

City Study 2022:

WASHINGTON, D.C.

Table of Contents

01 REPORT OVERVIEW

- About The City Studies Project
- Sectors of Schools
- Research Question and Analyses
- Measure of Academic Performance

02 RESEARCH FINDINGS

Sector Analysis

- Reading
- Math

Charter Subsector Analysis

- vs. city average & comparison within Washington, D.C.

School-Level Performance by Sector

- Reading
- Math

Research Findings Cont'd.

Student Subgroup Analysis

Black Students

- vs. city average by sector & comparison within Washington, D.C.

Students in Poverty

- vs. city average by sector & comparison within Washington, D.C.

Special Ed Students

- vs. city average by sector & comparison within Washington, D.C.

Female Students

- vs. city average by sector & comparison within Washington, D.C.

Hispanic Students

- vs. city average by sector & comparison within Washington, D.C.

ELL Students

- vs. city average by sector & comparison within Washington, D.C.

Male Students

- vs. city average by sector & comparison within Washington, D.C.

Summary of Findings

03 APPENDIXES

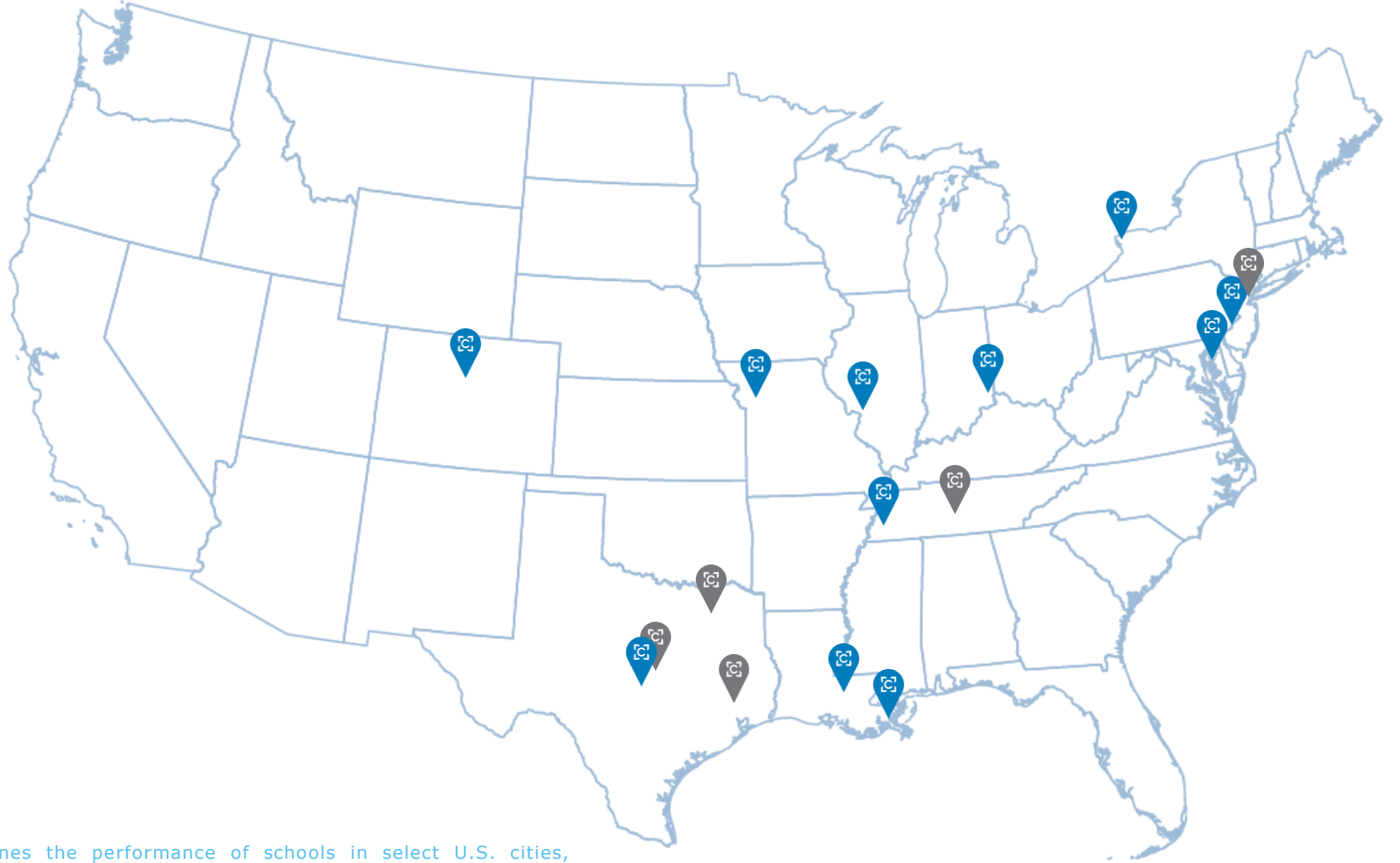
- Acknowledgments
- Types of Charter Schools
- Methods
- Days of Learning
- Full Set of Findings

○ REPORT OVERVIEW

01



About The City Studies Project



The City Studies project examines the performance of schools in select U.S. cities, including Washington, D.C. We study the academic progress of students as the measure of school performance.



Cohort 1



Cohort 2





Sectors of Schools

COMMUNITIES MAY HAVE UP TO THREE SECTORS OF SCHOOLS



CHARTER SCHOOLS

Public schools operated independently from the traditional school district, with autonomy in adapting school designs and held accountable for education results.



Charter Management Organizations (CMOs)

Organizations holding the charter and overseeing the operation of at least three charter schools.



Independent Charter Schools

Organizations holding the charter and overseeing the operation of a single or two charter schools.



SELECTIVE MAGNET SCHOOLS

District-run schools with focused themes and academically selective admission.



OTHER DISTRICT-RUN SCHOOLS

Public schools not belonging to any of above two types.



○ Research Question and Analyses

IN THIS REPORT WE EXAMINE ACADEMIC PERFORMANCE IN WASHINGTON, D.C. USING DATA FROM THE SCHOOL YEARS 2015-16 THROUGH 2018-19. THERE ARE TWO LEVELS OF ANALYSIS.

01

Performance for Washington, D.C. charter schools, Washington, D.C. magnet schools and the rest of Washington, D.C. Public schools over two years.

02

Performance in the 2018-2019 school year **by school type, race, poverty status, English language learner (ELL) status, special education status and gender.**

WE MAKE TWO SETS OF COMPARISONS.

- The performance of Washington, D.C. students is benchmarked against the city average average performance, accounting for student characteristics.
- The performance of charter school students and the performance of magnet school students within Washington, D.C. are then compared to that of similar traditional public school (district school) students within Washington, D.C.



○ Measure of Academic Performance

ACHIEVEMENT VS. GROWTH

Achievement scores capture what a student knows at a point in time. They are influenced by students' prior conditions in addition to schools' contributions.

Growth scores indicate how much progress a student makes from one year to the next. Growth scores allow us to zero in on the contributions of schools separately from other factors that affect point-in-time scores.

IN THIS STUDY WE MEASURE ACADEMIC PERFORMANCE AS HOW MUCH GROWTH STUDENTS MAKE FROM ONE YEAR TO THE NEXT.

We analyze student growth in standard deviation units so that the results can be assessed for statistical differences. The full set of findings appear in the Appendix.

In the following graphs of findings, we transform growth from standard deviation units into days of learning based on a typical 180-day school year.

SPECIAL HANDLING OF WASHINGTON, D.C. GROWTH SCORES FOR 2017-18

For the period ending in Spring 2018, we use student test scores from the 2015-16 school year as starting scores to calculate student growth because the Washington, D.C. test score data for 2016-17 are incomplete.





○ RESEARCH FINDINGS

02

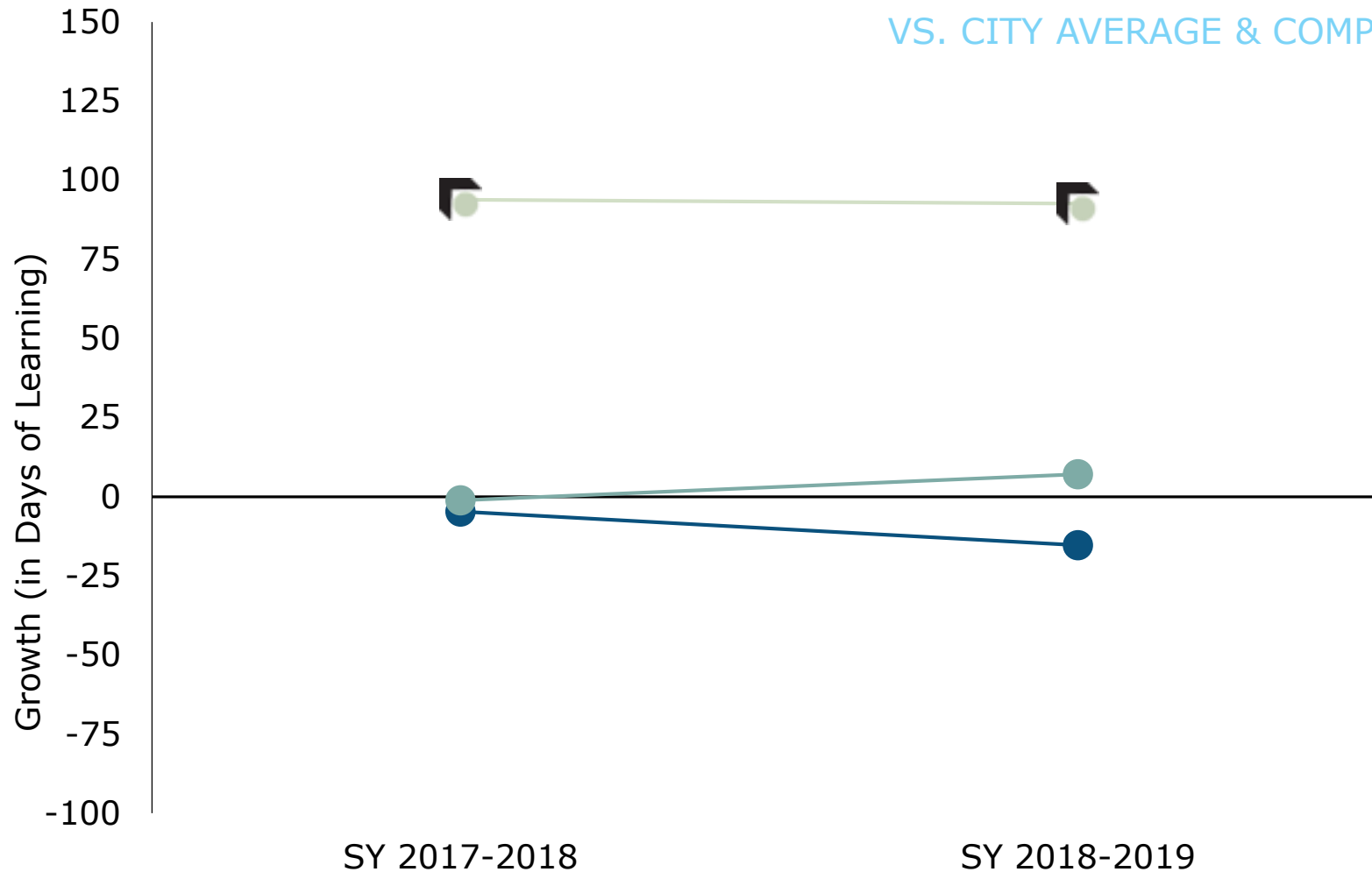


Research Findings > Sector Analysis

> Reading

VS. CITY AVERAGE & COMPARISON WITHIN WASHINGTON, D.C.

Learning Gains in Reading for Students in Washington, D.C. Charter Schools, Washington, D.C. Magnet Schools, and Washington, D.C. District Schools Compared to the City Average Learning Gains, by Year



Tests of Differences		
Reading	'17-'18	'18-'19
Charter vs. District		
Magnet vs. District	↖	↖
Charter vs. Magnet	↖	↖

↖ significantly different at $p < 0.05$

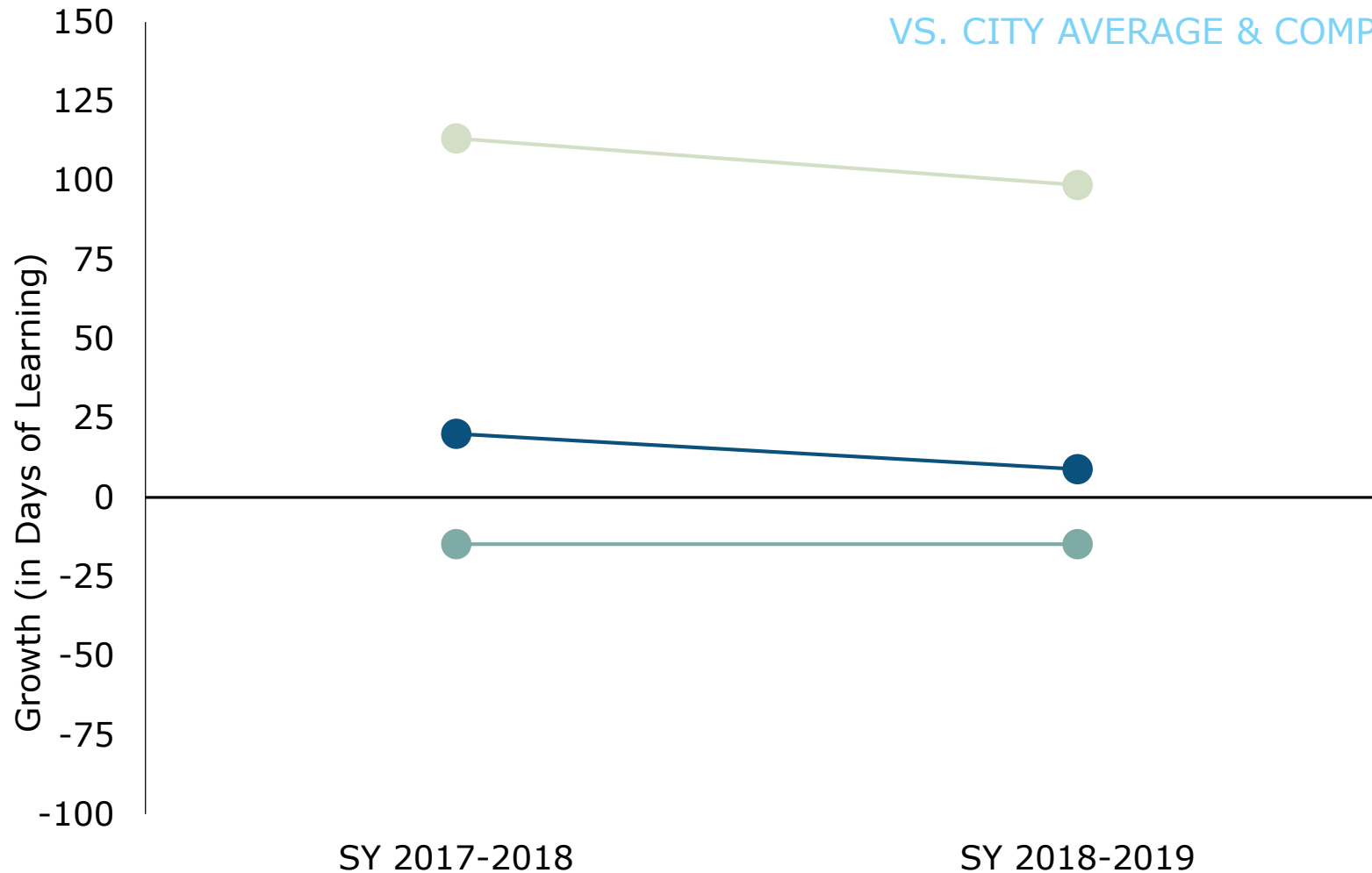
● charter ● magnet ● district

Research Findings > Sector Analysis

> Math

VS. CITY AVERAGE & COMPARISON WITHIN WASHINGTON, D.C.

Learning Gains in Math for Students in Washington, D.C. Charter Schools, Washington, D.C. Magnet Schools, and Washington, D.C. District Schools Compared to the City Average Learning Gains, by Year



Tests of Differences

Math	'17-'18	'18-'19
Charter vs. District		↙
Magnet vs. District		
Charter vs. Magnet		

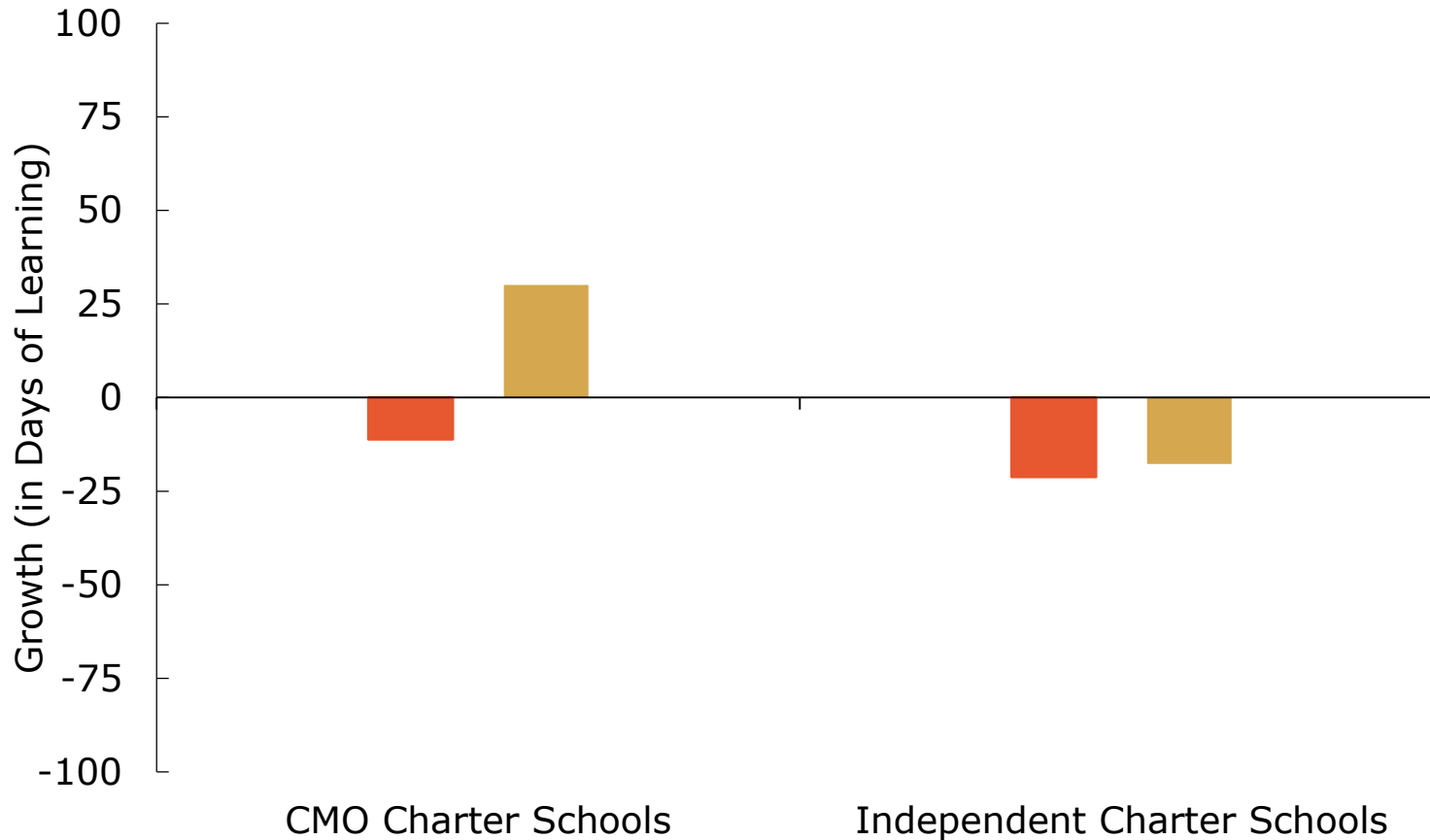
↙ significantly different at $p < 0.05$

● charter ● magnet ● district

Research Findings > Charter Subsector Analysis

> vs. city average & comparison within Washington, D.C.

Relative Learning Gains for Students in Washington, D.C.
CMO-Affiliated Charter Schools and Independent
Washington, D.C. Charter Schools Compared to the
Average Learning Gains for All Student in the City, by
Subject



Tests of Differences

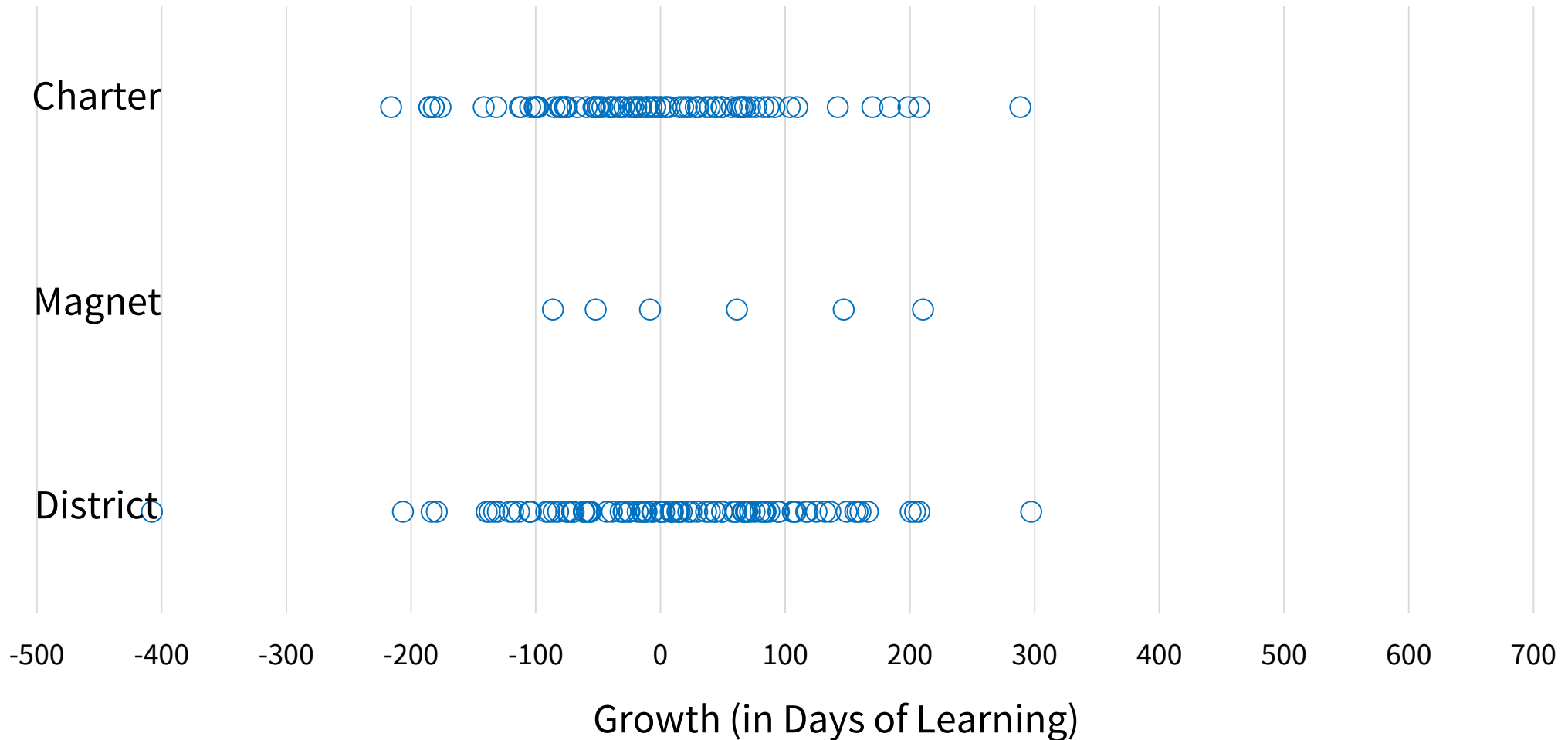
Reading sig
CMOs vs Independent Charter Schools

Math
CMOs vs Independent Charter Schools

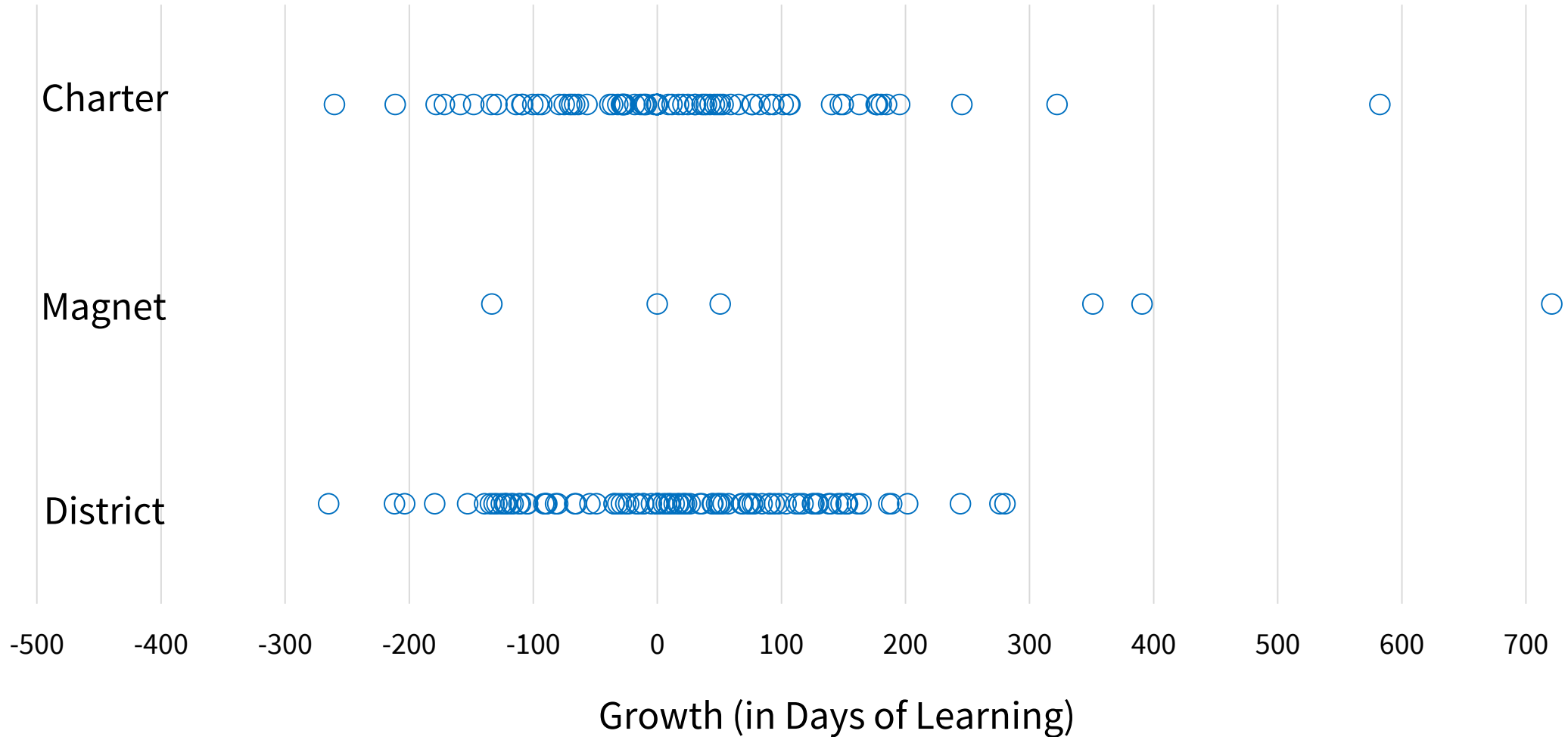
significantly different at $p < 0.05$

reading math

Research Findings > School-Level Performance by Sector > Reading



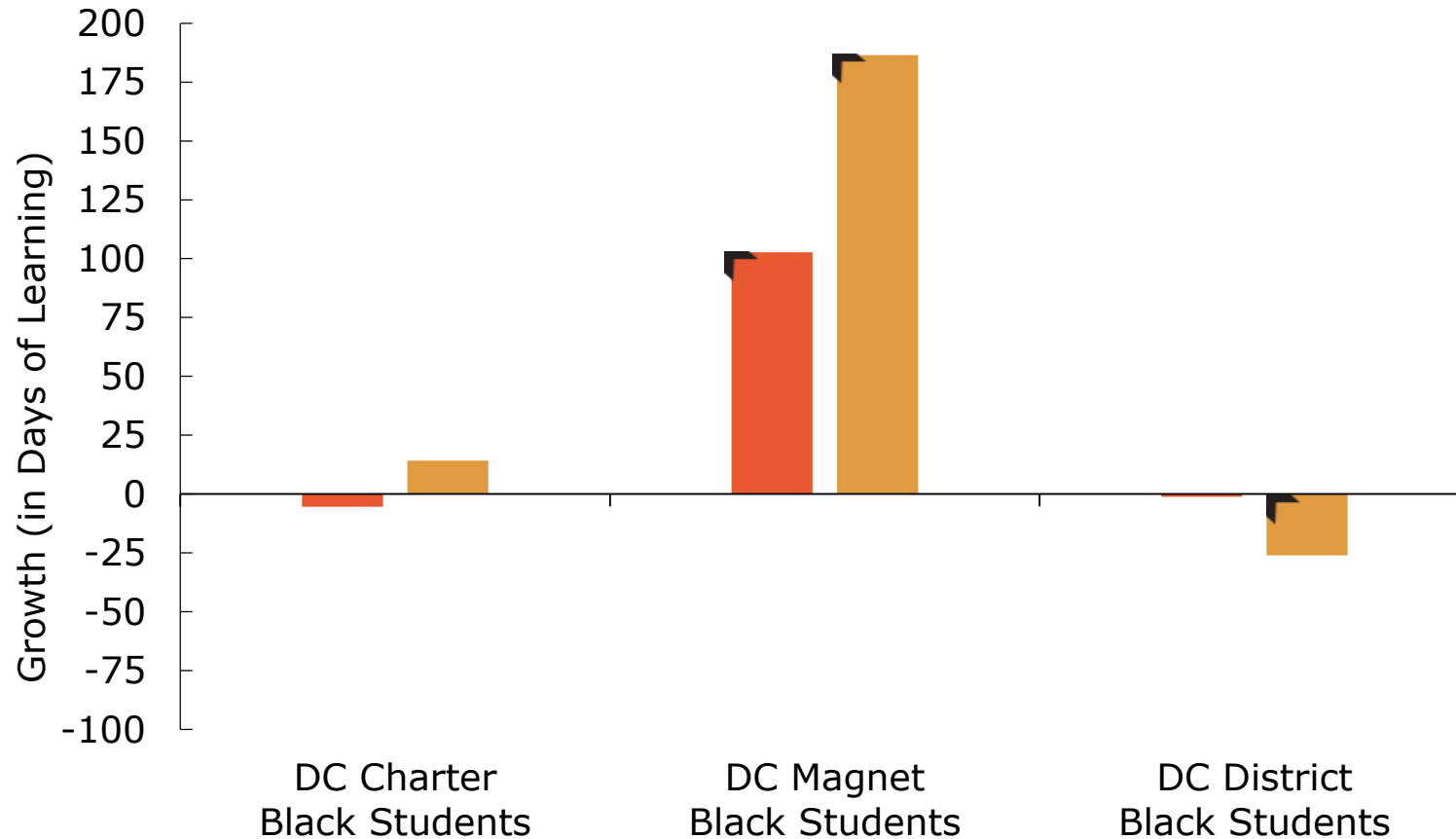
Research Findings > School-Level Performance by Sector > Math



Research Findings > Student Subgroup Analysis > Black Students

VS. CITY AVERAGE BY SECTOR & COMPARISON WITHIN WASHINGTON, D.C.

Learning Gains for Black Students in Washington, D.C. Charter Schools, Black Students in Washington, D.C. Magnet Schools, and Black Students in Washington, D.C. District Schools Compared to the Average Learning Gains of Black Students Citywide, by Subject



Tests of Differences

Subject	Comparison	Significant
Reading	Charter Black vs. District Black	Yes
	Magnet Black vs. District Black	Yes
Math	Charter Black vs. District Black	Yes
	Magnet Black vs. District Black	Yes

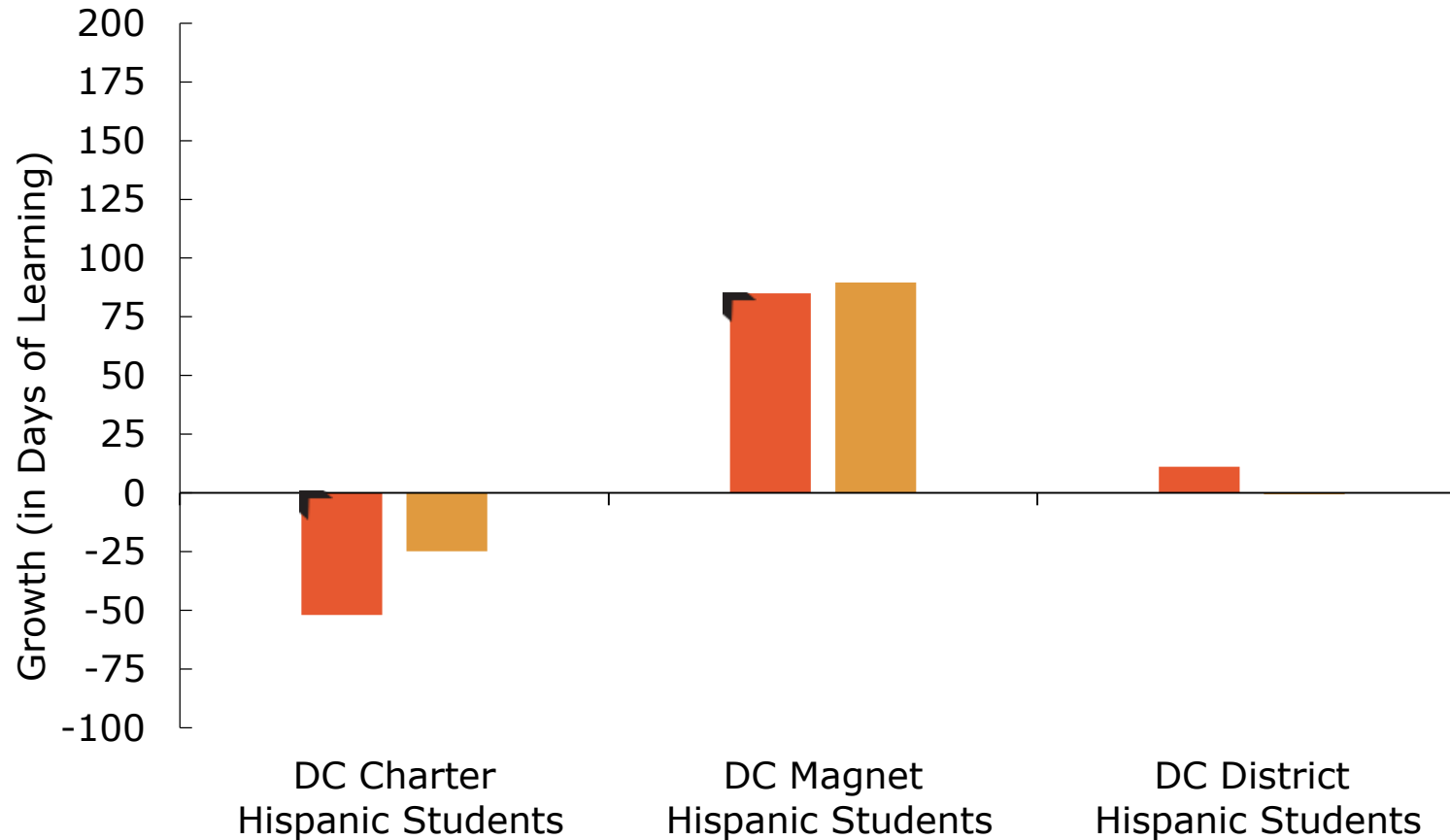
significantly different at $p < 0.05$

reading math

Research Findings > Student Subgroup Analysis > Hispanic Students

VS. CITY AVERAGE BY SECTOR & COMPARISON WITHIN WASHINGTON, D.C.

Learning Gains for Hispanic Students in Washington, D.C. Charter Schools, Hispanic Students in Washington, D.C. Magnet Schools, and Hispanic Students in Washington, D.C. District Schools Compared to the Average Learning Gains of Hispanic Students Citywide, by Subject



Tests of Differences

Reading

- Charter Hispanic vs. District Hispanic **sig**
- Magnet Hispanic vs. District Hispanic **sig**

Math

- Charter Hispanic vs. District Hispanic
- Magnet Hispanic vs. District Hispanic

sig significantly different at $p < 0.05$

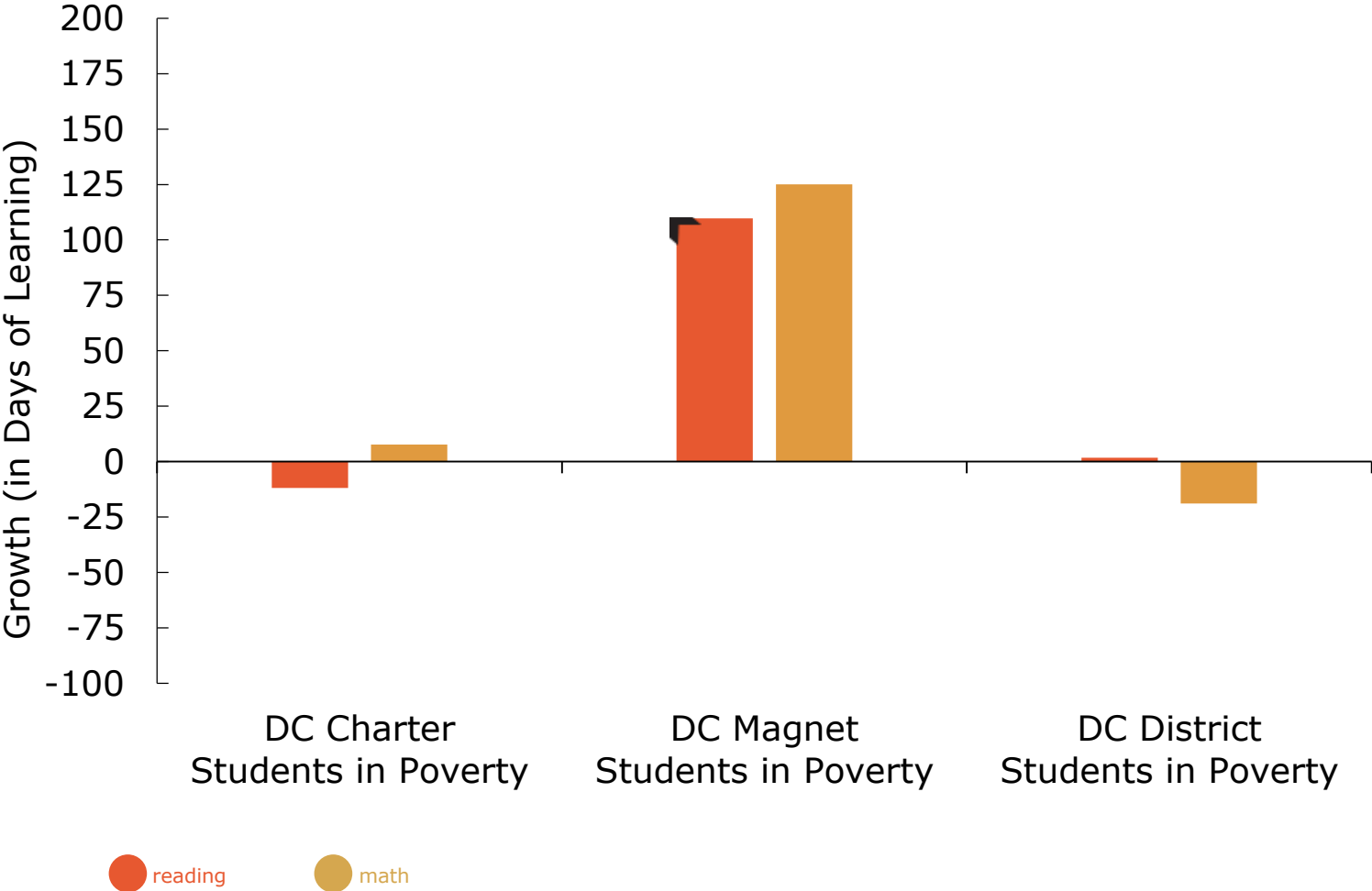
● reading ● math

Research Findings > Student Subgroup Analysis

> Students in Poverty

VS. CITY AVERAGE BY SECTOR & COMPARISON WITHIN WASHINGTON, D.C.

Learning Gains for Washington, D.C. Charter School Students in Poverty, Washington, D.C. Magnet School Students in Poverty, and Washington, D.C. District School Students in Poverty Compared to the Average Learning Gains of Students in Poverty Citywide, by Subject



Tests of Differences

Subject	Comparison	Significance
Reading	Charter Poverty vs. District Poverty	sig
	Magnet Poverty vs. District Poverty	sig
Math	Charter Poverty vs. District Poverty	sig
	Magnet Poverty vs. District Poverty	sig

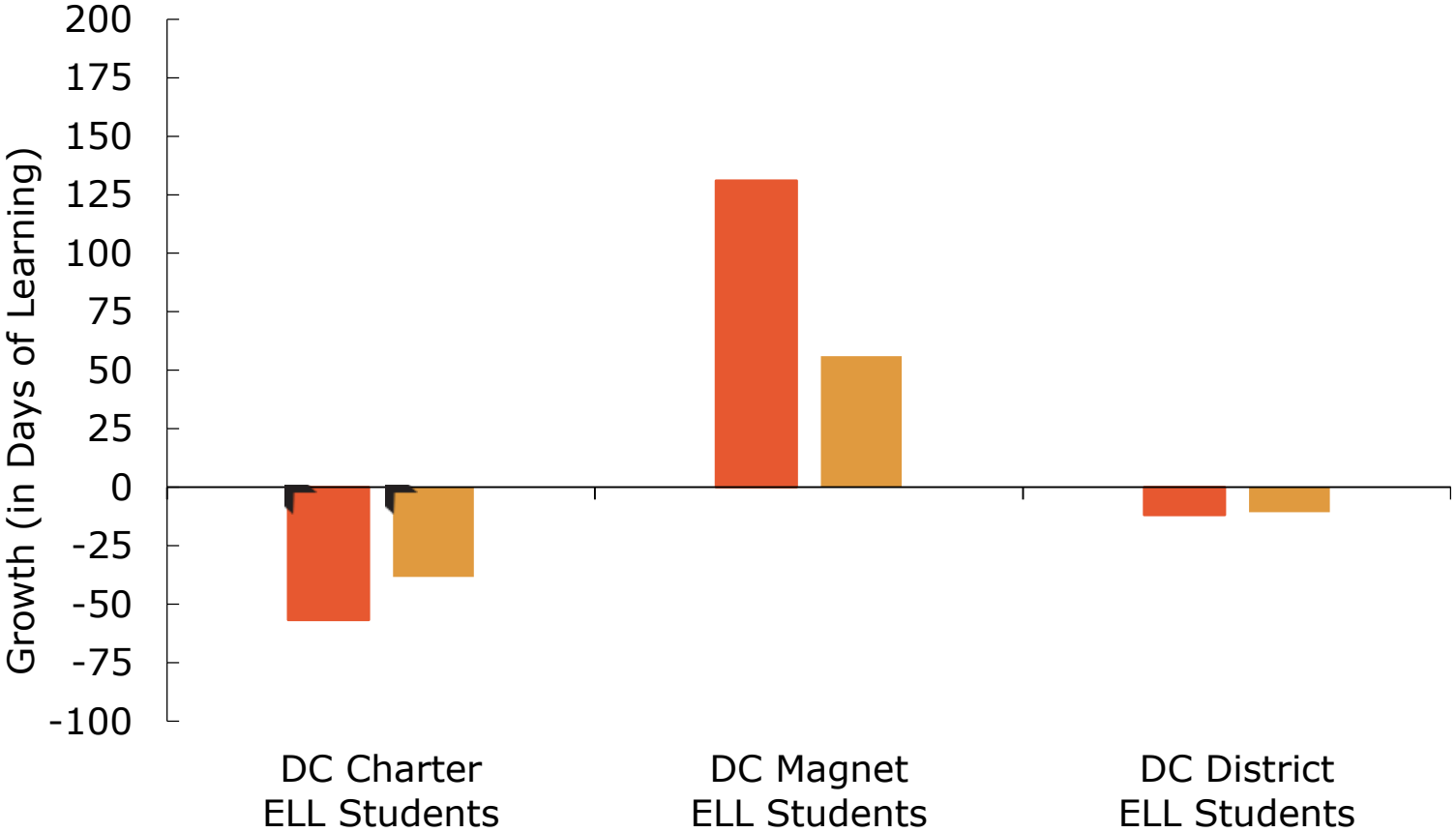
significantly different at $p < 0.05$

Research Findings > Student Subgroup Analysis

> ELL Students

VS. CITY AVERAGE BY SECTOR & COMPARISON WITHIN WASHINGTON, D.C.

Learning Gains for ELL Students in Washington, D.C. Charter Schools, ELL Students in Washington, D.C. Magnet Schools, and ELL Students in Washington, D.C. District Schools Compared to the Average Learning Gains of ELL Students Citywide, by Subject



Tests of Differences	
Reading	
Charter ELL vs. District ELL	sig
Magnet ELL vs. District ELL	↙
Math	
Charter ELL vs. District ELL	↙
Magnet ELL vs. District ELL	↙

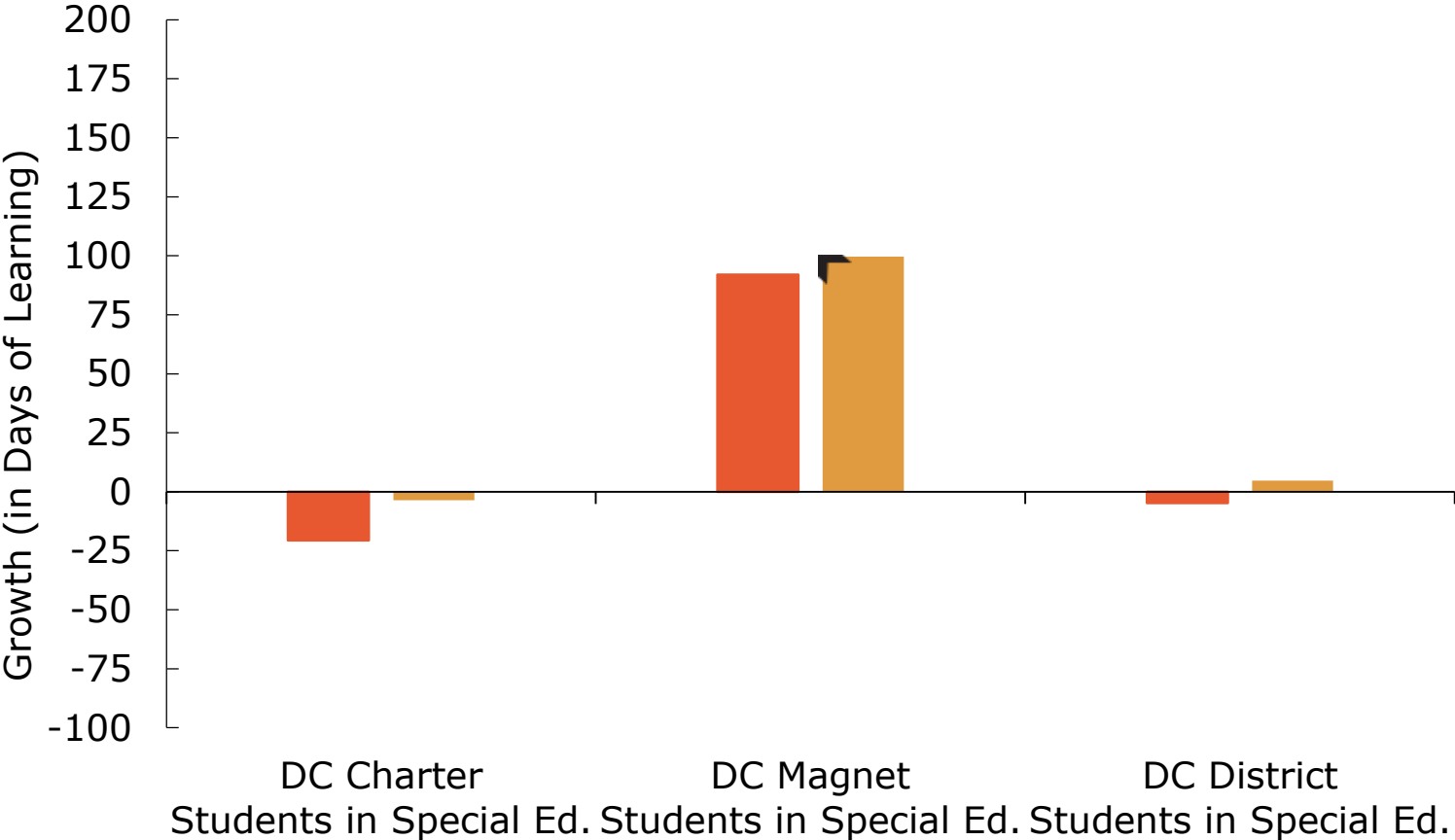
↙ significantly different at $p < 0.05$

● reading ● math

Research Findings > Student Subgroup Analysis > Special Ed Students

VS. CITY AVERAGE BY SECTOR & COMPARISON WITHIN WASHINGTON, D.C.

Learning Gains for Washington, D.C. Charter School Students in Special Ed., Washington, D.C. Magnet School Students in Special Ed., and Washington, D.C. District School Students in Special Ed. Compared to the Average Learning Gains of Students in Special Ed. Citywide, by Subject



Tests of Differences	
Reading	
Charter Sped vs. District Sped	sig
Magnet Sped vs. District Sped	↙
Math	
Charter Sped vs. District Sped	↙
Magnet Sped vs. District Sped	↙

↙ significantly different at $p < 0.05$

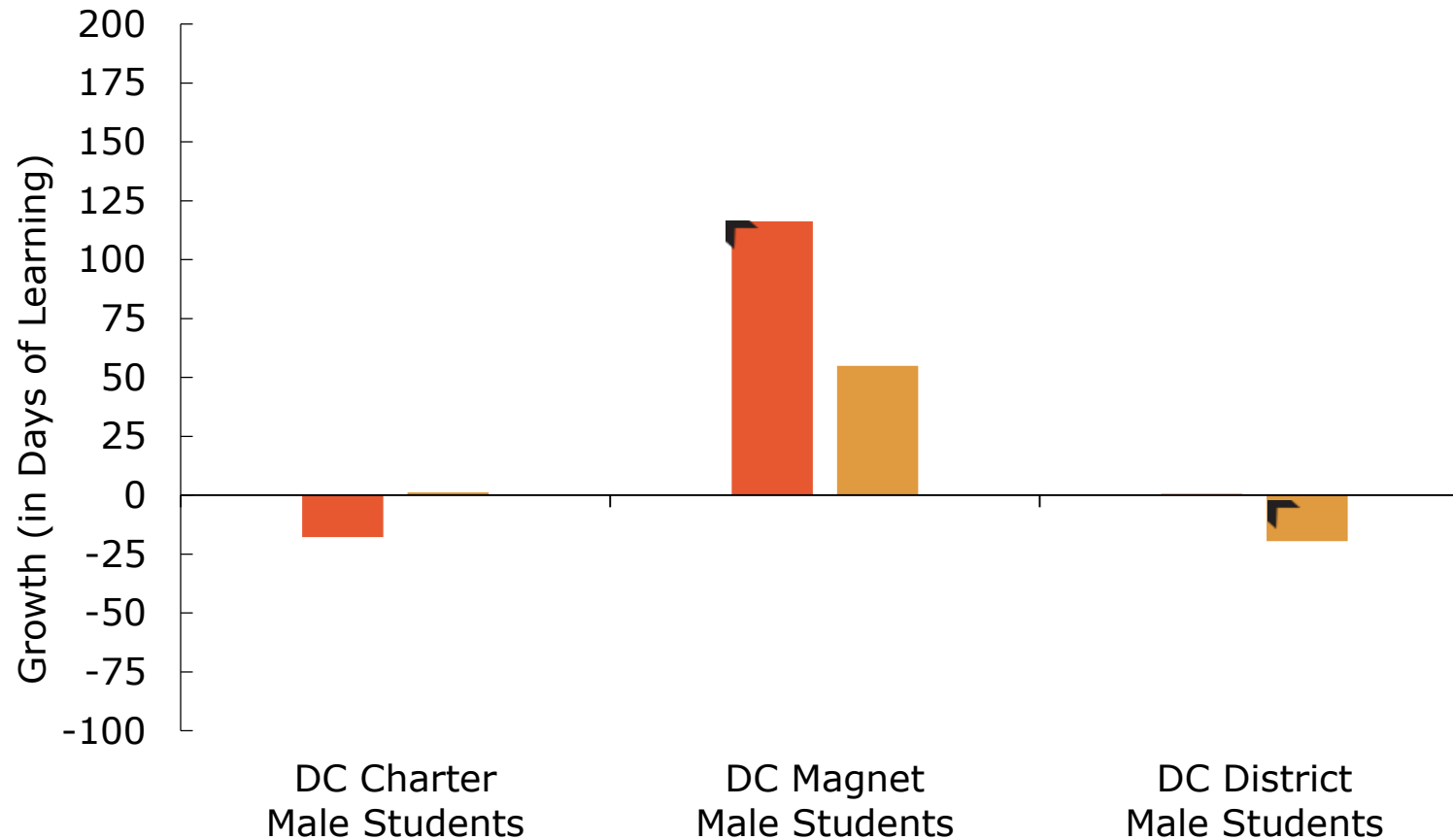
● reading ● math

Research Findings > Student Subgroup Analysis

> Male Students

VS. CITY AVERAGE BY SECTOR & COMPARISON WITHIN WASHINGTON, D.C.

Learning Gains for Male Students in Washington, D.C. Charter Schools, Male Students in Washington, D.C. Magnet Schools, and Male Students in Washington, D.C. District Schools Compared to the Average Learning Gains of Male Students Citywide, by Subject



Tests of Differences

Reading sig

Charter Male vs. District Male

Magnet Male vs. District Male

Math

Charter Male vs. District Male

Magnet Male vs. District Male

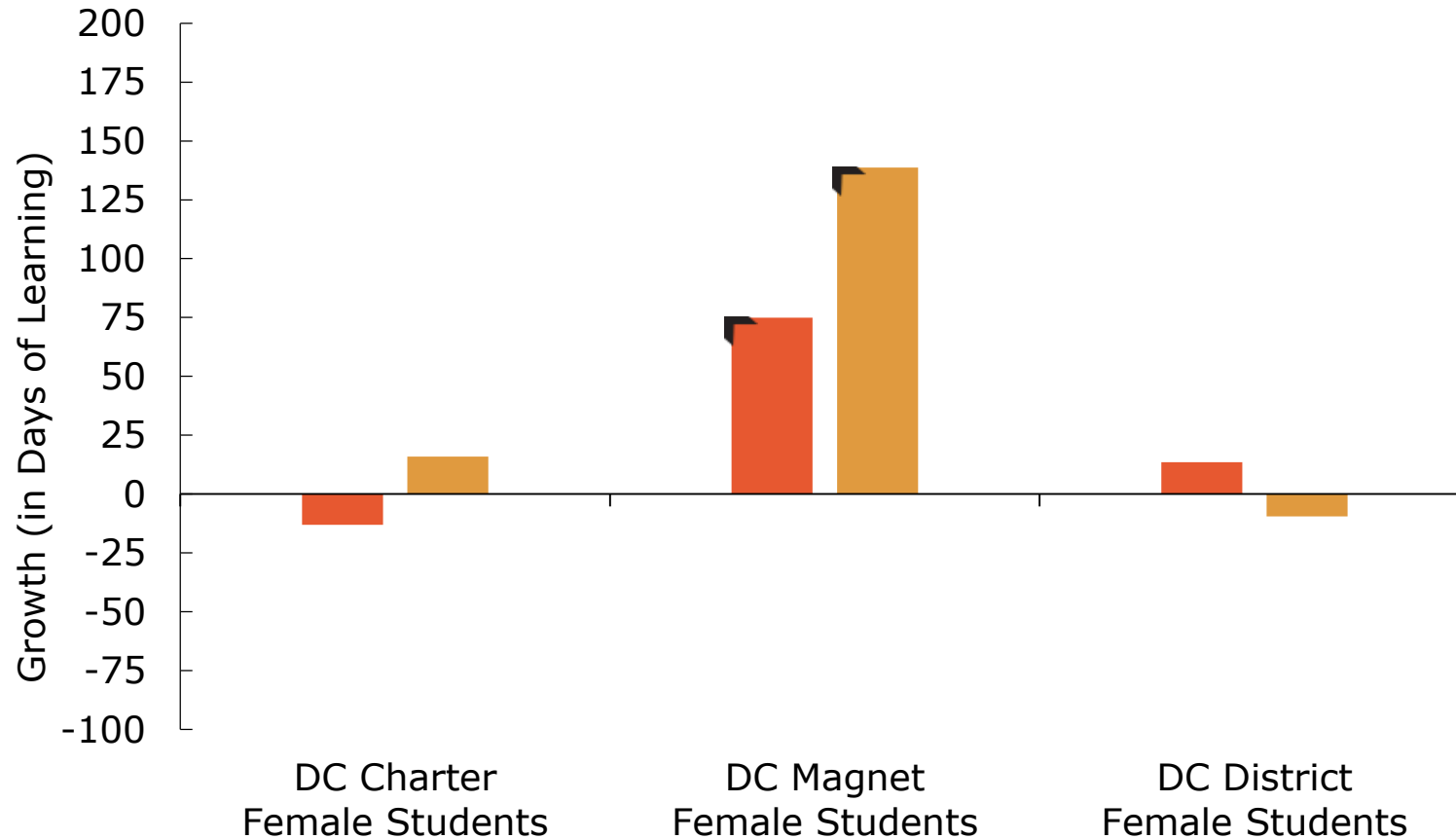
significantly different at $p < 0.05$

● reading ● math

Research Findings > Student Subgroup Analysis > Female Students

VS. CITY AVERAGE BY SECTOR & COMPARISON WITHIN WASHINGTON, D.C.

Learning Gains for Female Students in Washington, D.C. Charter Schools, Female Students in Washington, D.C. Magnet Schools, and Female Students in Washington, D.C. District Schools Compared to the Average Learning Gains of Female Students Citywide, by Subject



Tests of Differences

Reading sig
 Charter Female vs. District Female
 Magnet Female vs. District Female

Math
 Charter Female vs. District Female
 Magnet Female vs. District Female

significantly different at $p < 0.05$

● reading ● math

○ Summary of Findings



The summary of the findings from the analysis of Washington, D.C. schools is presented [here](#).





○ APPENDIXES

03



○ Acknowledgments



Student-level data were provided by the **Office of the State Superintendent of Education.**



Education Forward DC assisted CREDO with verifying the list of public schools in Washington, D.C.



Types of Charter Schools

There are two types of charter schools.



CHARTER MANAGEMENT ORGANIZATIONS (CMOs)

Organizations holding the charter and overseeing the operation of at least three charter schools.



INDEPENDENT CHARTER SCHOOLS

Organization holding the charter and overseeing the operation of a single charter school. It may run the school directly or contract with an organization which provides services to one or two charter schools.



OUR ANALYSES OF WASHINGTON, D.C. CHARTER SCHOOLS INCLUDE A BREAKOUT OF CMOs AND INDEPENDENT CHARTERS.

- With more schools and students than a single charter school, CMOs have some operational advantages in their ability to spread administrative fixed costs, thus providing the possibility of greater efficiency. In addition, CMOs may be able to support additional programs and more robust staffing.
- Whether CMOs lead to better student outcomes is a matter of interest across the country.



○ Methods



The annual academic growth of students in Washington, D.C. from 2016-17 to 2018-19, overall and by sector, is benchmarked to the city average growth, accounting for student characteristics.

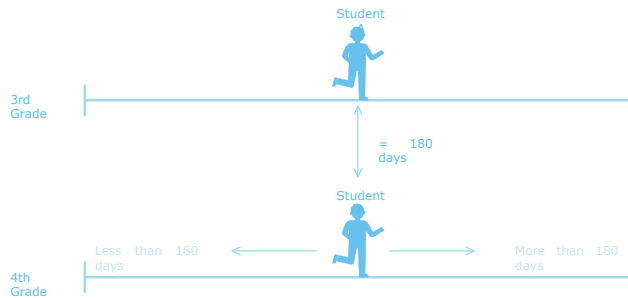
We also explore how one-year growth of Washington, D.C. students for the period ending in Spring 2019 differs by school type, race, poverty status, English language learner status, special education status, and gender.



Days of Learning

CREDO USES ADVANCED TECHNOLOGY AND SOPHISTICATED STATISTICAL TOOLS TO MEASURE STUDENTS, SCHOOLS AND THE EDUCATION LANDSCAPE.

While these tools create precise and reliable answers, they are presented in technical terms that are not user-friendly to a general audience. To translate the technical results into terms that are accessible to non-technical audiences, CREDO developed Days of Learning.



01

Think about the students in your city average's public schools. For many of their years of schooling, they take achievement tests to measure what they know at the end of the school year. We can identify the average score for each test each year.

02

Imagine a student who scores exactly at the average in one year, say 4th grade, and then in the following year, scores exactly at the average again on the 5th-grade test. The amount of year-to-year learning for that student show us what the average learning is for all the students who took both tests.

03

We do that calculation for every grade the city average tests: 4th to 5th, 5th to 6th, and so on.

04

CREDO uses those annual measures of average learning to represent a typical year of learning, and equates that to a typical 180-day school year. We say that the student in our example has gained 180 days of learning.

05

If a student makes more progress than the average student, we take the amount of extra achievement and translate it into 180-days of learning plus "X" extra days. We are creating a measure of student learning as if the student went to school for 180 days plus X days. The size of "X" depends on how much more the student learns than the average student — if it's a lot more, then "X" will be a large number, and if it's a small amount more, "X" will be a small number.

06

The same is true for students who do not learn as much as the average student. Instead of adding to the 180-days-of-learning average, we subtract from that base to reflect the smaller-than-average advances that those students realize. In these cases, the difference leads to numbers such a "165 days of learning" or "152 days of learning". Against the average standard of 180 days, these smaller days show that students learned as if they had only attended school for 180 days minus X days during the school year.

Washington, D.C. School Sectors Compared to City Average

	READING		MATH	
	Standard Deviation	Days of Learning	Standard Deviation	Days of Learning
Charter Schools 2017-18	-0.01	-5	0.03	20
Charter Schools 2018-19	-0.03	-16	0.02	8
Magnet Schools 2017-18	0.16**	93**	0.19	113
Magnet Schools 2018-19	0.16**	92**	0.17	98
Other District Schools 2017-18	0.00	-2	-0.03	-15
Other District Schools 2018-19	0.01	7	-0.03	-15

Significant at $p < 0.05^*$

Significant at $p < 0.01^{**}$

Comparison of School Sectors within Washington, D.C.

	READING		MATH	
	Standard Deviation	Days of Learning	Standard Deviation	Days of Learning
Charter Schools vs. Other District Schools 2017-18	-0.01	-4	0.06*	34*
Charter Schools vs. Other District Schools 2018-19	-0.04	-23	0.04	23
Magnet Schools vs. Other District Schools 2017-18	0.16**	94**	0.22	128
Magnet Schools vs. Other District Schools 2018-19	0.15*	85*	0.19	113

Significant at $p < 0.05^*$

Significant at $p < 0.01^{**}$



○ Charter Subsector Analysis

	READING		MATH	
	Standard Deviation	Days of Learning	Standard Deviation	Days of Learning
Washington, D.C. CMOs vs. City Average	-0.02	-12	0.05	30
Washington, D.C. Independent Charters vs. City Average	-0.04	-22	-0.03	-18
Washington, D.C. CMOs vs. Washington, D.C. Independent Charters	0.02	10	0.08*	47*

Significant at $p < 0.05^*$

Significant at $p < 0.01^{**}$



○ Student Subgroup Analysis > Black Students

READING		MATH	
Standard Deviation	Days of Learning	Standard Deviation	Days of Learning

Compared with Citywide Average of Black Students

Washington, D.C. Charter School Black Students	-0.01	-6	0.02	14
Washington, D.C. Magnet School Black Students	0.17*	102*	0.32*	186*
Washington, D.C. Other District School Black Students	0.00	-2	-0.04*	-26*

Compared with Black Students in Other District Schools in Washington, D.C.

Washington, D.C. Charter School Black Students	-0.01	-5	0.07*	40*
Washington, D.C. Magnet School Black Students	0.18*	103*	0.36*	212*

Significant at $p < 0.05^*$

Significant at $p < 0.01^{**}$



○ Student Subgroup Analysis > Hispanic Students

READING		MATH	
Standard Deviation	Days of Learning	Standard Deviation	Days of Learning

Compared with Citywide Average of Hispanic Students

Washington, D.C. Charter School Hispanic Students	-0.09**	-52**	-0.04	-25
Washington, D.C. Magnet School Hispanic Students	0.14**	84**	0.15	89
Washington, D.C. Other District School Hispanic Students	0.02	11	0.00	-1

Compared with Hispanic Students in Other District Schools in Washington, D.C.

Washington, D.C. Charter School Hispanic Students	-0.11**	-64**	-0.04	-25
Washington, D.C. Magnet School Hispanic Students	0.13**	73**	0.15	90

Significant at $p < 0.05^*$

Significant at $p < 0.01^{**}$

○ Student Subgroup Analysis > Students in Poverty

READING		MATH	
Standard Deviation	Days of Learning	Standard Deviation	Days of Learning

Compared with Citywide Average of Students in Poverty

Washington, D.C. Charter School Students in Poverty	-0.02	-12	0.01	7
Washington, D.C. Magnet School Students in Poverty	0.19**	109**	0.21	125
Washington, D.C. Other District School Students in Poverty	0.00	1	-0.03	-19

Compared with Students in Poverty in Other District Schools in Washington, D.C.

Washington, D.C. Charter School Students in Poverty	-0.02	-14	0.05	26
Washington, D.C. Magnet School Students in Poverty	0.18**	107**	0.24*	143*

Significant at $p < 0.05^*$

Significant at $p < 0.01^{**}$

○ Student Subgroup Analysis > ELL Students

READING		MATH	
Standard Deviation	Days of Learning	Standard Deviation	Days of Learning

Compared with Citywide Average of ELL Students

Washington, D.C. Charter School ELL Students	-0.10*	-57*	-0.07*	-39*
Washington, D.C. Magnet School ELL Students	0.22	130	0.10	56
Washington, D.C. Other District School ELL Students	-0.02	-12	-0.02	-11

Compared with ELL Students in Other District Schools in Washington, D.C.

Washington, D.C. Charter School ELL Students	-0.08	-45	-0.05	-28
Washington, D.C. Magnet School ELL Students	0.24**	142**	0.11*	66*

Significant at $p < 0.05^*$

Significant at $p < 0.01^{**}$



○ Student Subgroup Analysis > Special Ed Students

READING		MATH	
Standard Deviation	Days of Learning	Standard Deviation	Days of Learning

Compared with Citywide Average of Special Ed Students

Washington, D.C. Charter School Special Ed Students	-0.04	-21	-0.01	-4
Washington, D.C. Magnet School Special Ed Students	0.16	92	0.17**	99**
Washington, D.C. Other District School Special Ed Students	-0.01	-5	0.01	4

Compared with Special Ed Students in Other District Schools in Washington, D.C.

Washington, D.C. Charter School Special Ed Students	-0.03	-16	-0.01	-9
Washington, D.C. Magnet School Special Ed Students	0.16*	96*	0.16**	94**

Significant at $p < 0.05^*$

Significant at $p < 0.01^{**}$

○ Student Subgroup Analysis > Male Students

READING		MATH	
Standard Deviation	Days of Learning	Standard Deviation	Days of Learning

Compared with Citywide Average of Male Students

Washington, D.C. Charter School Male Students	-0.03	-18	0.00	1
Washington, D.C. Magnet School Male Students	0.20**	116**	0.09	54
Washington, D.C. Other District School Male Students	0.00	0.00	-0.03*	-20*

Compared with Male Students in Other District Schools in Washington, D.C.

Washington, D.C. Charter School Male Students	-0.03	-19	0.04	20
Washington, D.C. Magnet School Male Students	0.20**	115**	0.13	74

Significant at $p < 0.05^*$

Significant at $p < 0.01^{**}$



○ Student Subgroup Analysis > Female Students

READING		MATH	
Standard Deviation	Days of Learning	Standard Deviation	Days of Learning

Compared with Citywide Average of Female Students

Washington, D.C. Charter School Female Students	-0.02	-13	0.03	15
Washington, D.C. Magnet School Female Students	0.13*	74*	0.24*	138*
Washington, D.C. Other District School Female Students	0.02	13	-0.02	-10

Compared with Female Students in Other District Schools in Washington, D.C.

Washington, D.C. Charter School Female Students	-0.05*	-27*	0.04	25
Washington, D.C. Magnet School Female Students	0.10	61	0.25*	148*

Significant at $p < 0.05^*$

Significant at $p < 0.01^{**}$



THANK YOU

