391,191	10.54%

# 2013 CCCCCO Distance Education Report

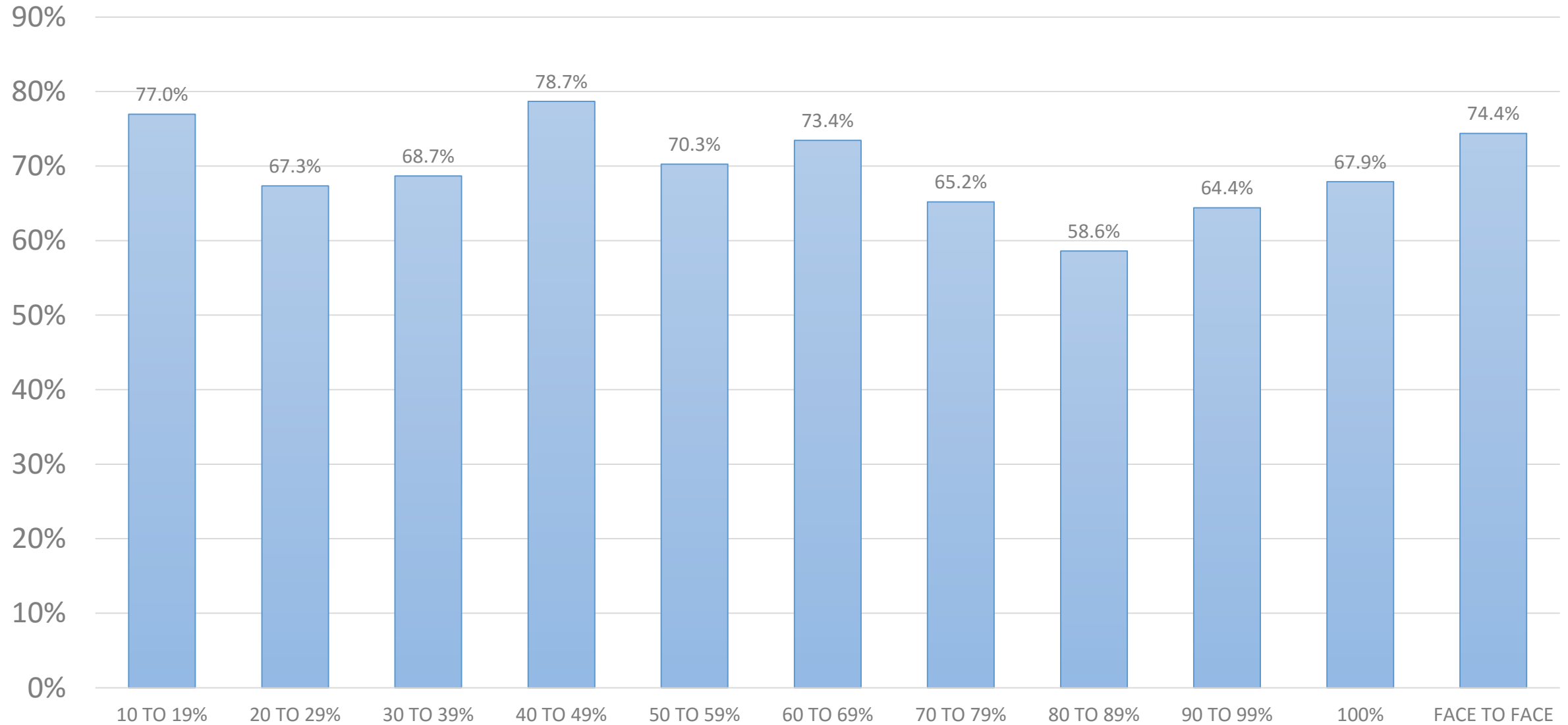
## Total Student Headcount in All Distance Education and Traditional Education Course Sessions (Unduplicated headcount)

Fiscal Year	Distance Education	Traditional Education	Total	Percent of Total Headcount
2005-06	328,372	2,630,207	2,958,579	12.48%
2006-07	392,355	2,694,149	3,086,504	14.56%
2007-08	483,884	2,810,572	3,294,456	17.22%
2008-09	611,689	2,923,137	3,534,826	20.93%
2009-10	649,518	2,758,831	3,408,349	23.54%
2010-11	675,760	2,570,688	3,246,448	26.29%
2011-12	643,255	2,388,913	3,032,168	26.93%

# Enrollment trends for students taking exclusively on-line courses and those taking online course(s) in combination with traditional face-to-face courses

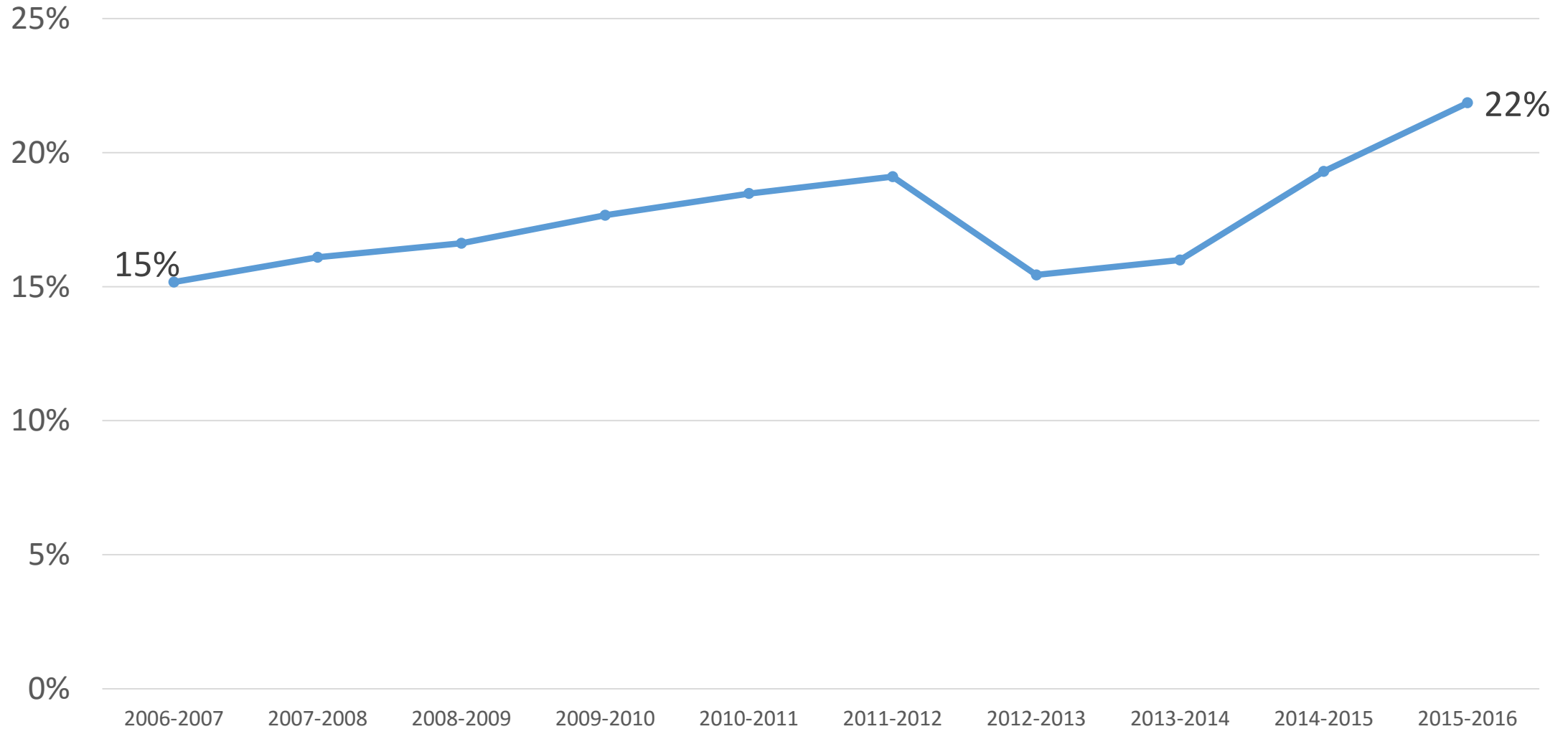


# The course success rates for various hybrid model of instruction (by degree of online instruction)



# Headcount trends for students taking at least one 100% on-line course

Taking at Least One 100% Online Course



# Percent growth in online enrollments face-to-face vs 100% online, CA

