

# City Study 2022:

FORT WORTH

# 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

### Overall Fort Worth Results

- Reading & Math

### Sector Analysis

- Reading
- Math

### Charter Subsector Analysis

- vs. state & comparison within Fort Worth

### School-Level Performance by Sector

- Reading
- Math

*Research Findings Cont'd.*

### Student Subgroup Analysis

#### Black Students

- all vs. state
- vs. state by sector & comparison within Fort Worth

#### Students in Poverty

- all vs. state
- vs. state by sector & comparison within Fort Worth

#### Special Ed Students

- all vs. state
- vs. state by sector & comparison within Fort Worth

#### Female Students

- all vs. state
- vs. state by sector & comparison within Fort Worth

#### Hispanic Students

- all vs. state
- vs. state by sector & comparison within Fort Worth

#### ELL Students

- all vs. state
- vs. state by sector & comparison within Fort Worth

#### Male Students

- all vs. state
- vs. state by sector & comparison within Fort Worth

### 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 Fort Worth. 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.

There are no selective magnet schools in Fort Worth during the span of this study.



## 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 FORT WORTH USING DATA FROM THE SCHOOL YEARS 2017-18 THROUGH 2018-19. THERE ARE THREE LEVELS OF ANALYSIS.

01

**Overall performance** in Fort Worth schools over one growth period.

02

**Performance for Fort Worth charter schools and the other public schools in Fort Worth** over one growth period.

03

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 Fort Worth students is benchmarked against the state average performance, accounting for student characteristics.
- The performance of charter school students within Fort Worth are then compared to that of similar traditional public school (district school) students within Fort Worth.



# ○ 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.





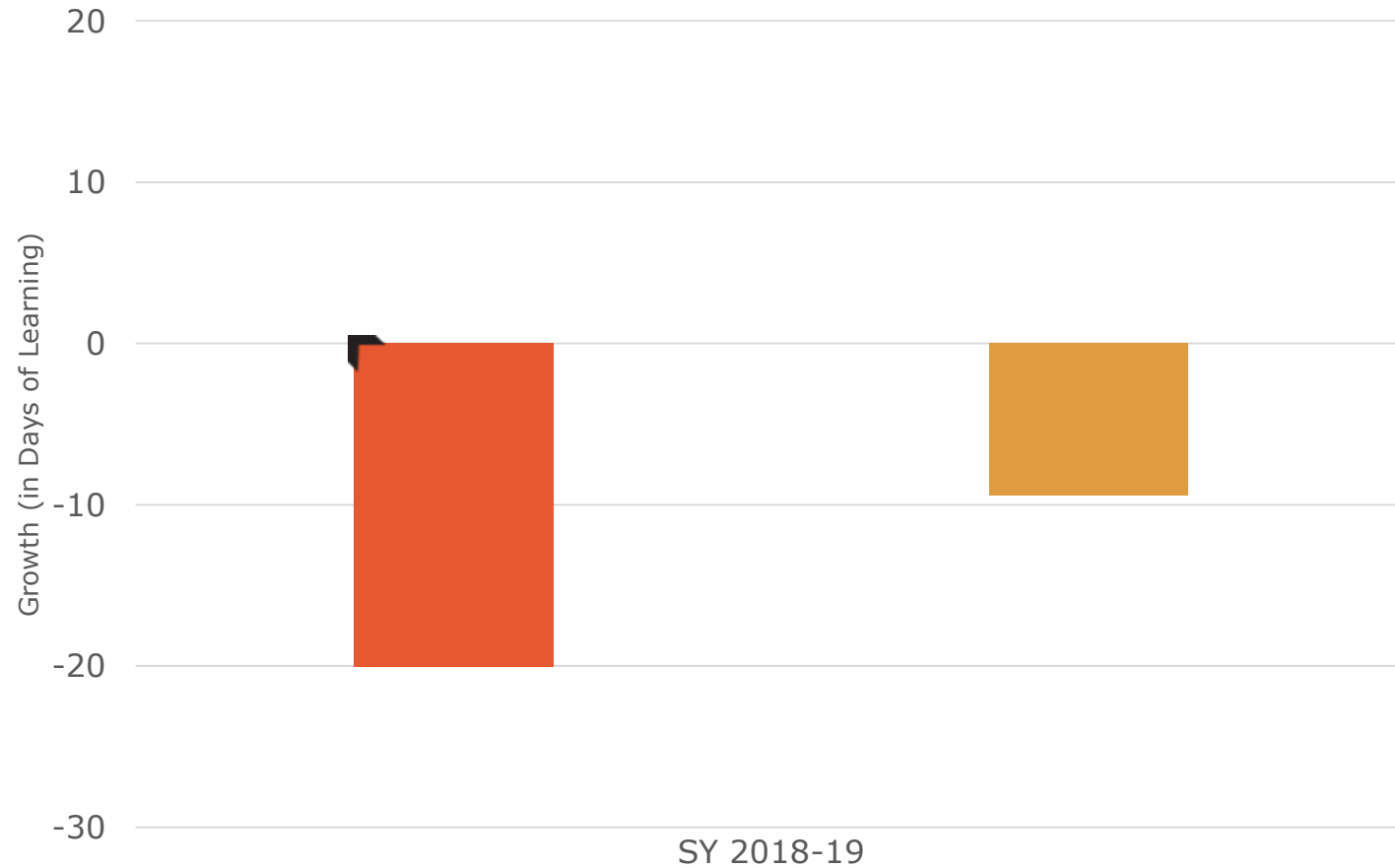
○ RESEARCH FINDINGS

02





# Research Findings > Overall Fort Worth Results > Reading & Math



significantly different at  $p < 0.05$

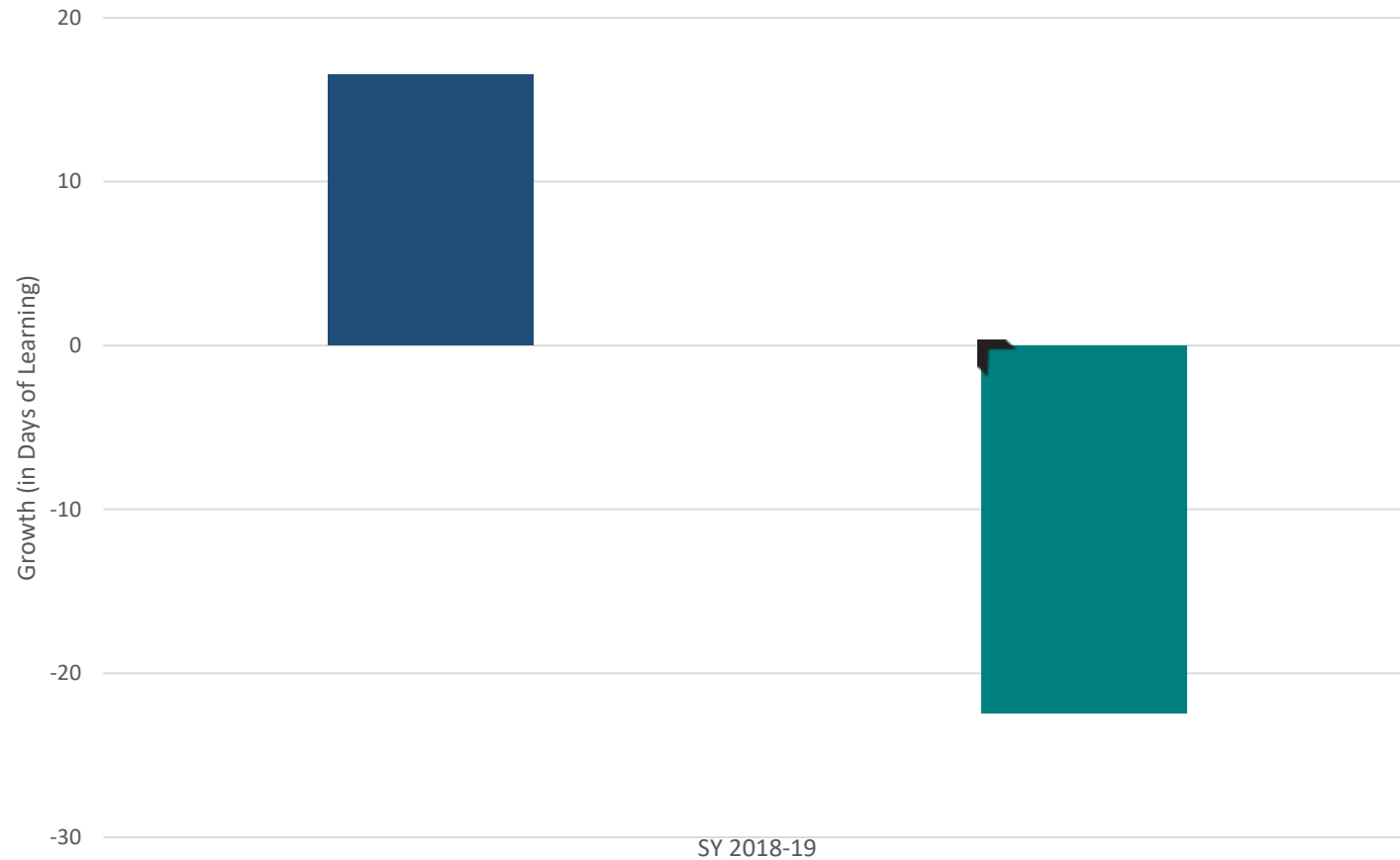
reading math

# Research Findings > Sector Analysis

## > Reading

VS. STATE & COMPARISON WITHIN FORT WORTH

Learning Gains in Reading for Students in Fort Worth  
Charter Schools and Fort Worth District Schools  
Compared to the State Average Learning Gains, by  
Year



Tests of Differences	
Math	'18-'19
Charter vs. District	

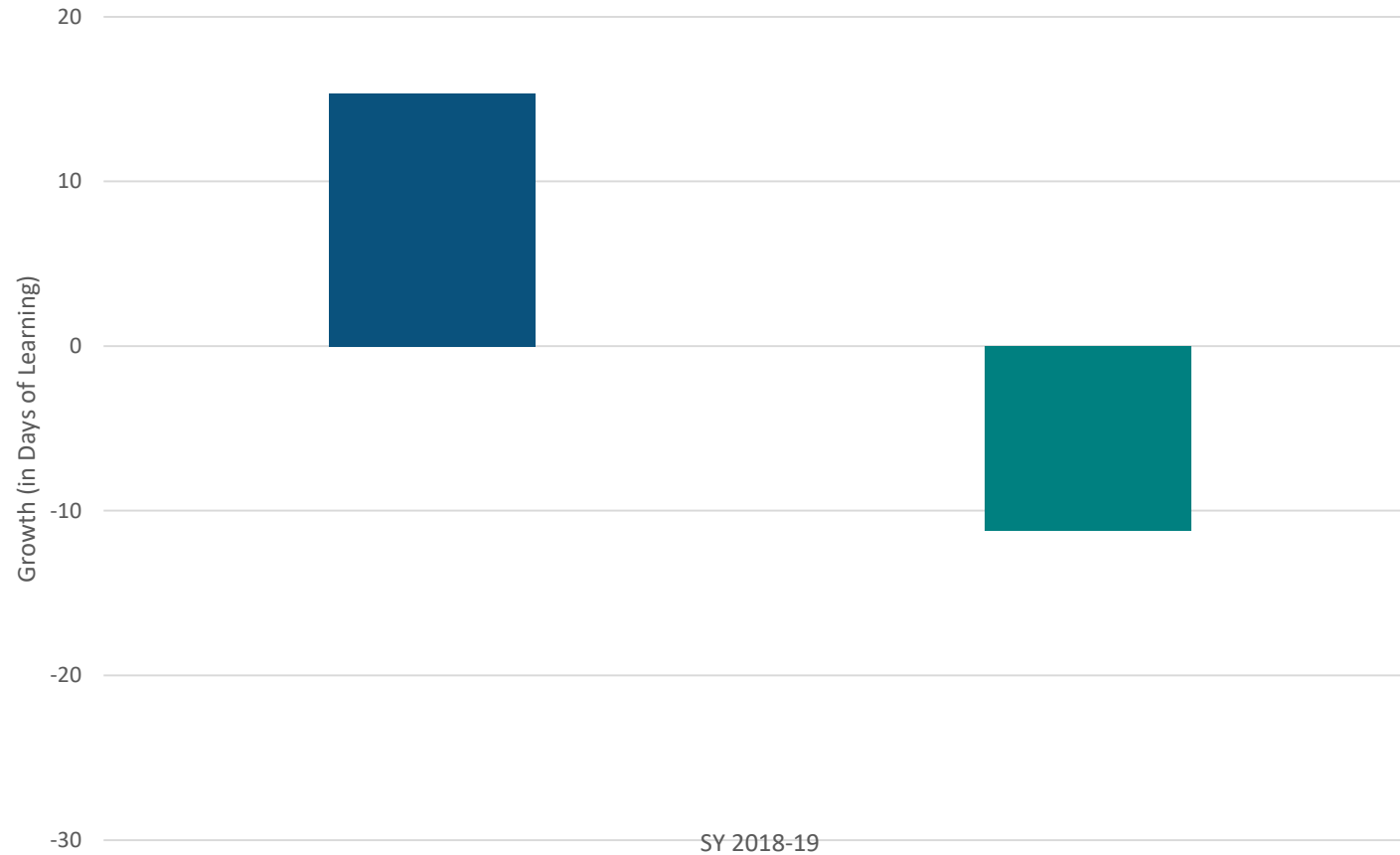
significantly different at  $p < 0.05$

# Research Findings > Sector Analysis

## > Math

### VS. STATE & COMPARISON WITHIN FORT WORTH

Learning Gains in Math for Students in Fort Worth  
Charter Schools and Fort Worth District Schools  
Compared to the State Average Learning Gains, by  
Year



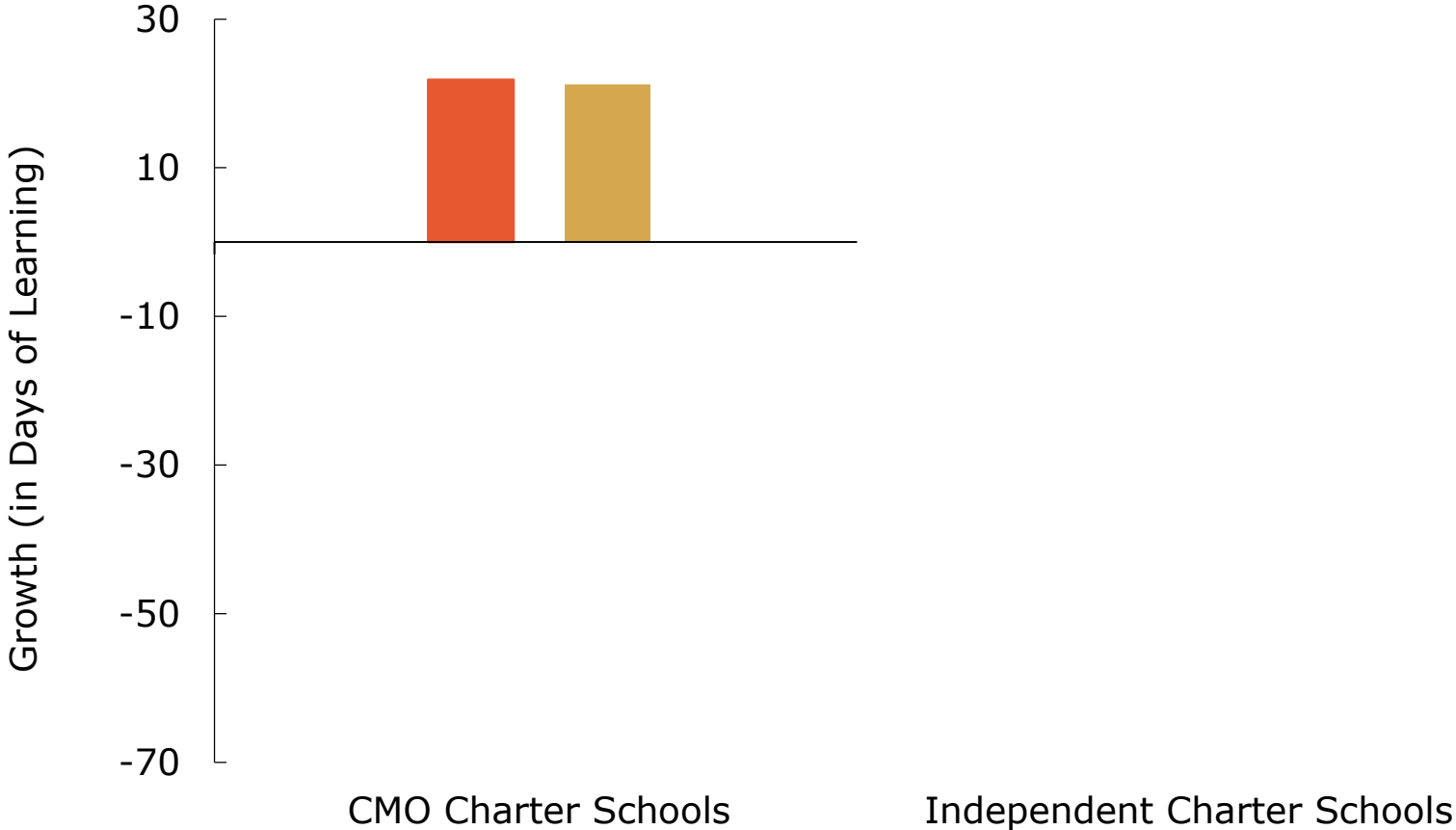
Tests of Differences	
Math	'18-'19
Charter vs. District	

significantly different at  $p < 0.05$

# Research Findings > Charter Subsector Analysis

## > vs. state & comparison within Fort Worth

Relative Learning Gains for Students in Fort Worth  
 CMO-Affiliated Charter Schools and Independent Fort  
 Worth Charter Schools Compared to the Average  
 Learning Gains for All Student in the State, by  
 Subject



### Tests of Differences

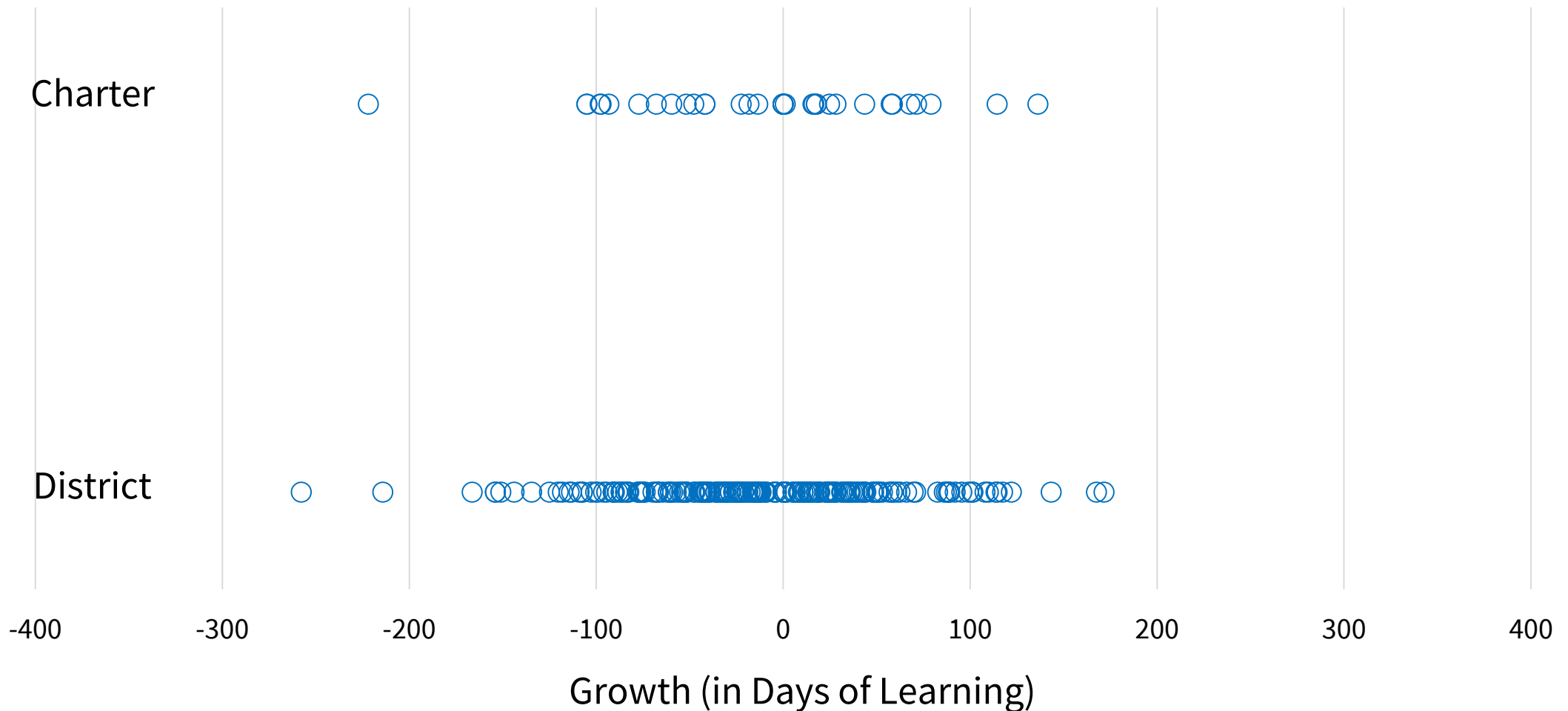
<b>Reading</b>	sig
CMOs vs Independent Charter Schools	§
<b>Math</b>	
CMOs vs Independent Charter Schools	§

significantly different at p < 0.05

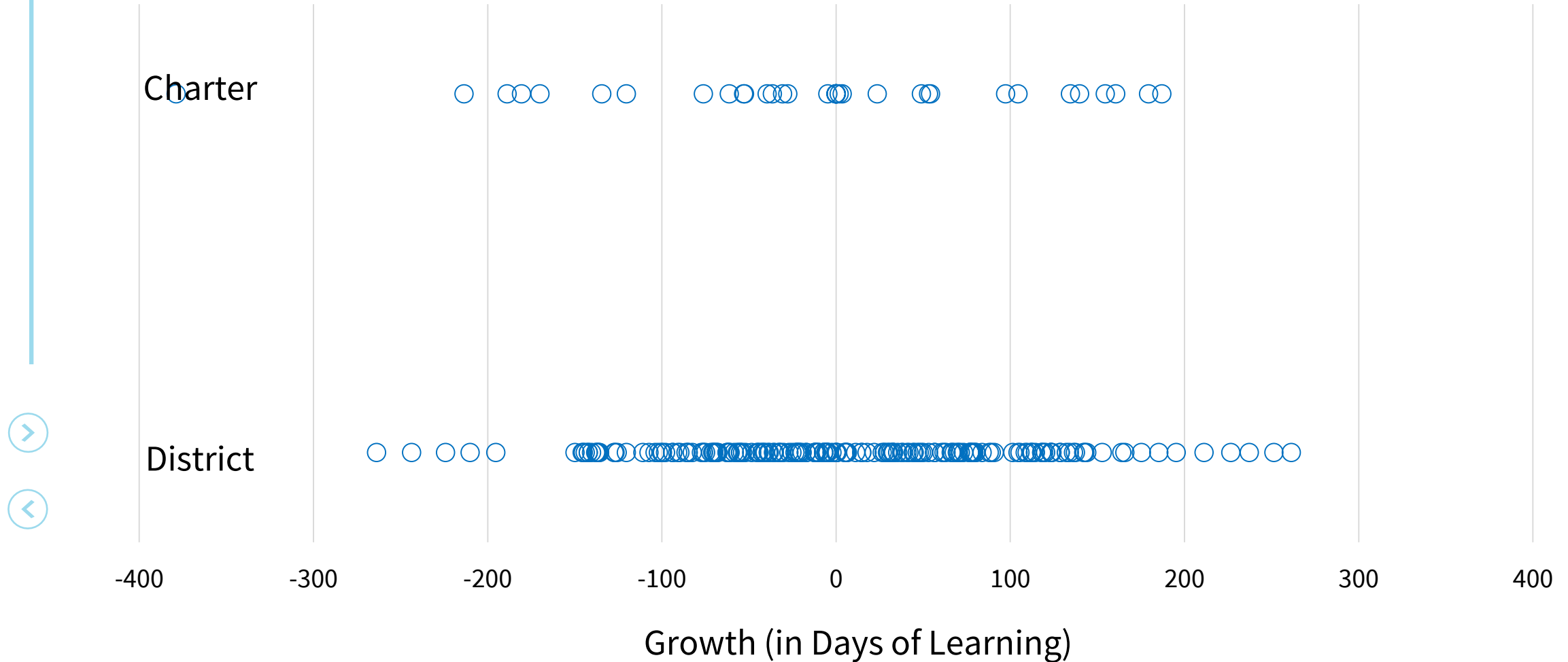
● reading ● math

§ Redacted because of a very small number of independent charter schools involved in the analysis.

# Research Findings > School-Level Performance by Sector > Reading



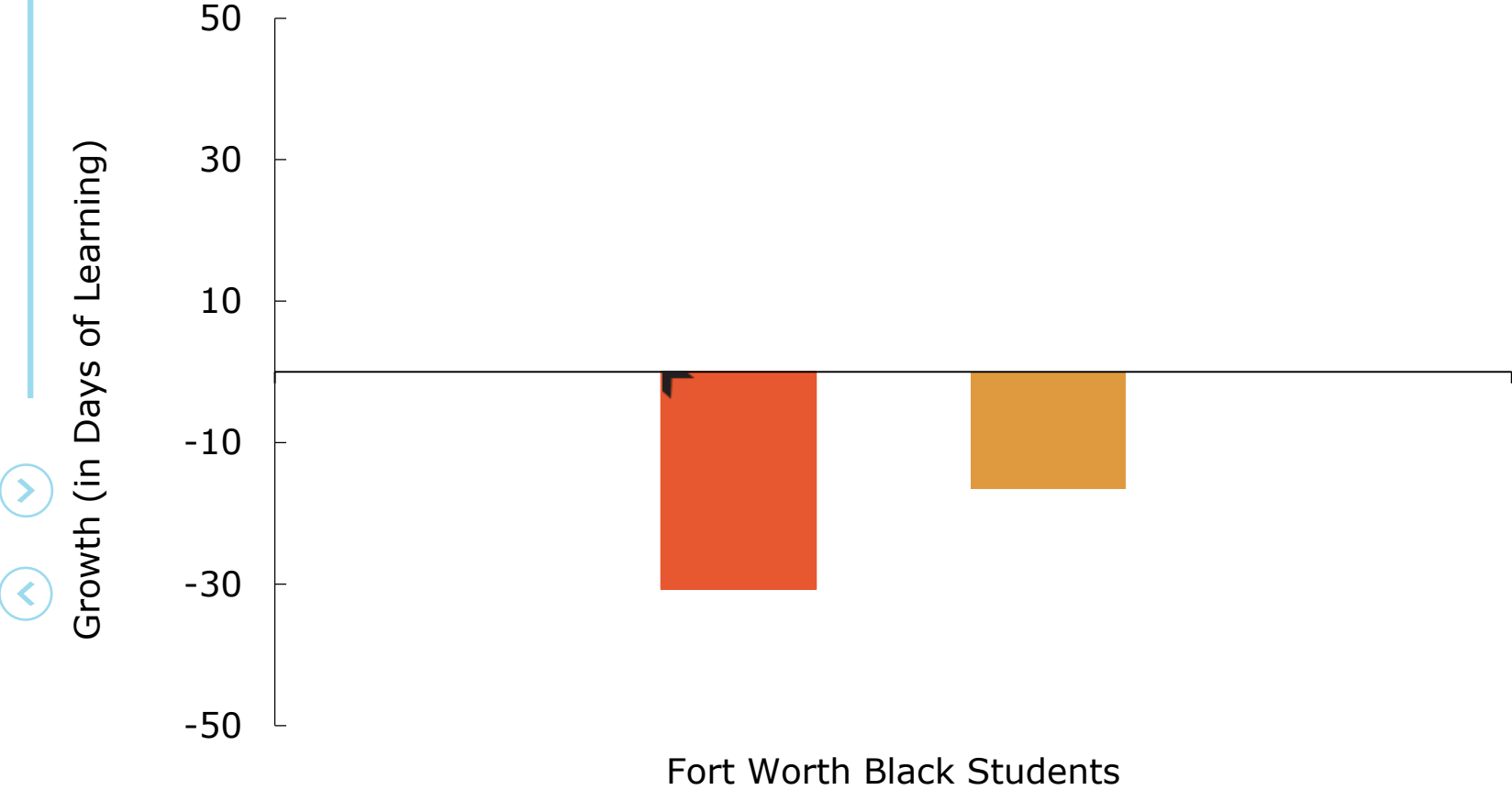
# Research Findings > School-Level Performance by Sector > Math



# Research Findings > Student Subgroup Analysis > Black Students

ALL VS. STATE

Learning Gains for All Fort Worth Black Students  
Compared to the Average Learning Gains of Black  
Students Statewide, by Subject



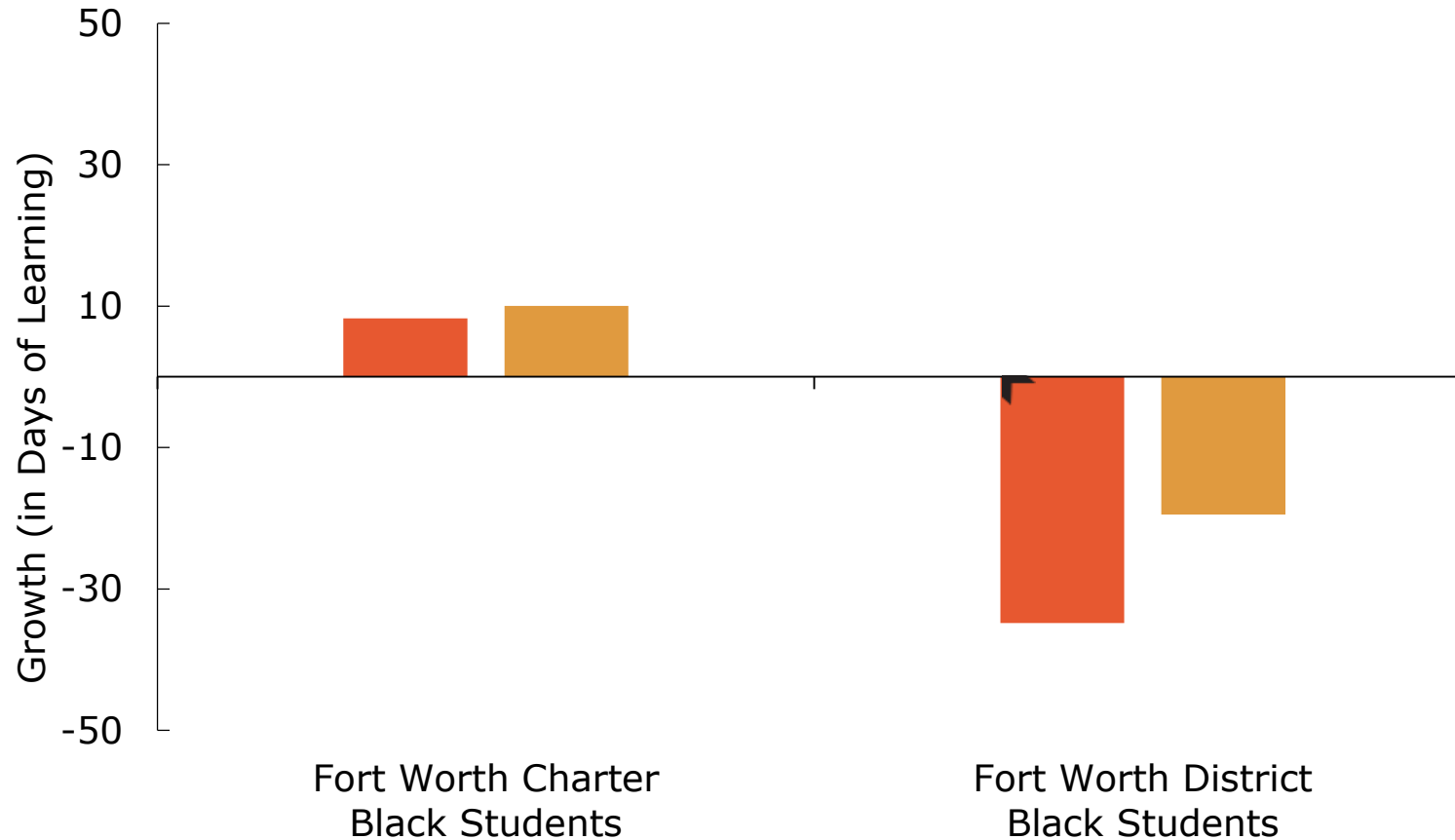
significantly different at  $p < 0.05$

reading math

# Research Findings > Student Subgroup Analysis > Black Students

VS. STATE BY SECTOR & COMPARISON WITHIN FORT WORTH

Learning Gains for Black Students in Fort Worth Charter Schools and Black Students in Fort Worth District Schools Compared to the Average Learning Gains of Black Students Statewide, by Subject



### Tests of Differences

**Reading** sig  
Charter Black vs. District Black

**Math**  
Charter Black vs. District Black

significantly different at  $p < 0.05$

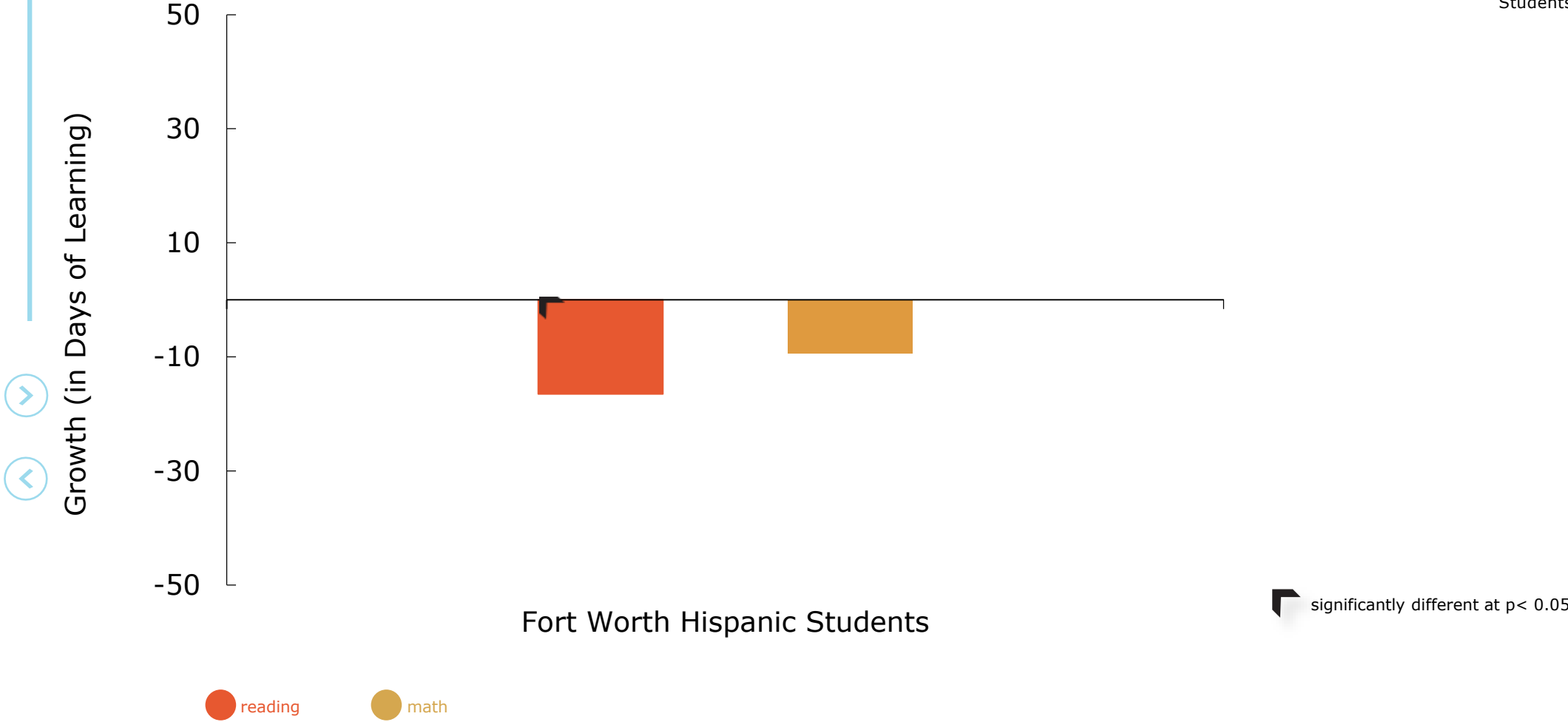
● reading ● math



# Research Findings > Student Subgroup Analysis > Hispanic Students

ALL VS. STATE

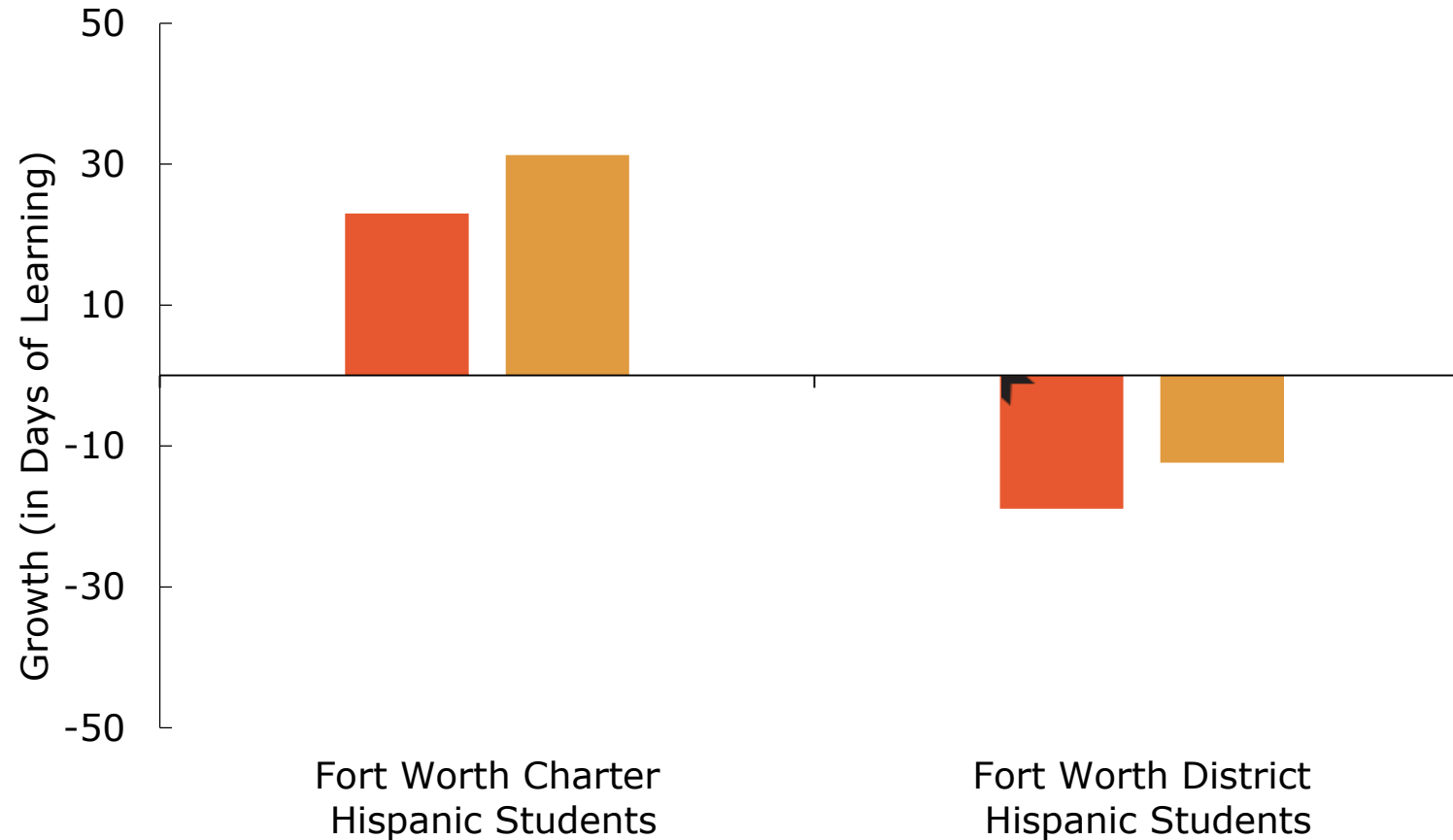
Learning Gains for All Fort Worth Hispanic Students  
Compared to the Average Learning Gains of Hispanic  
Students Statewide, by Subject



# Research Findings > Student Subgroup Analysis > Hispanic Students

VS. STATE BY SECTOR & COMPARISON WITHIN FORT WORTH

Learning Gains for Hispanic Students in Fort Worth Charter Schools and Hispanic Students in Fort Worth District Schools Compared to the Average Learning Gains of Hispanic Students Statewide, by Subject



## Tests of Differences

### Reading

Charter Hispanic vs. District Hispanic

sig



### Math

Charter Hispanic vs. District Hispanic



significantly different at  $p < 0.05$

reading

math

# Research Findings > Student Subgroup Analysis > Students in Poverty

ALL VS. STATE

Learning Gains for All Fort Worth Students in Poverty  
Compared to the Average Learning Gains of Students  
in Poverty Statewide, by Subject



significantly different at  $p < 0.05$

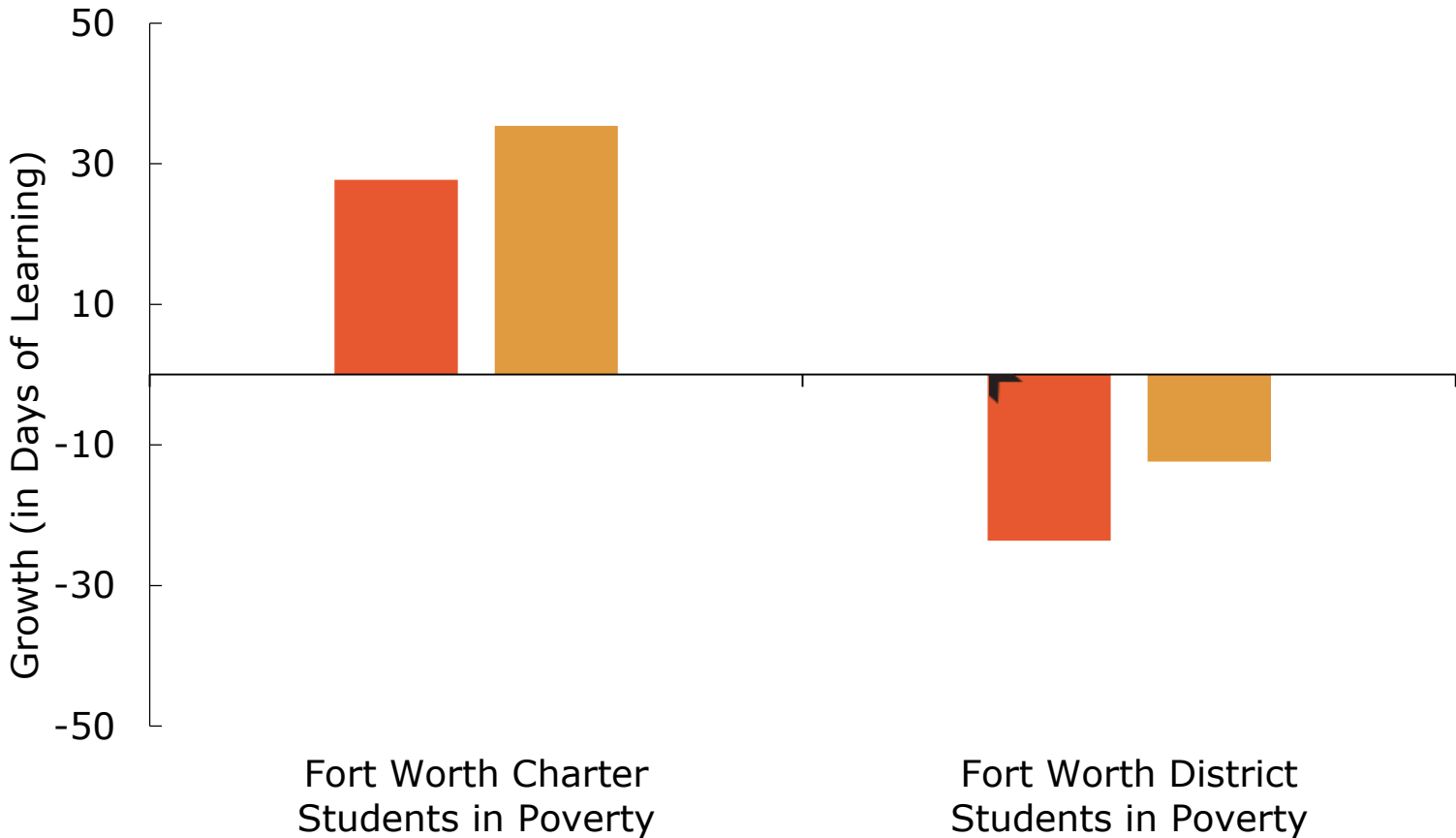
reading

math

# Research Findings > Student Subgroup Analysis > Students in Poverty

VS. STATE BY SECTOR & COMPARISON WITHIN FORT WORTH

Learning Gains for Fort Worth Charter School Students in Poverty and Fort Worth District School Students in Poverty Compared to the Average Learning Gains of Students in Poverty Statewide, by Subject



### Tests of Differences

**Reading** sig  
Charter Poverty vs. District Poverty

**Math**  
Charter Poverty vs. District Poverty

significantly different at  $p < 0.05$

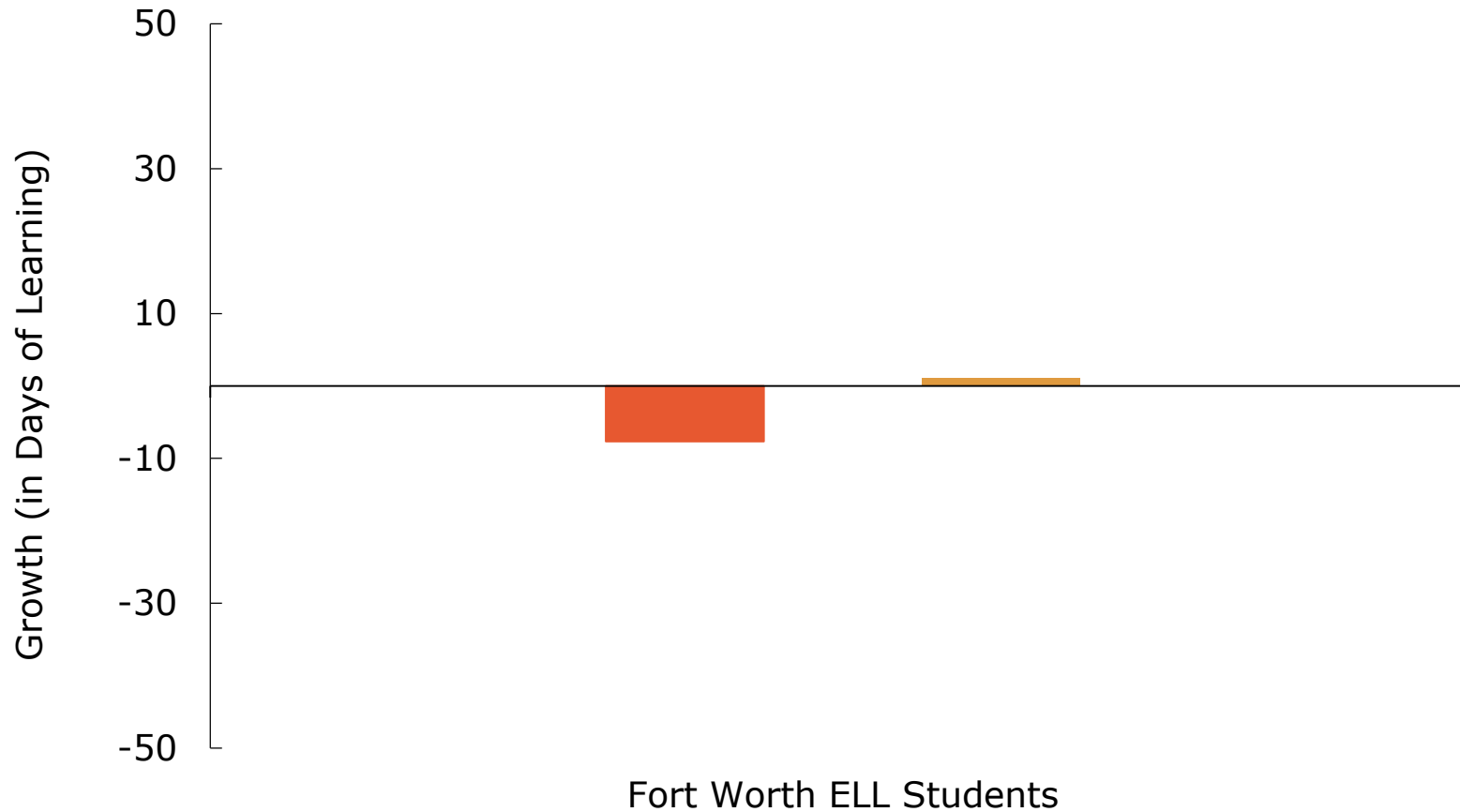
● reading ● math

# Research Findings > Student Subgroup Analysis

## > ELL Students

ALL VS. STATE

Learning Gains for All ELL Students in Fort Worth  
Compared to the Average Learning Gains of ELL  
Students Statewide, by Subject



significantly different at  $p < 0.05$

reading

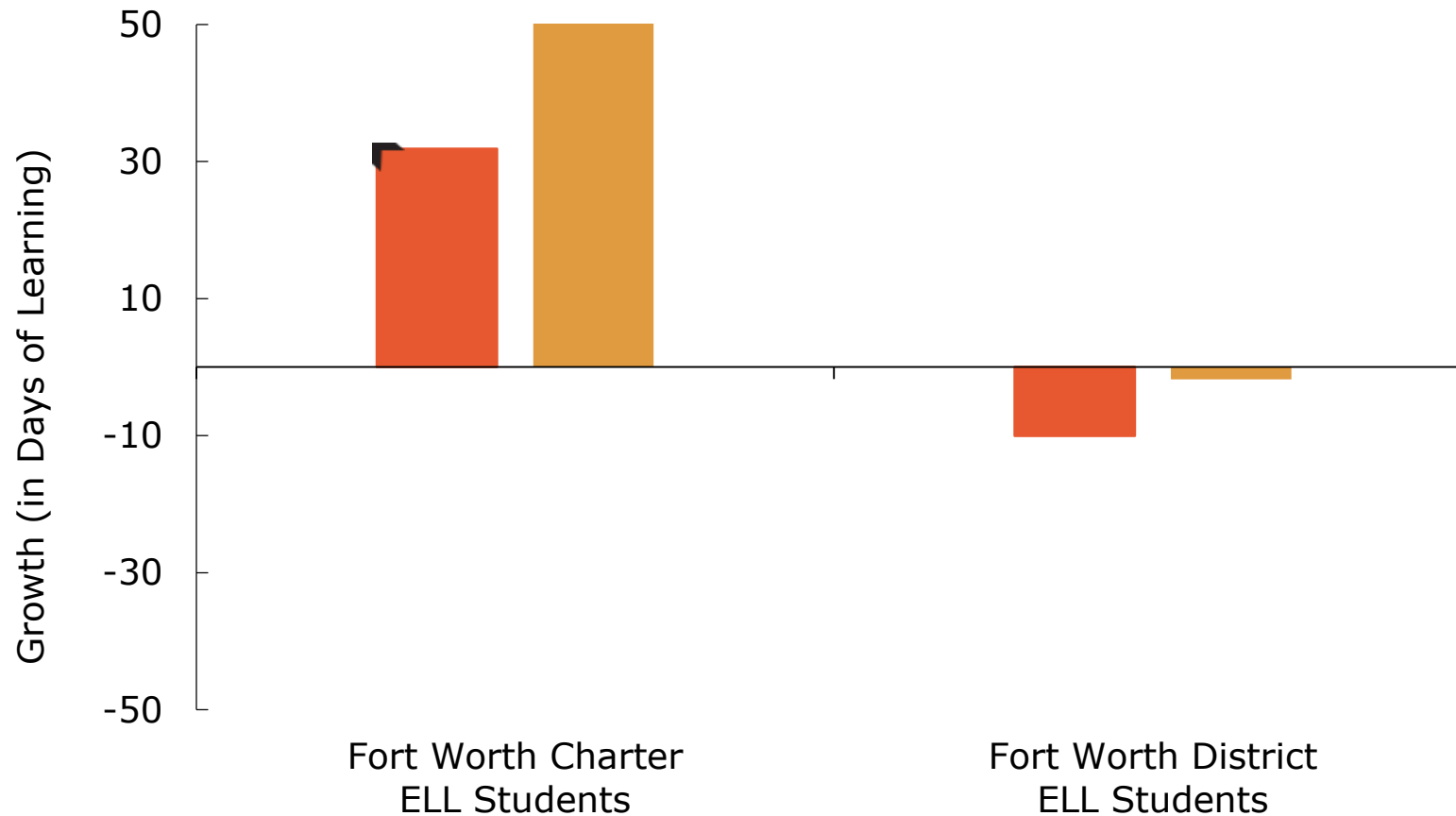
math

# Research Findings > Student Subgroup Analysis

## > ELL Students

VS. STATE BY SECTOR & COMPARISON WITHIN FORT WORTH

Learning Gains for ELL Students in Fort Worth Charter Schools and ELL Students in Fort Worth District Schools Compared to the Average Learning Gains of ELL Students Statewide, by Subject



### Tests of Differences

#### Reading

Charter ELL vs. District ELL

sig



#### Math

Charter ELL vs. District ELL



significantly different at  $p < 0.05$

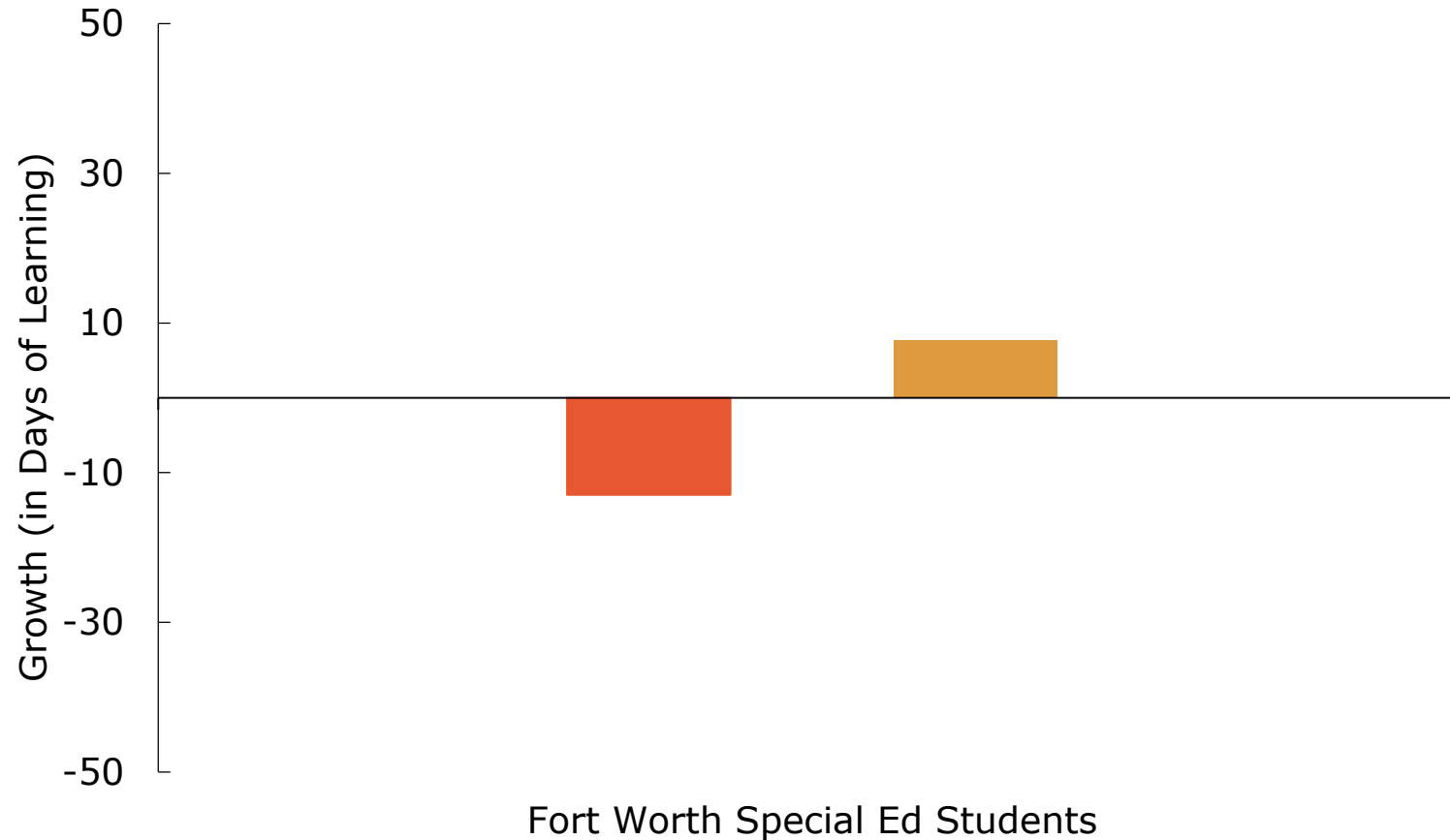
reading

math

# Research Findings > Student Subgroup Analysis > Special Ed Students

ALL VS. STATE

Learning Gains for All Fort Worth Students in Special Education Compared to the Average Learning Gains of Students in Special Education Statewide, by Subject



significantly different at  $p < 0.05$

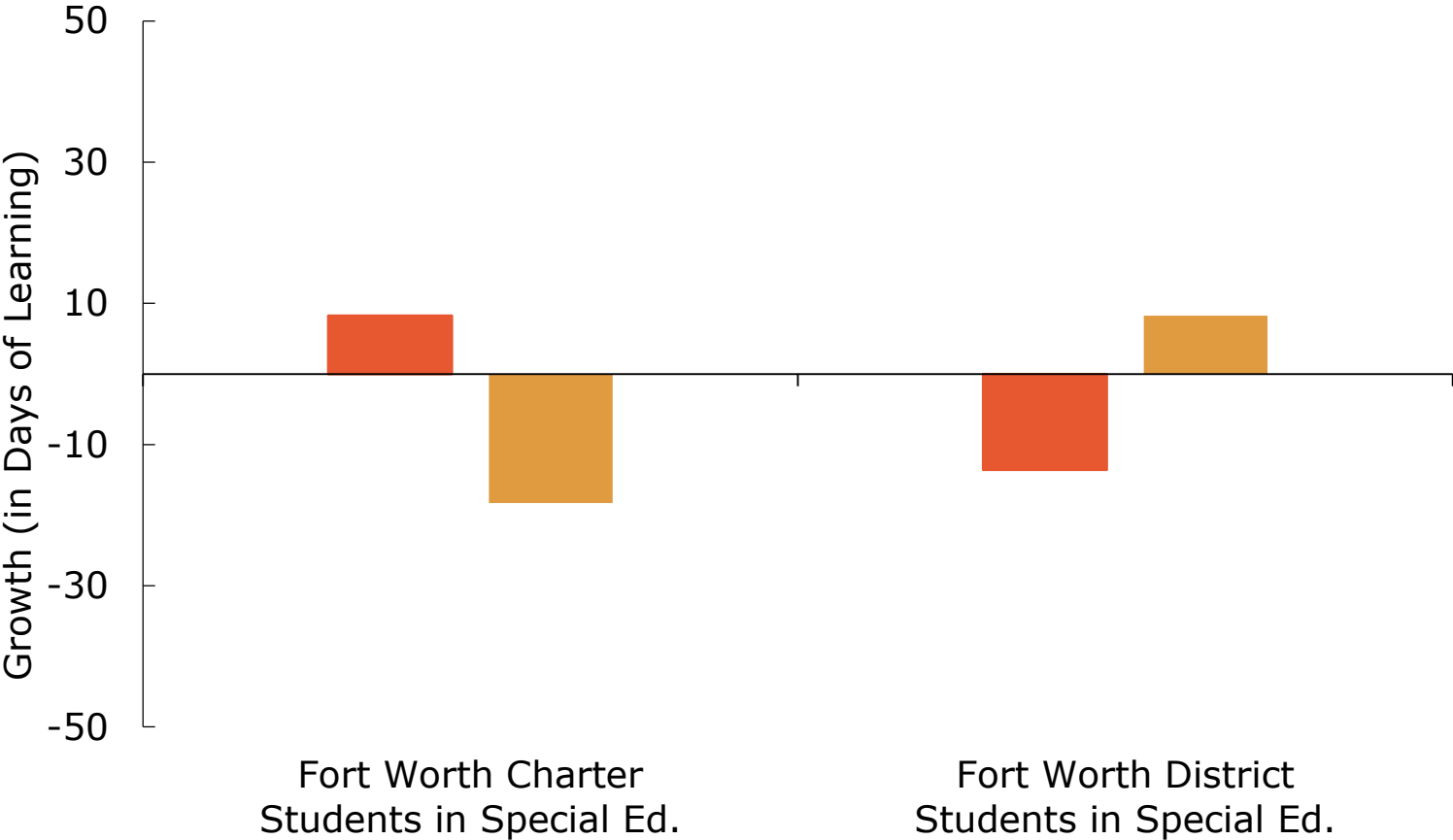
reading

math

# Research Findings > Student Subgroup Analysis > Special Ed Students

VS. STATE BY SECTOR & COMPARISON WITHIN FORT WORTH

Learning Gains for Fort Worth Charter School Students in Special Ed. and Fort Worth District School Students in Special Ed. Compared to the Average Learning Gains of Students in Special Ed. Statewide, by Subject



### Tests of Differences

**Reading** sig  
Charter Sped vs. District Sped

**Math**  
Charter Sped vs. District Sped

significantly different at  $p < 0.05$

● reading ● math



# Research Findings > Student Subgroup Analysis

## > Male Students

ALL VS. STATE

Learning Gains for All Fort Worth Male Students  
Compared to the Average Learning Gains of Male  
Students Statewide, by Subject



significantly different at  $p < 0.05$

reading

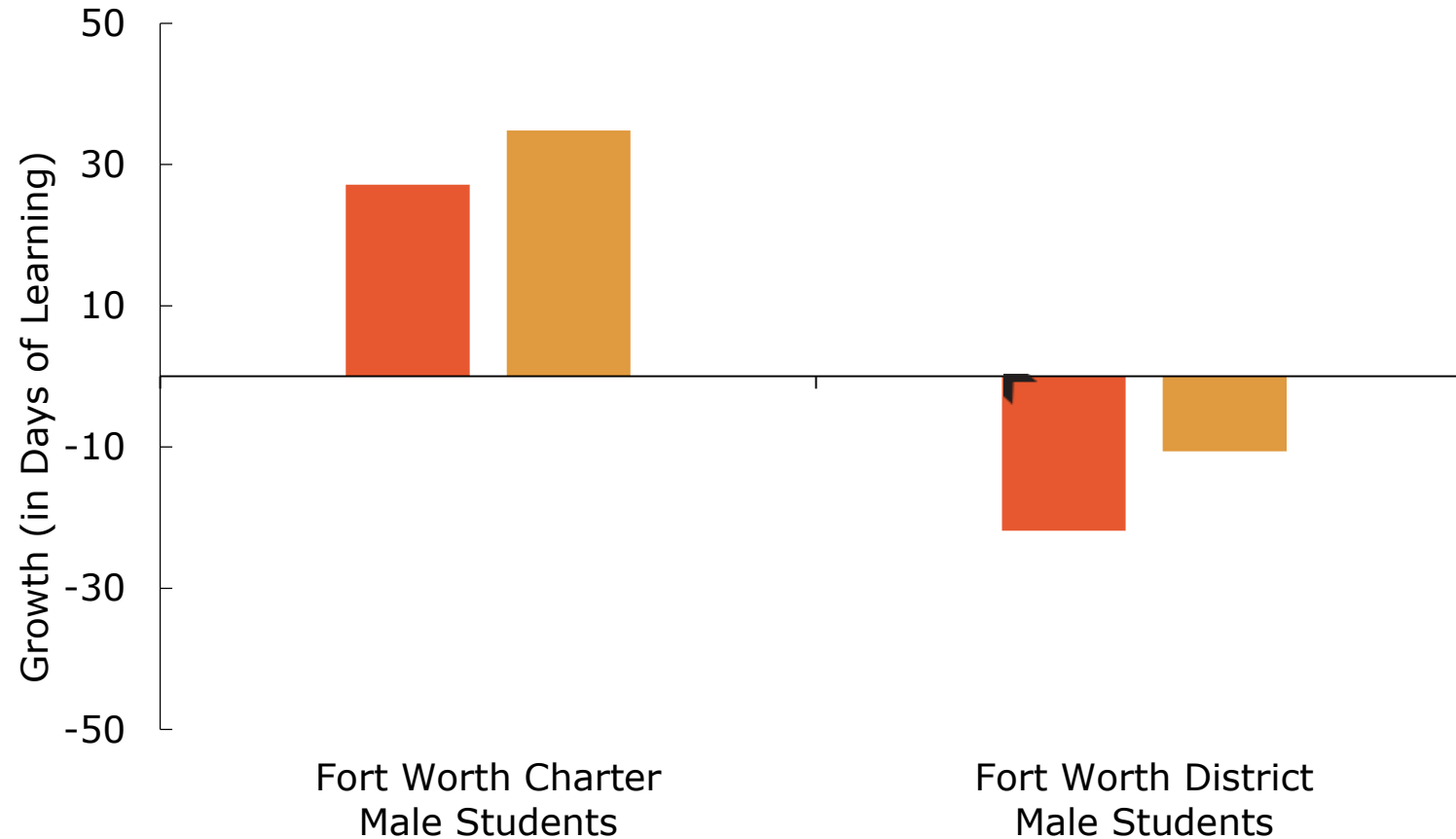
math

# Research Findings > Student Subgroup Analysis

## > Male Students

VS. STATE BY SECTOR & COMPARISON WITHIN FORT WORTH

Learning Gains for Male Students in Fort Worth Charter Schools and Male Students in Fort Worth District Schools Compared to the Average Learning Gains of Male Students Statewide, by Subject



### Tests of Differences

#### Reading

Charter Male vs. District Male

sig



#### Math

Charter Male vs. District Male



significantly different at  $p < 0.05$

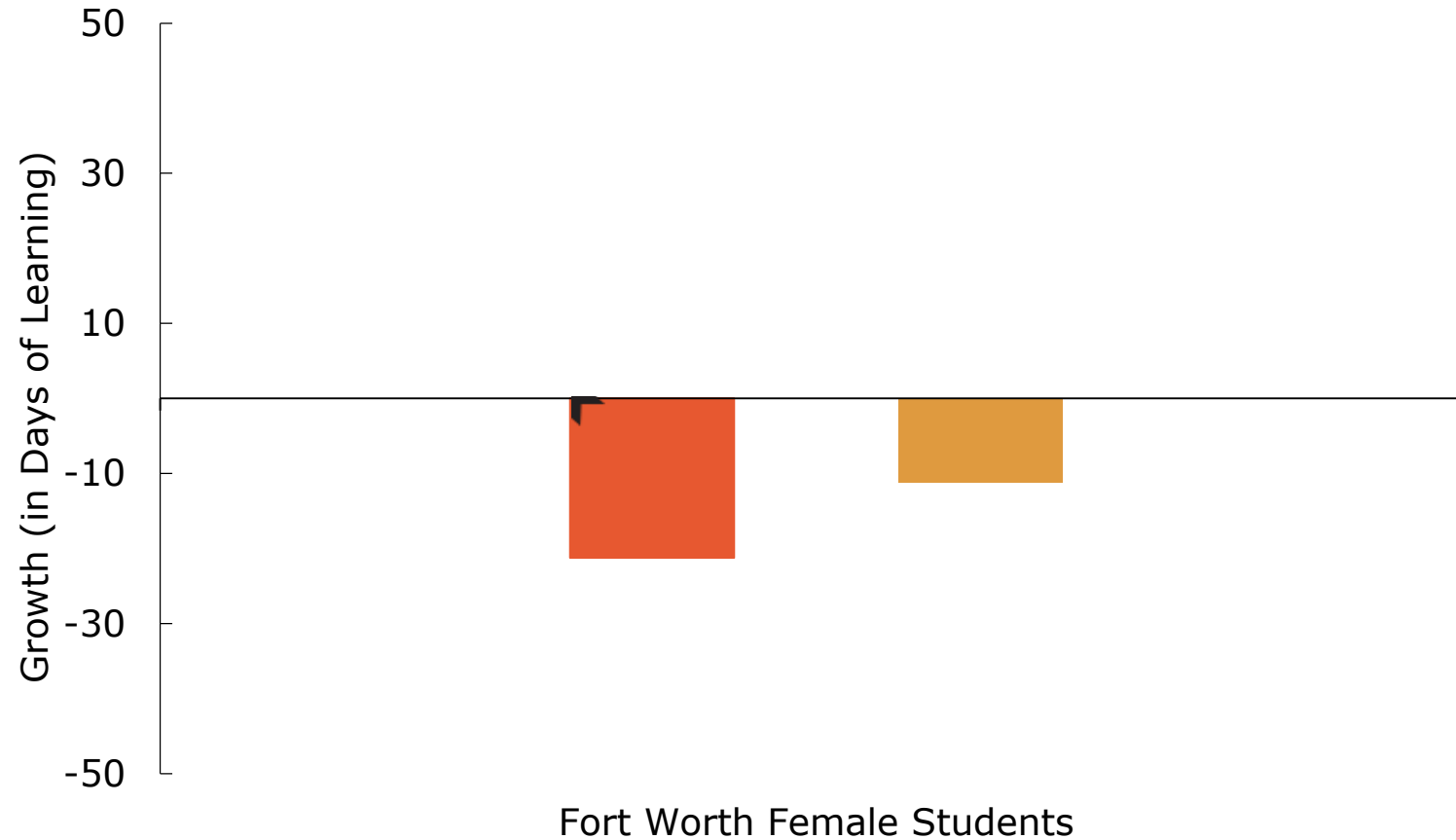
reading

math

# Research Findings > Student Subgroup Analysis > Female Students

ALL VS. STATE

Learning Gains for All Fort Worth Female Students  
Compared to the Average Learning Gains of Female  
Students Statewide, by Subject



significantly different at  $p < 0.05$

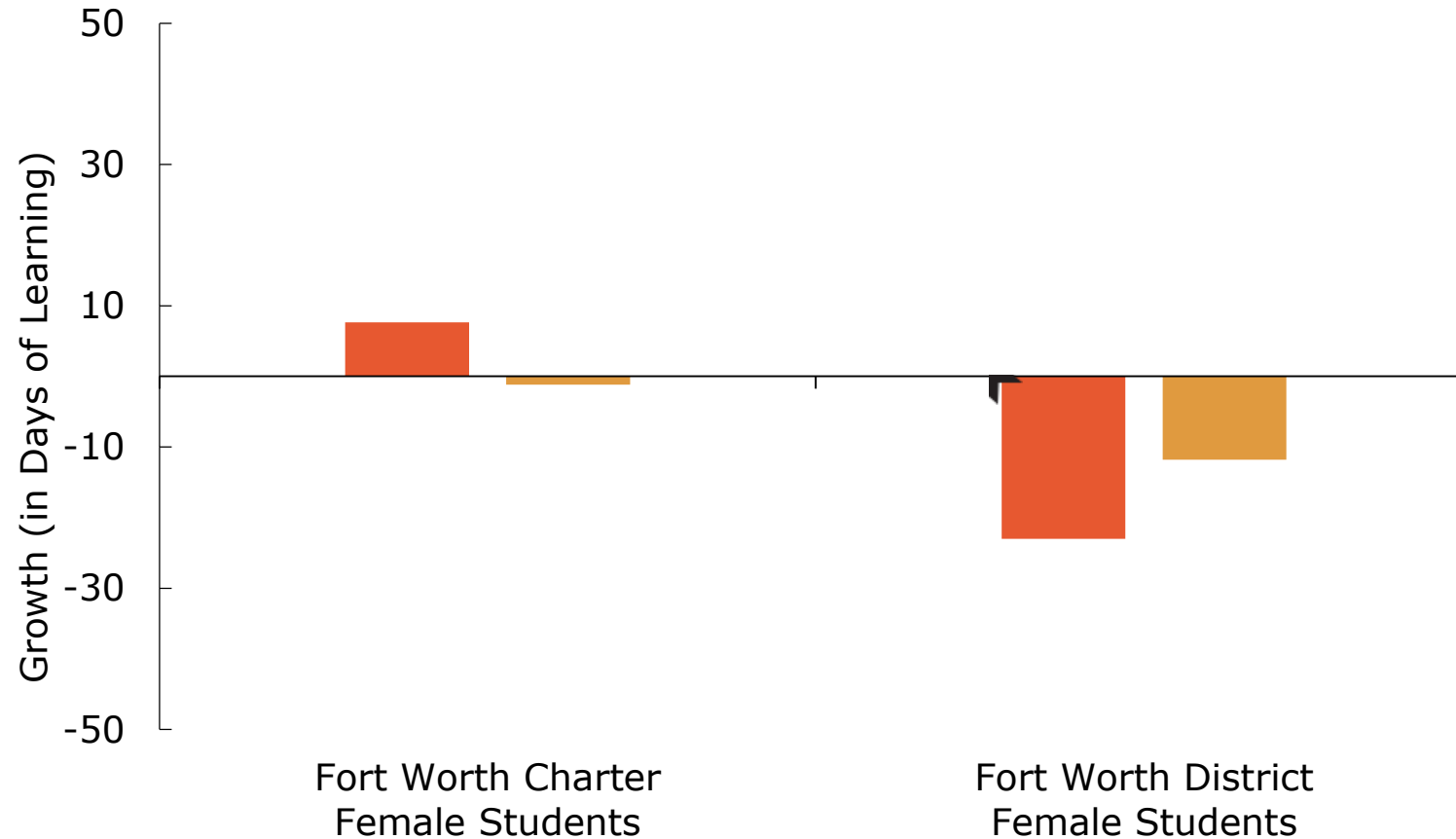
reading

math

# Research Findings > Student Subgroup Analysis > Female Students

VS. STATE BY SECTOR & COMPARISON WITHIN FORT WORTH

Learning Gains for Female Students in Fort Worth Charter Schools and Female Students in Fort Worth District Schools Compared to the Average Learning Gains of Female Students Statewide, by Subject



## Tests of Differences

Reading

sig

Charter Female vs. District Female

Math

Charter Female vs. District Female

significantly different at  $p < 0.05$

reading

math

# ○ Summary of Findings



The summary of the findings from the analysis of Fort Worth schools is presented [here](#).



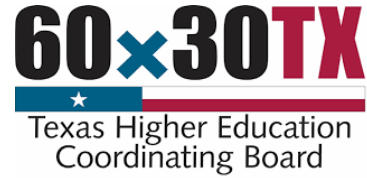


○ APPENDIXES

03



# Acknowledgments



**Texas Education Agency, Texas Schools Project, and Texas Higher Education Advisory Board** provided supports in the acquisition of student-level data.

**Fort Worth Education Partnership** assisted CREDO with verifying the list of public schools in Fort Worth.

Disclaimer: The conclusions of this research do not necessarily reflect the opinions or official position of the Texas Education Agency, the Texas Higher Education Coordinating Board, the Texas Workforce Commission or the State of Texas.



# 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 FORT WORTH 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 Fort Worth from 2017-18 to 2018-19, overall and by sector, is benchmarked to the state average growth, accounting for student characteristics.

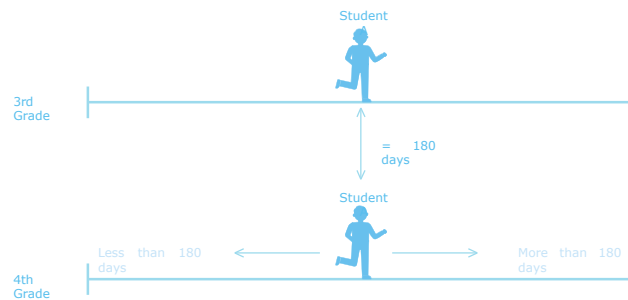
We also explore how one-year growth of Fort Worth students for the period ending in Spring 2019 differs by school type, race, poverty status, English language learner status, special education status, and gender.



# 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 state'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 state 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.

# Overall Fort Worth Results

Fort Worth Overall 2018-19

READING		MATH	
Standard Deviation	Days of Learning	Standard Deviation	Days of Learning
-0.03**	-21**	-0.02	-10

Significant at  $p < 0.05^*$

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



# Fort Worth School Sectors Compared to State Average

	READING		MATH	
	Standard Deviation	Days of Learning	Standard Deviation	Days of Learning
Charter Schools 2018-19	0.03	16	0.03	15
Other District Schools 2018-19	-0.04**	-23**	-0.02	-12

Significant at  $p < 0.05^*$   
Significant at  $p < 0.01^{**}$



# Comparison of School Sectors within Fort Worth

Charter Schools vs. Other District Schools 2018-19

READING		MATH	
Standard Deviation	Days of Learning	Standard Deviation	Days of Learning
0.07**	38**	0.05	26

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
Fort Worth CMOs vs. State Average	0.04	21	0.04	21
Fort Worth Independent Charters vs. State Average	-0.11**	-67**	-0.10	-57
Fort Worth CMOs vs. Fort Worth Independent Charters	0.15**	88**	0.13	77

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 Statewide Average of Black Students

Fort Worth Black Students Overall	-0.05**	-31**	-0.03	-17
Fort Worth Charter School Black Students	0.01	8	0.02	10
Fort Worth Other District School Black Students	-0.06**	-35**	-0.03	-20

## Compared with Black Students in Other District Schools in Fort Worth

Fort Worth Charter School Black Students	0.01	8	0.02	10
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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 Statewide Average of Hispanic Students

Fort Worth Hispanic Students Overall	-0.03**	-17**	-0.02	-10
Fort Worth Charter School Hispanic Students	0.04	23	0.05	31
Fort Worth Other District School Hispanic Students	-0.03**	-19**	-0.02	-13

## Compared with Hispanic Students in Other District Schools in Fort Worth

Fort Worth Charter School Hispanic Students	0.04**	23**	0.05	31
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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 Statewide Average of Students in Poverty

Fort Worth Students in Poverty Overall	-0.04**	-21**	-0.02	-11
Fort Worth Charter School Students in Poverty	0.05	27	0.06	35
Fort Worth Other District School Students in Poverty	-0.04**	-24**	-0.02	-13

## Compared with Students in Poverty in Other District Schools in Fort Worth

Fort Worth Charter School Students in Poverty	0.05**	27**	0.06	35
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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 Statewide Average of ELL Students

Fort Worth ELL Students Overall	-0.01	-8	0.00	1
Fort Worth Charter School ELL Students	0.05*	31*	0.09	50
Fort Worth Other District School ELL Students	-0.02	-11	0.00	-2

## Compared with ELL Students in Other District Schools in Fort Worth

Fort Worth Charter School ELL Students	0.05**	31**	0.09	50
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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 Statewide Average of Special Ed Students

Fort Worth Special Ed Students Overall	-0.02	-13	0.01	7
Fort Worth Charter School Special Ed Students	0.01	8	-0.03	-19
Fort Worth Other District School Special Ed Students	-0.02	-14	0.01	8

## Compared with Special Ed Students in Other District Schools in Fort Worth

Fort Worth Charter School Special Ed Students	0.01	8	-0.03	-19
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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 Statewide Average of Male Students

Fort Worth Male Students Overall	-0.03**	-19**	-0.01	-8
Fort Worth Charter School Male Students	0.05	27	0.06	34
Fort Worth Other District School Male Students	-0.04**	-22**	-0.02	-11

## Compared with Male Students in Other District Schools in Fort Worth

Fort Worth Charter School Male Students	0.05**	27**	0.06	34
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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 Statewide Average of Female Students

Fort Worth Female Students Overall	-0.04**	-22**	-0.02	-12
Fort Worth Charter School Female Students	0.01	7	0.00	-2
Fort Worth Other District School Female Students	-0.04**	-24**	-0.02	-12

## Compared with Female Students in Other District Schools in Fort Worth

Fort Worth Charter School Female Students	0.01	7	0.00	-2
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Significant at  $p < 0.05^*$

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



**THANK YOU**

