City Study 2022:

INDIANAPOLIS

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REPORT OVERVIEW
01

About The City Studies Project

The City Studies project examines the performance of schools in select U.S. cities, including Indianapolis. 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.

INNOVATION SCHOOLS

District-managed public schools with a strategic plan that allows waivers to specific district policies, state statutes, and collective bargaining agreements with the goal of improving student outcomes and executing with excellence a specific model.

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 INDIANAPOLIS USING DATA FROM THE SCHOOL YEARS 2016-17 THROUGH 2018-19. THERE ARE THREE LEVELS OF ANALYSIS.

WE MAKE TWO SETS OF COMPARISONS.

- The performance of Indianapolis students is benchmarked against the state average performance, accounting for student characteristics.

- The performance of charter school students and the performance of Innovation school students within Indianapolis are then compared to that of similar traditional public school (district school) students within Indianapolis.

01

Overall performance in Indianapolis schools over two years.

02

Performance for Indianapolis charter schools, Indianapolis innovation schools and the rest of Indianapolis public schools over two years.

03

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

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
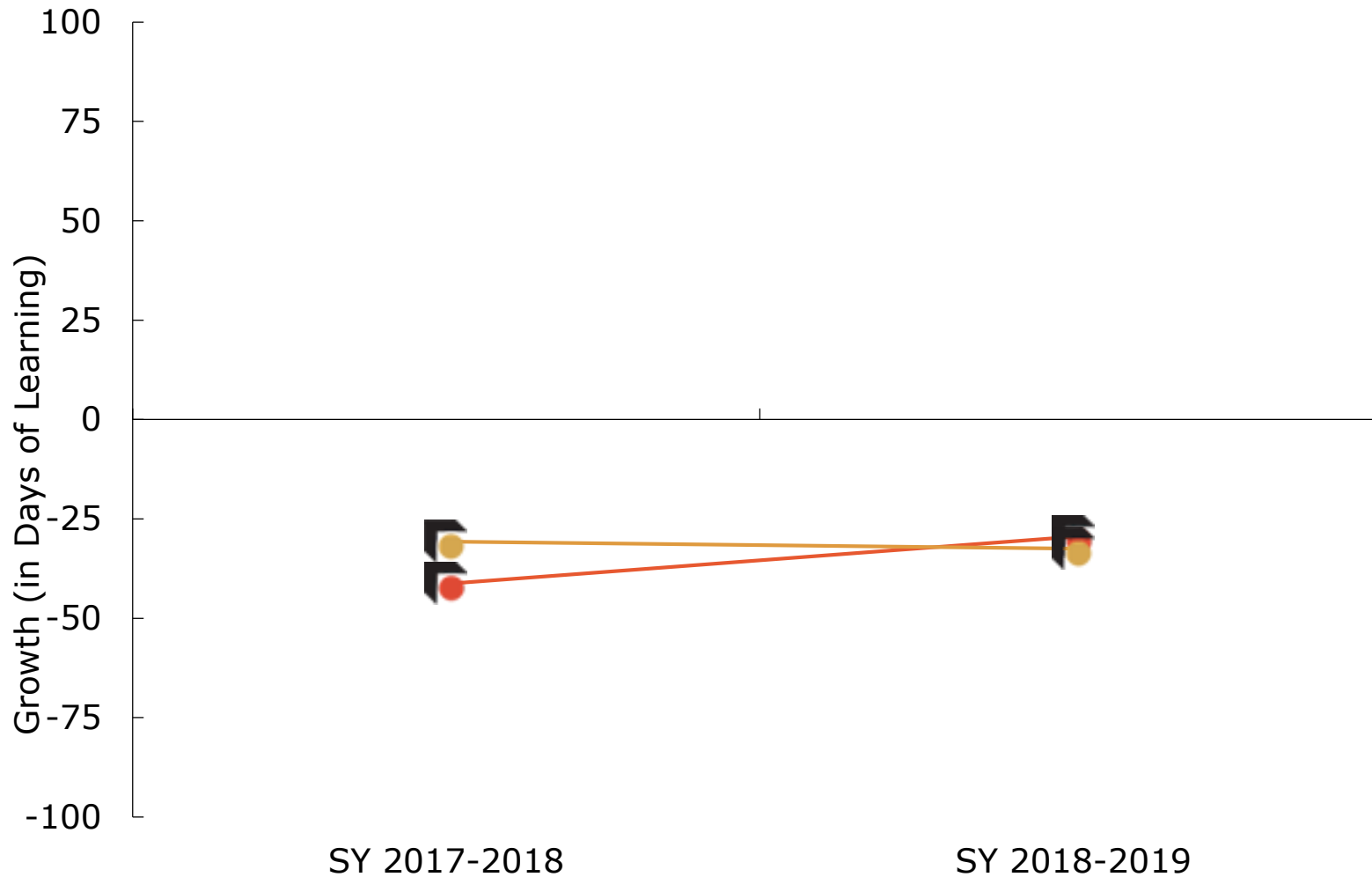
Research Findings > Sector Analysis > Reading

VS. STATE & COMPARISON WITHIN INDIANAPOLIS

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

Tests of Differences

Reading	'17-'18	'18-'19
Charter vs. District		
Innovation vs. District		
Charter vs. Innovation		

significantly different at p< 0.05

- charter
- Innovation
- district

Research Findings > Sector Analysis > Math

VS. STATE & COMPARISON WITHIN INDIANAPOLIS

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

Tests of Differences		
Math	'17-'18	'18-'19
Charter vs. District		
Innovation vs. District		
Charter vs. Innovation		

significantly different at p< 0.05

● charter   ● Innovation   ● district
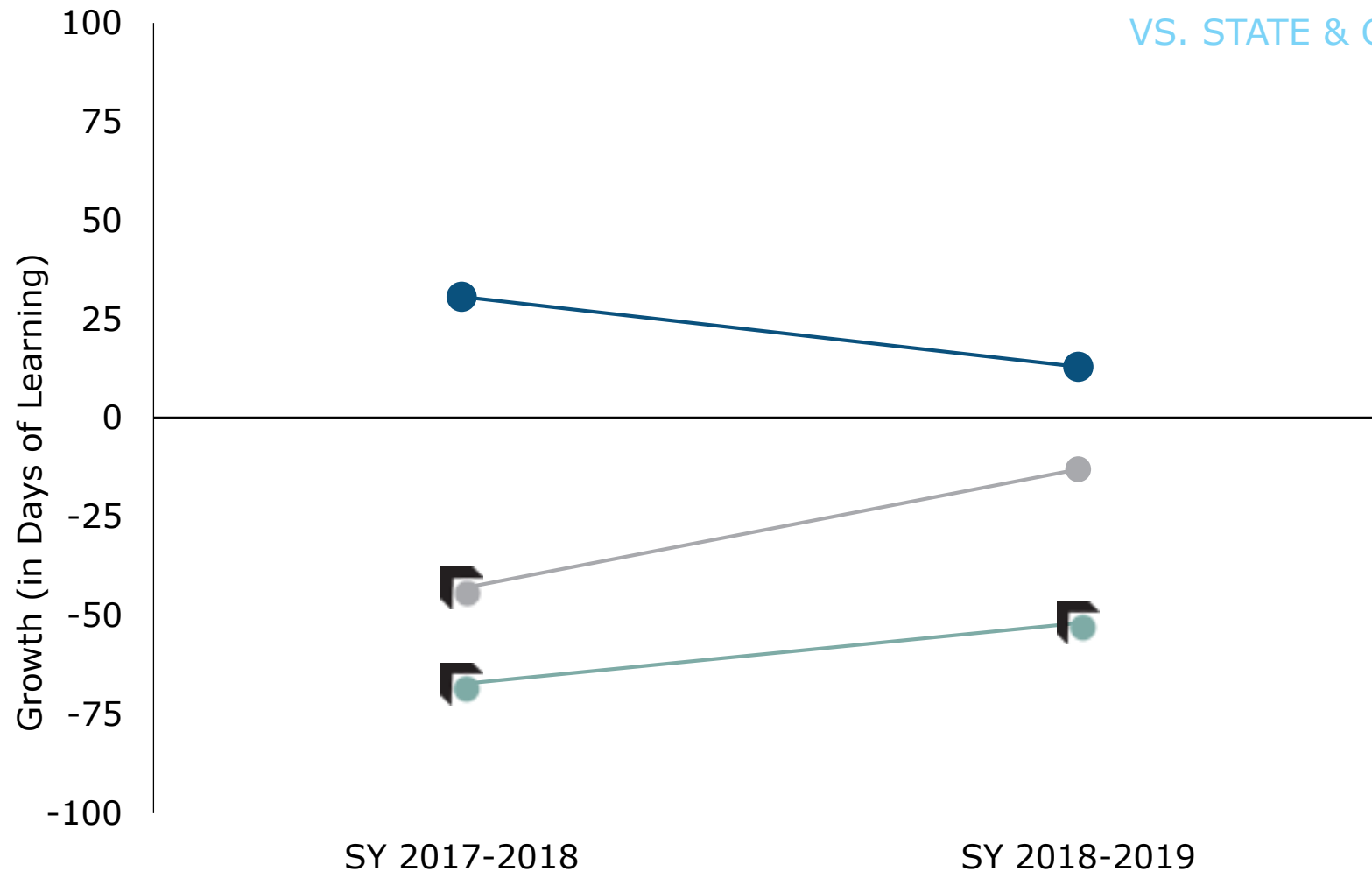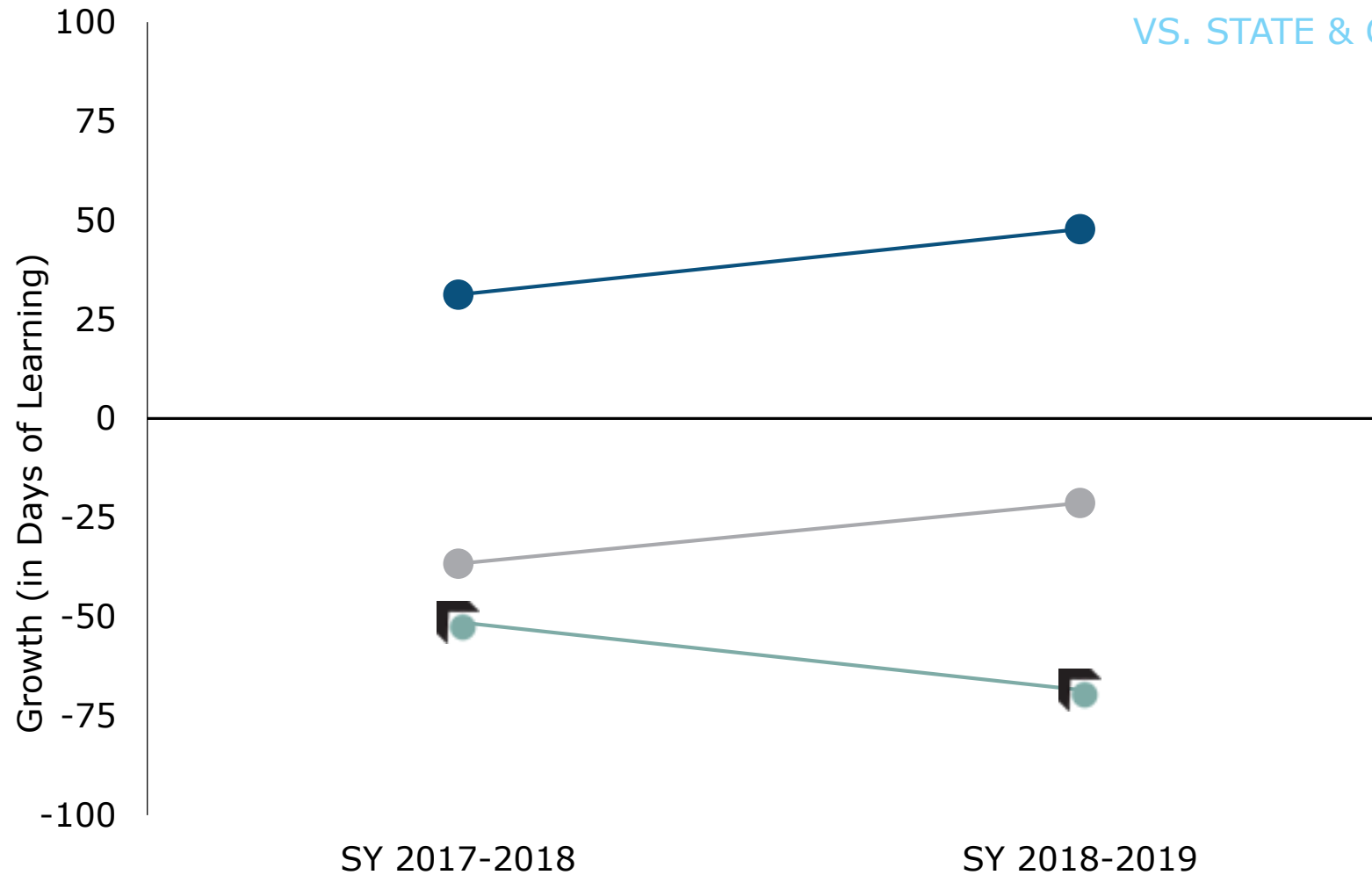
Research Findings > Charter Subsector Analysis
> vs. state & comparison within Indianapolis

Relative Learning Gains for Students in Indianapolis CMO-Affiliated Charter Schools and Independent Indianapolis Charter Schools Compared to the Average Learning Gains for All Student in the State, by Subject
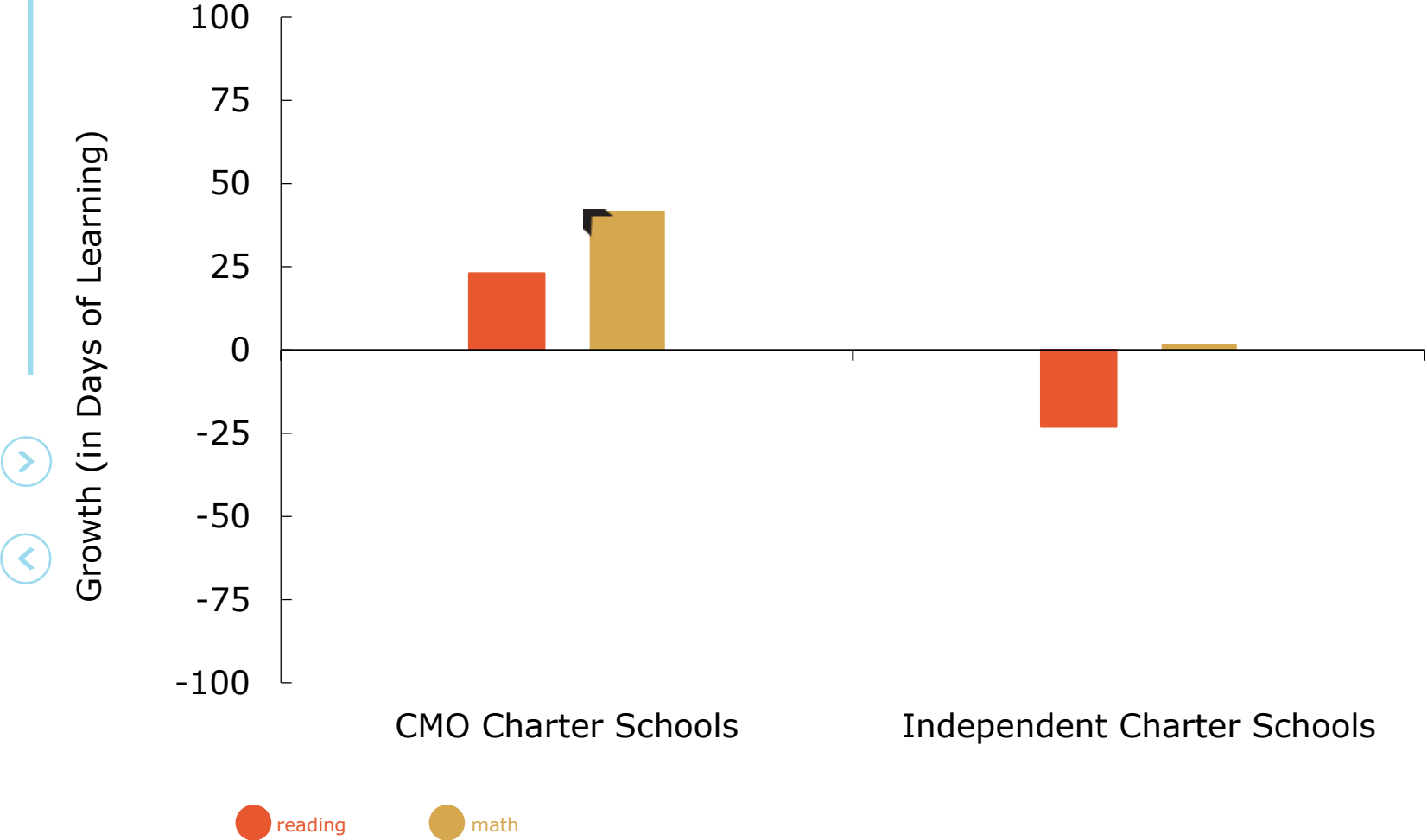
Tests of Differences	
Reading	sig
CMOs vs Independent Charter Schools	
Math	
CMOs vs Independent Charter Schools	

◼ significantly different at p< 0.05

Research Findings > School-Level Performance by Sector
> Reading

Growth (in Days of Learning)

Research Findings > School-Level Performance by Sector

>Math

Growth (in Days of Learning)

Research Findings > Student Subgroup Analysis > Black Students

VS. STATE BY SECTOR & COMPARISON WITHIN INDIANAPOLIS

Learning Gains for Black Students in Indianapolis Charter Schools, Black Students in Indianapolis Innovation Schools, and Black Students in Indianapolis District Schools Compared to the Average Learning Gains of Black Students Statewide, by Subject
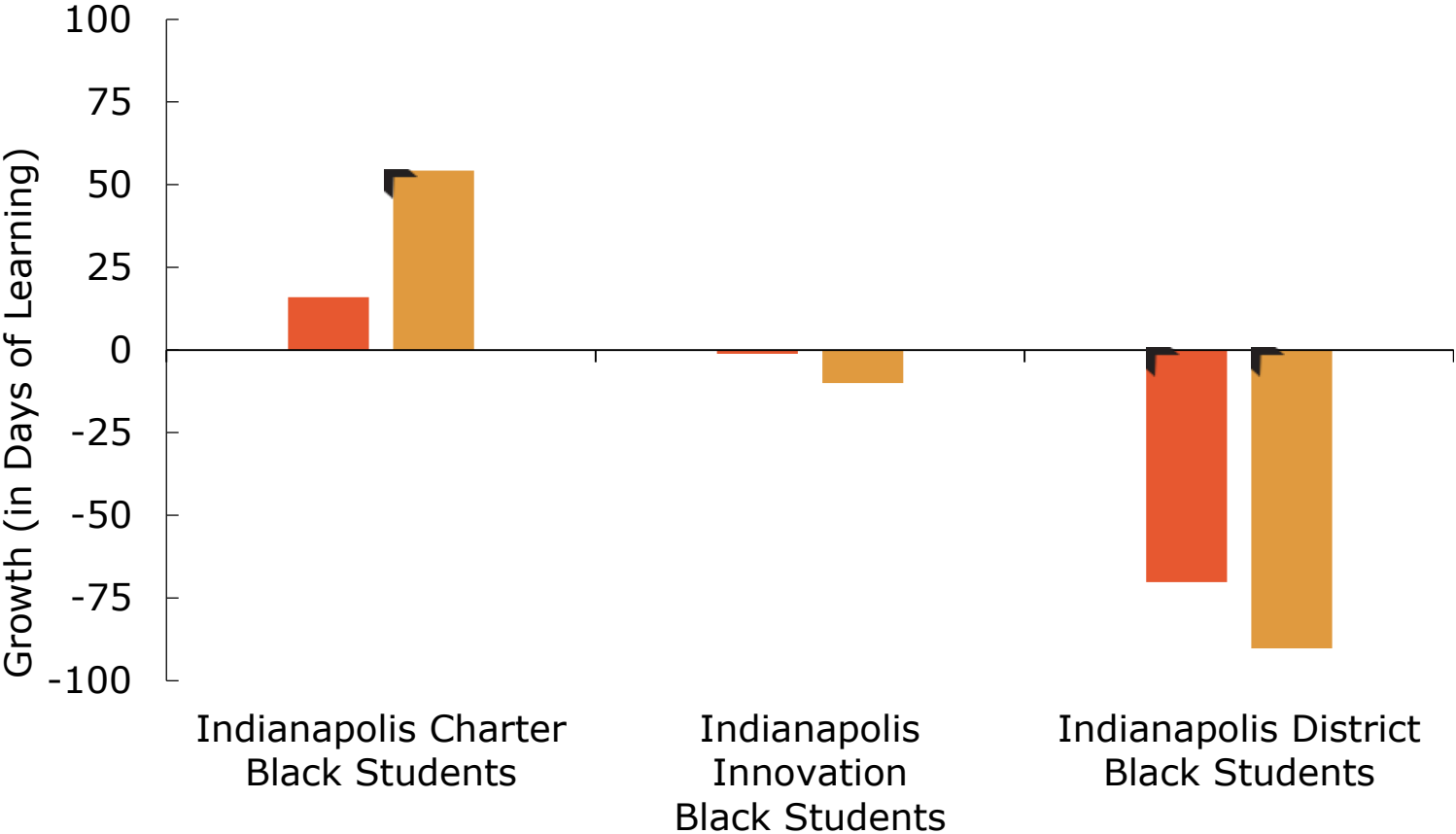
Tests of Differences		sig
Reading		
Charter Black vs. District Black		◣
Innovation Black vs. District Black		
Math		
Charter Black vs. District Black		◣
Innovation Black vs. District Black		

◣ significantly different at p< 0.05

● reading   ● math

Research Findings > Student Subgroup Analysis > Hispanic Students

ALL VS. STATE

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

Growth (in Days of Learning)

100

75

50

25

0

-25

-50

-75

-100
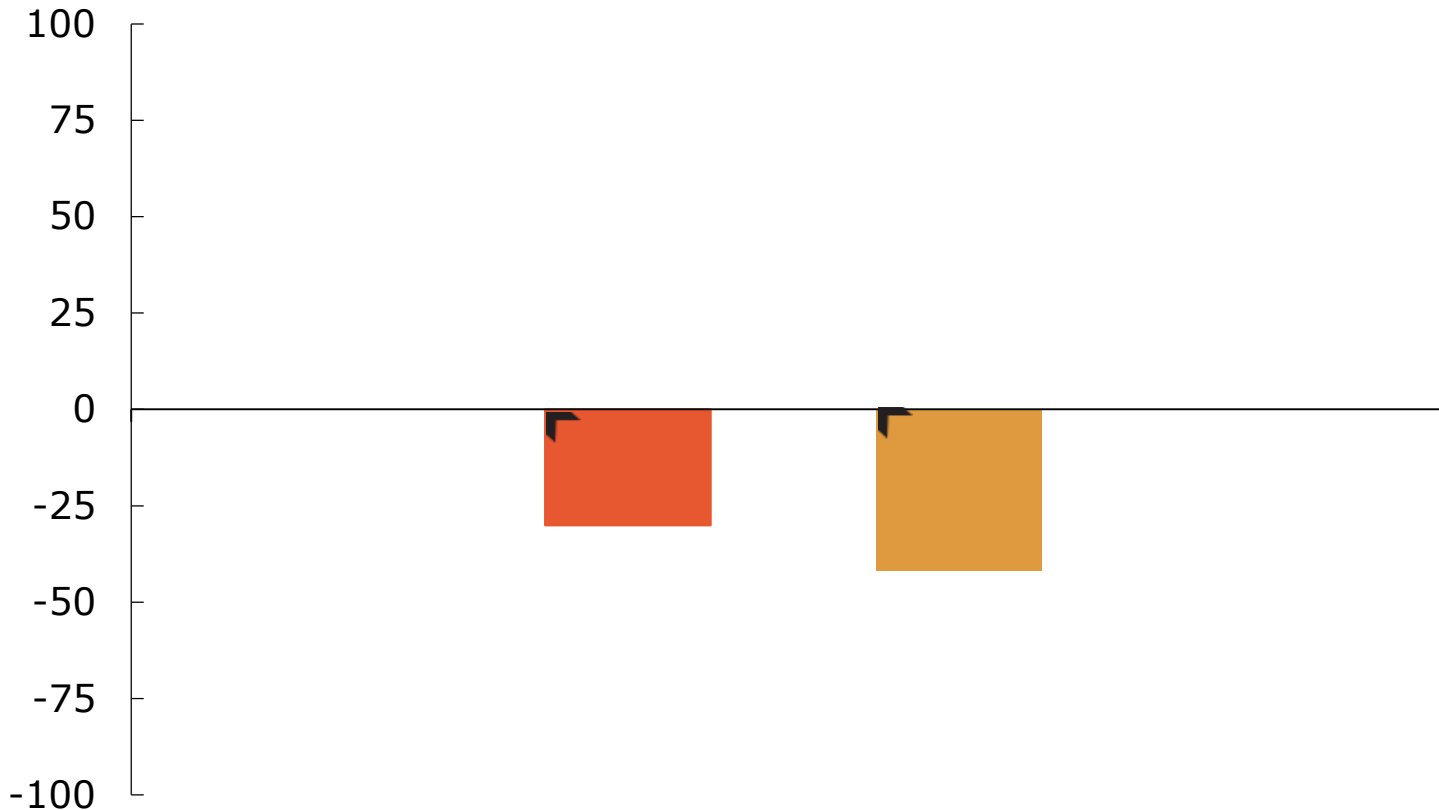
Indianapolis Hispanic Students

significantly different at p< 0.05

● reading   ● math

Research Findings > Student Subgroup Analysis
> Hispanic Students

VS. STATE BY SECTOR & COMPARISON WITHIN INDIANAPOLIS

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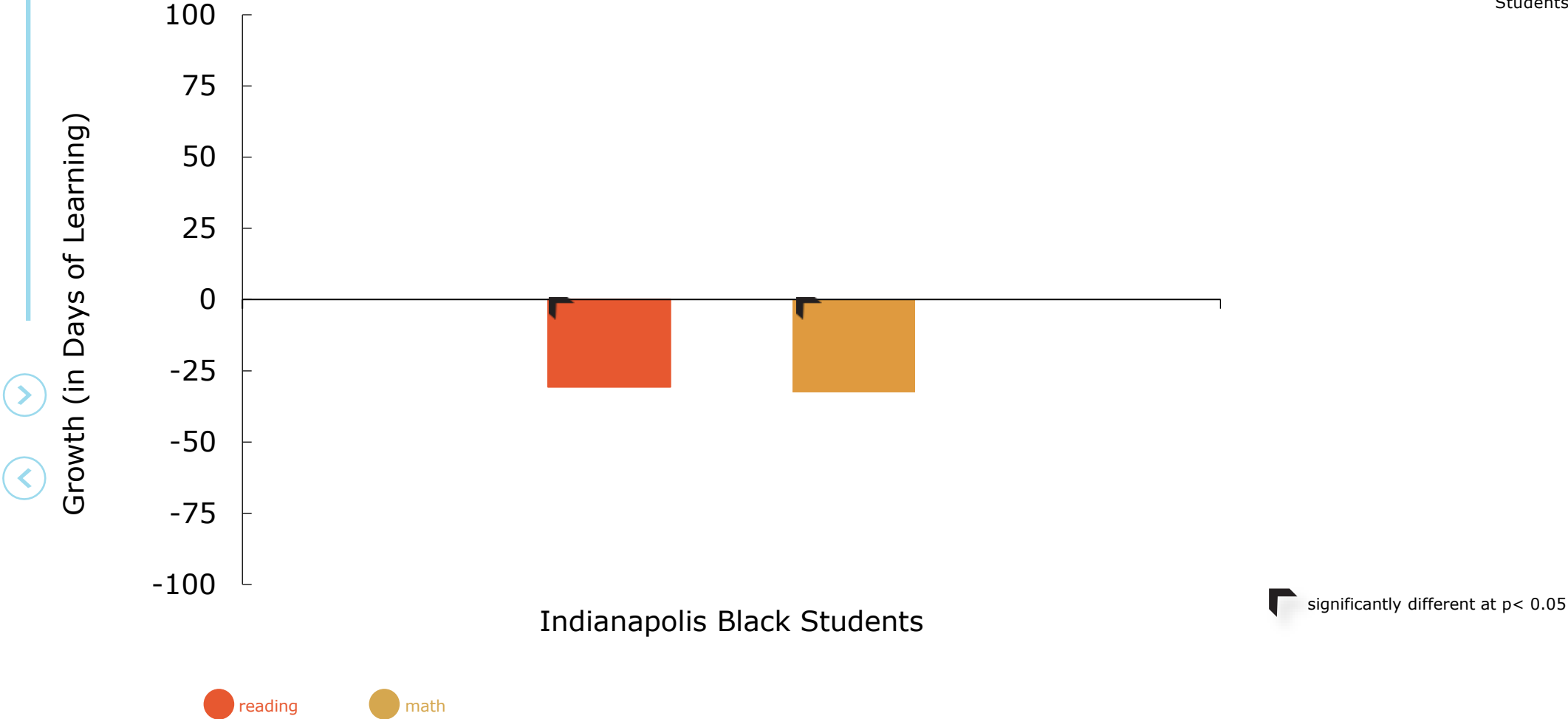Hispanic Students Statewide, by Subject

Tests of Differences	
Reading	
Charter Hispanic vs. District Hispanic	sig ⌐
Innovation Hispanic vs. District Hispanic	
Math	
Charter Hispanic vs. District Hispanic	⌐
Innovation Hispanic vs. District Hispanic	

⌐ significantly different at p< 0.05

● reading   ● math

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Research Findings > Student Subgroup Analysis > Students in Poverty

ALL VS. STATE

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

Growth (in Days of Learning)
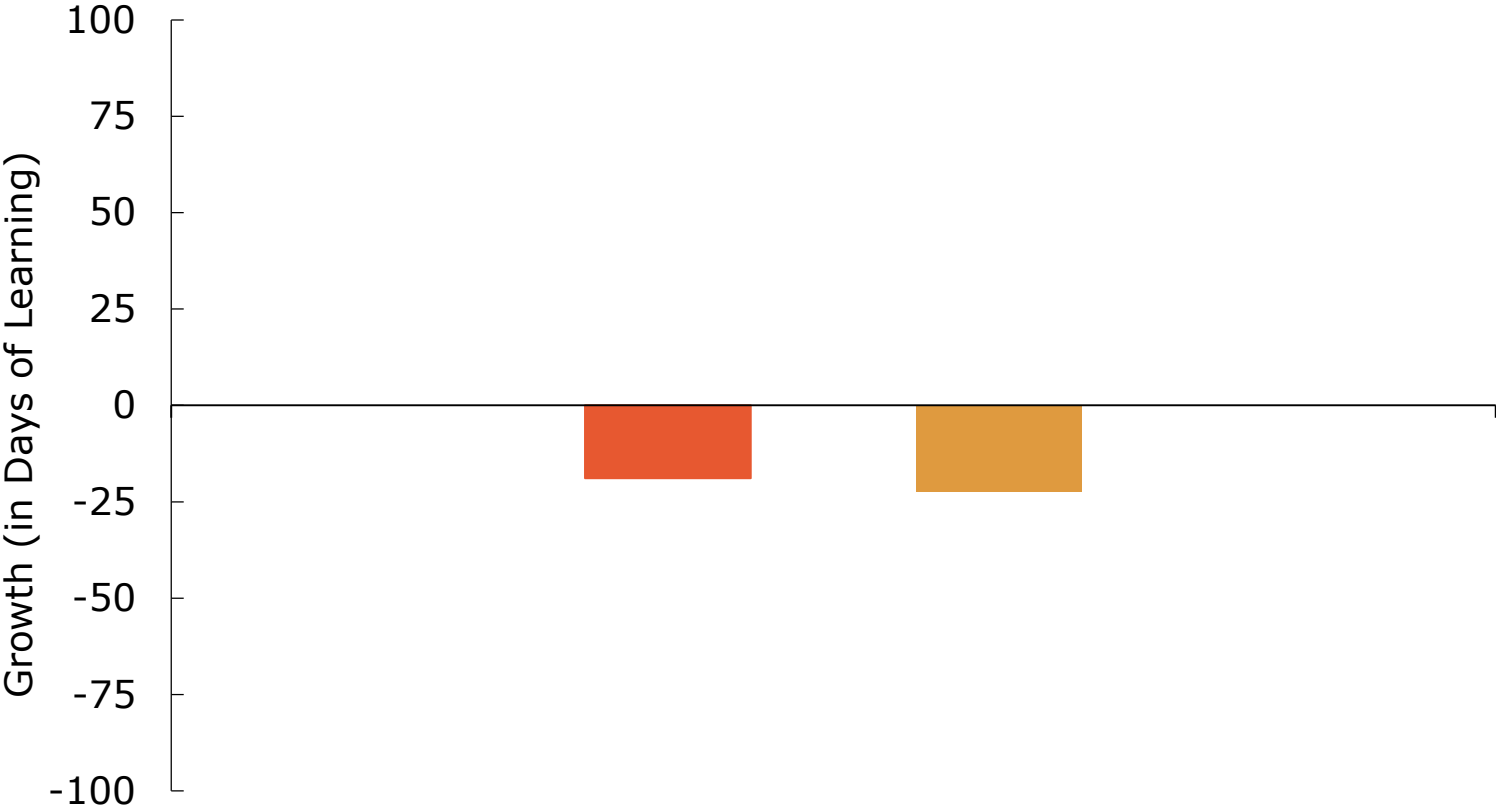
Indianapolis Students in Poverty

◼ significantly different at p< 0.05

● reading   ● math

Research Findings > Student Subgroup Analysis > Students in Poverty

VS. STATE BY SECTOR & COMPARISON WITHIN INDIANAPOLIS

Learning Gains for Indianapolis Charter School Students in Poverty, Indianapolis Innovation School Students in Poverty, and Indianapolis 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	
Innovation Poverty vs. District Poverty	
Math	
Charter Poverty vs. District Poverty	
Innovation Poverty vs. District Poverty	

significantly different at p< 0.05
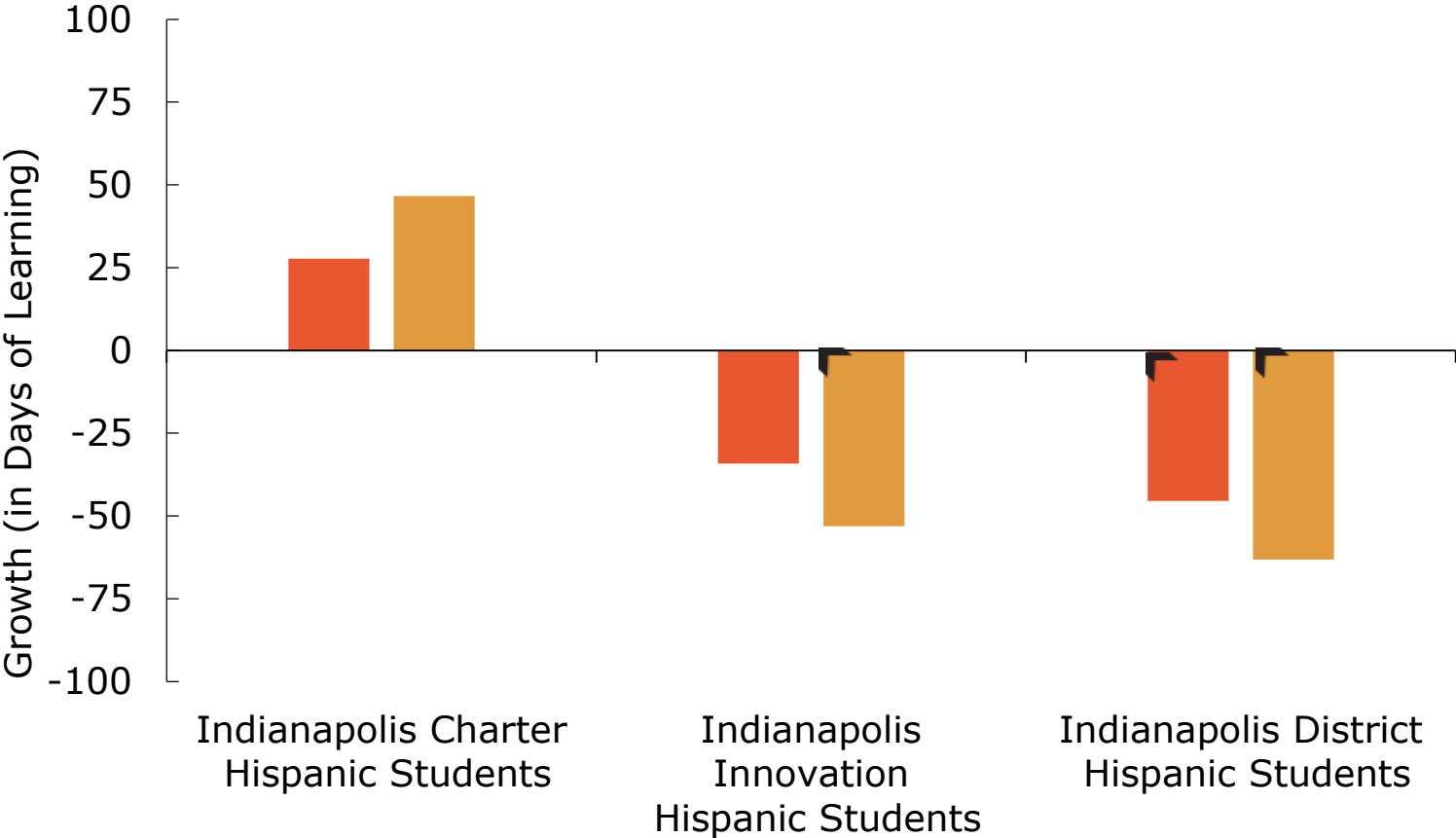
Research Findings > Student Subgroup Analysis > ELL Students

VS. STATE BY SECTOR & COMPARISON WITHIN INDIANAPOLIS

Learning Gains for ELL Students in Indianapolis Charter Schools, ELL Students in Indianapolis Innovation Schools, and ELL Students in Indianapolis District Schools Compared to the Average Learning Gains of ELL Students Statewide, by Subject
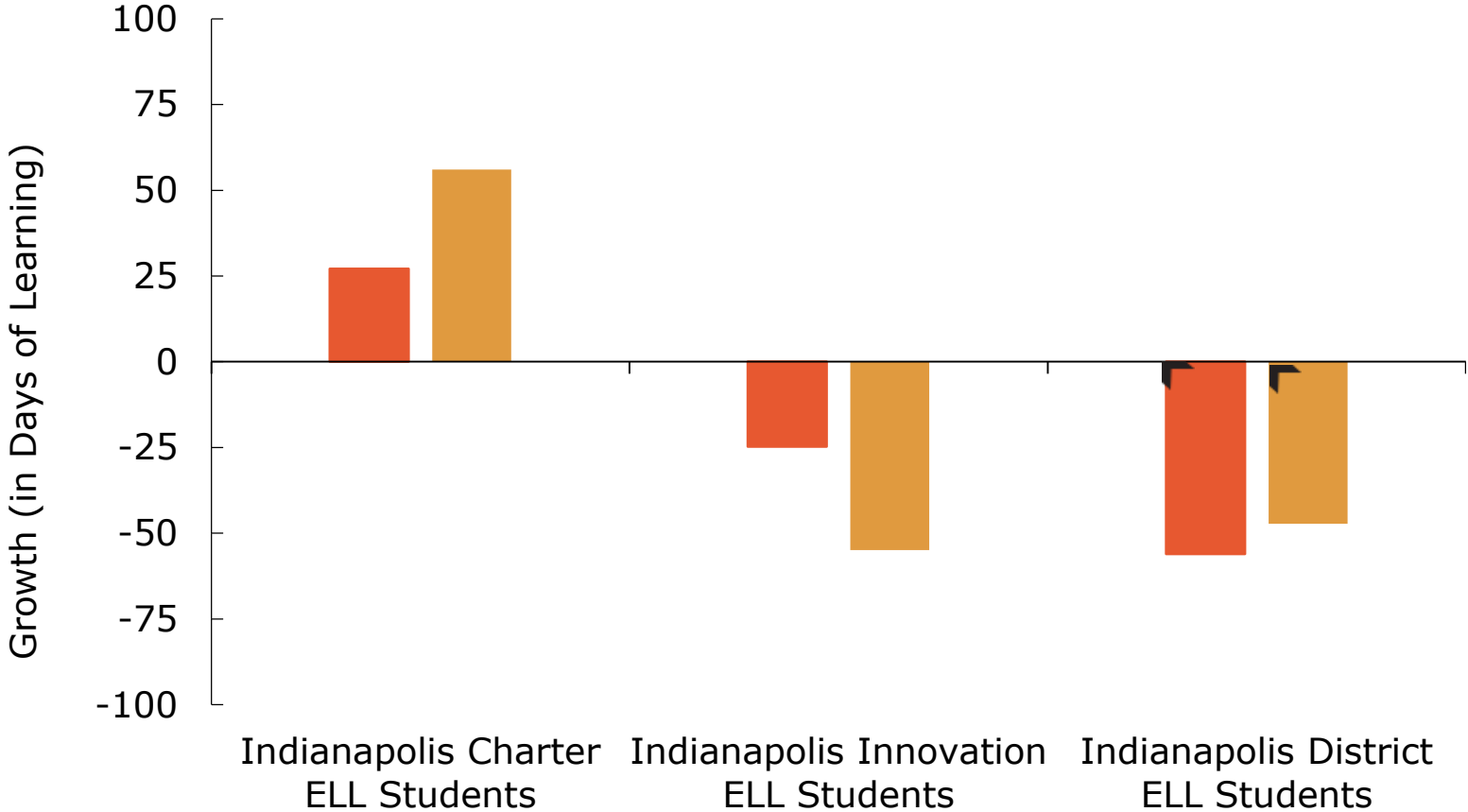
Tests of Differences

Reading   sig
  Charter ELL vs. District ELL
  Innovation ELL vs. District ELL

Math
  Charter ELL vs. District ELL
  Innovation ELL vs. District ELL

■ significantly different at p< 0.05

Growth (in Days of Learning)

100
75
50
25
0
-25
-50
-75
-100

Indianapolis Charter ELL Students
Indianapolis Innovation ELL Students
Indianapolis District ELL Students

● reading   ● math

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Research Findings > Student Subgroup Analysis > Special Ed Students

ALL VS. STATE

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

Growth (in Days of Learning)

100
75
50
25
0
-25
-50
-75
-100
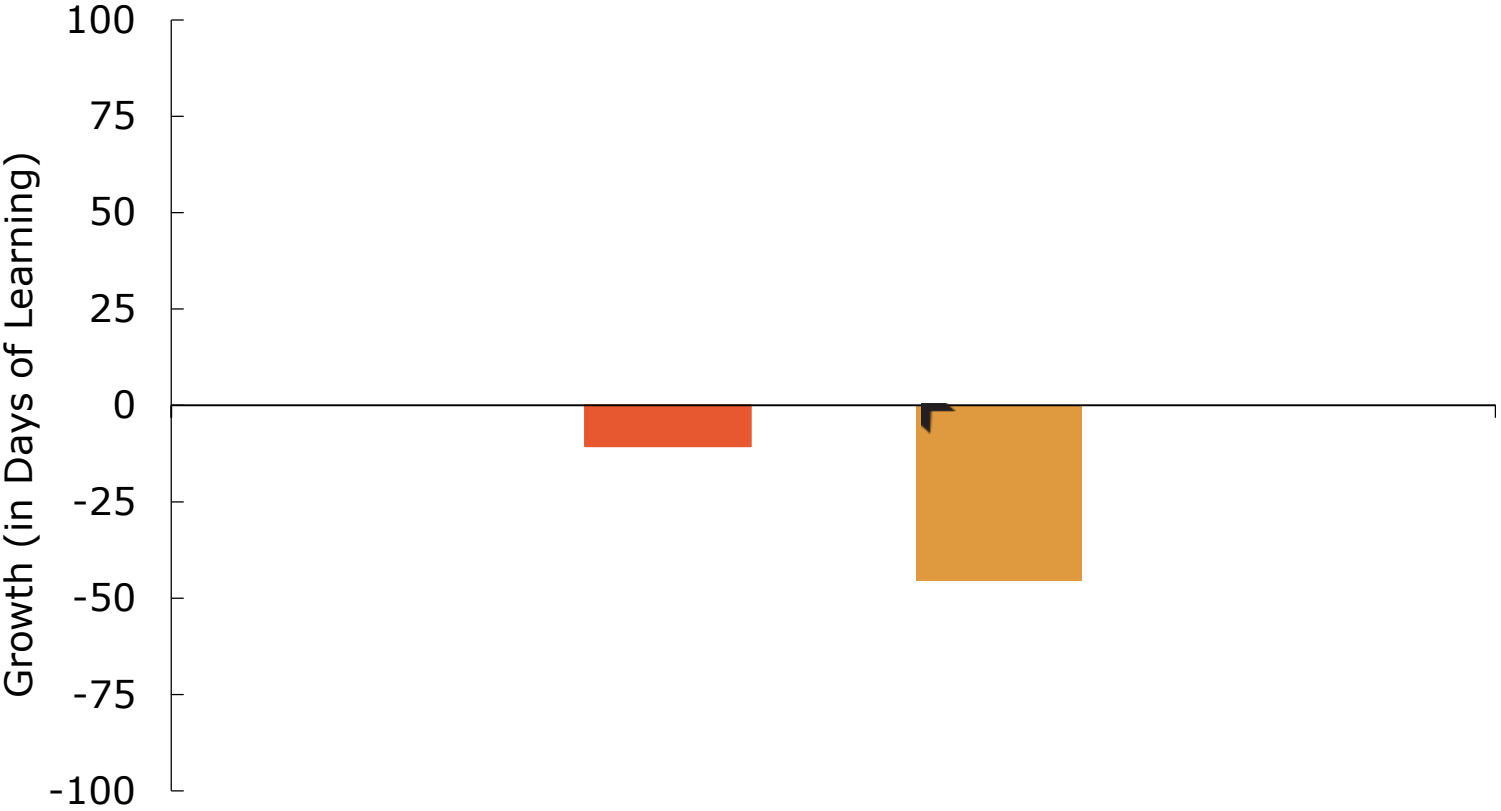
Indianapolis Special Ed Students

◼ significantly different at p< 0.05
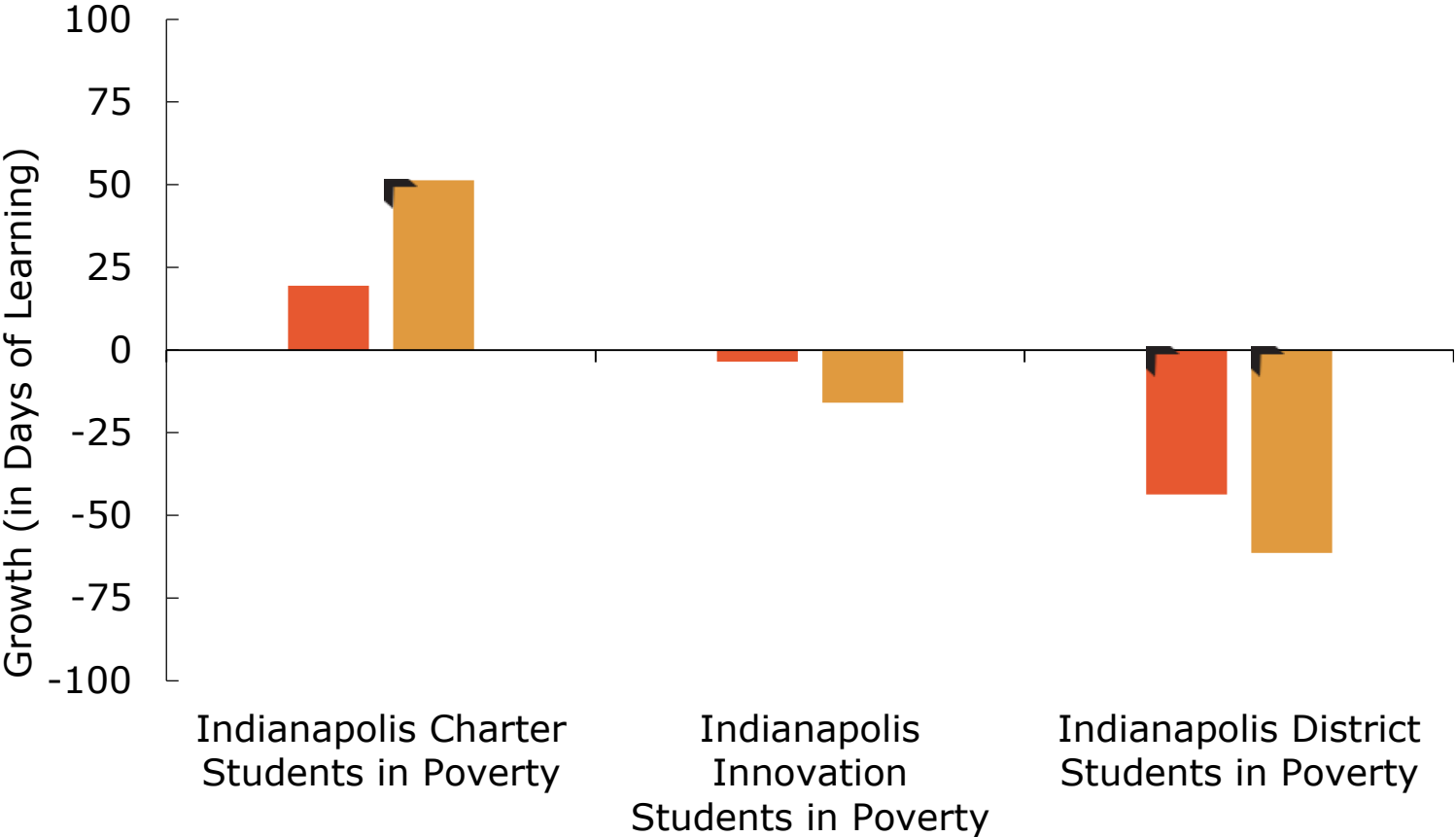
● reading   ● math

Research Findings > Student Subgroup Analysis > Special Ed Students

VS. STATE BY SECTOR & COMPARISON WITHIN INDIANAPOLIS

Learning Gains for Indianapolis Charter School Students in Special Ed., Indianapolis Innovation School Students in Special Ed., and Indianapolis 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
  Innovation Sped vs. District Sped

Math
  Charter Sped vs. District Sped
  Innovation Sped vs. District Sped

significantly different at p< 0.05

Growth (in Days of Learning)

Indianapolis Charter Students in Special Ed.

Indianapolis Innovation Students in Special Ed.

Indianapolis District Students in Special Ed.

● reading   ● math

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Research Findings > Student Subgroup Analysis > Male Students

VS. STATE BY SECTOR & COMPARISON WITHIN INDIANAPOLIS

Learning Gains for Male Students in Indianapolis Charter Schools, Male Students in Indianapolis Innovation Schools, and Male Students in Indianapolis District Schools Compared to the Average Learning Gains of Male Students Statewide, by Subject
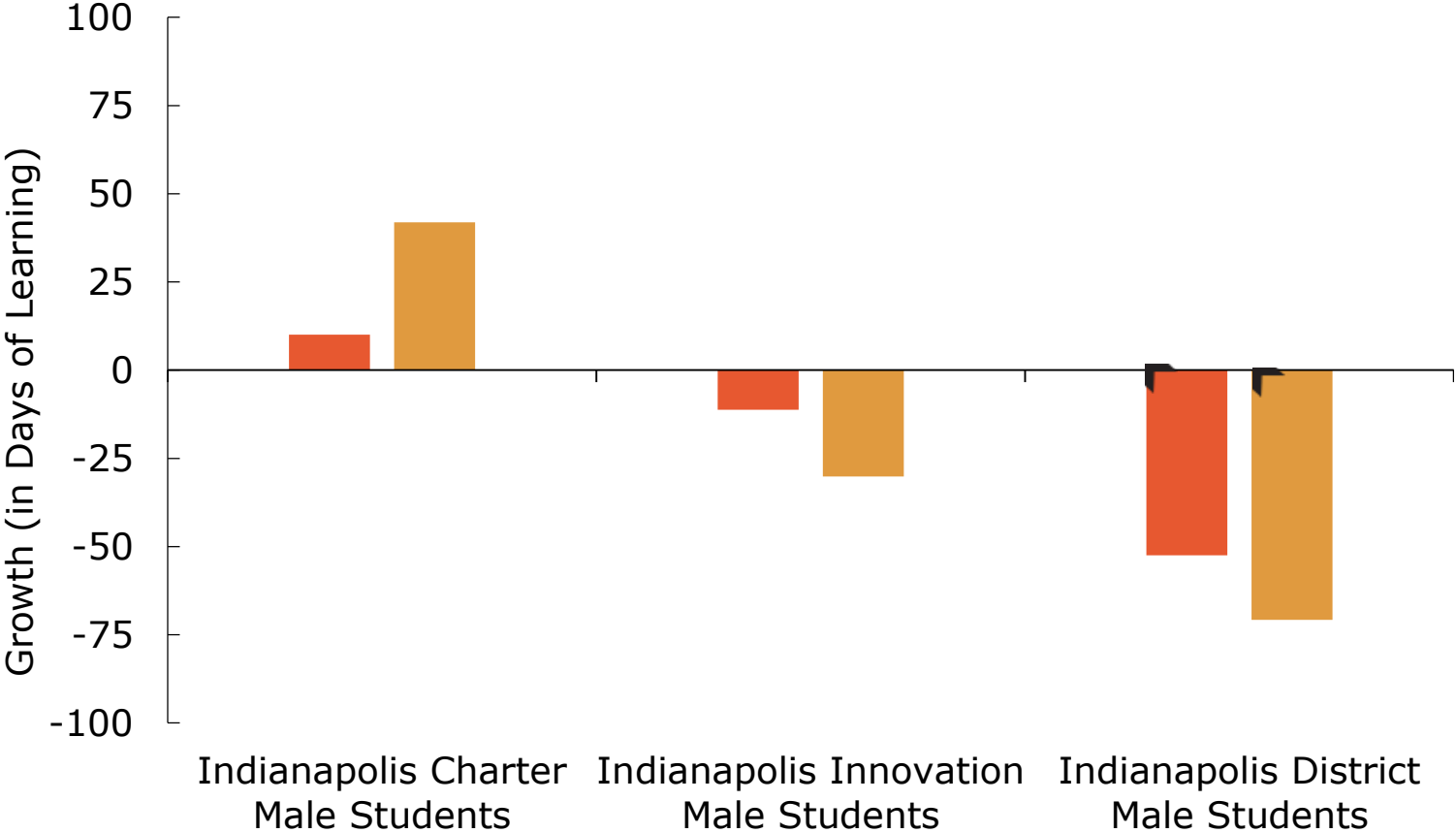
Tests of Differences

	sig
Reading	
Charter Male vs. District Male	
Innovation Male vs. District Male	
Math	
Charter Male vs. District Male	
Innovation Male vs. District Male	

◼ significantly different at p< 0.05

Growth (in Days of Learning)

Indianapolis Charter Male Students

Indianapolis Innovation Male Students

Indianapolis District Male Students

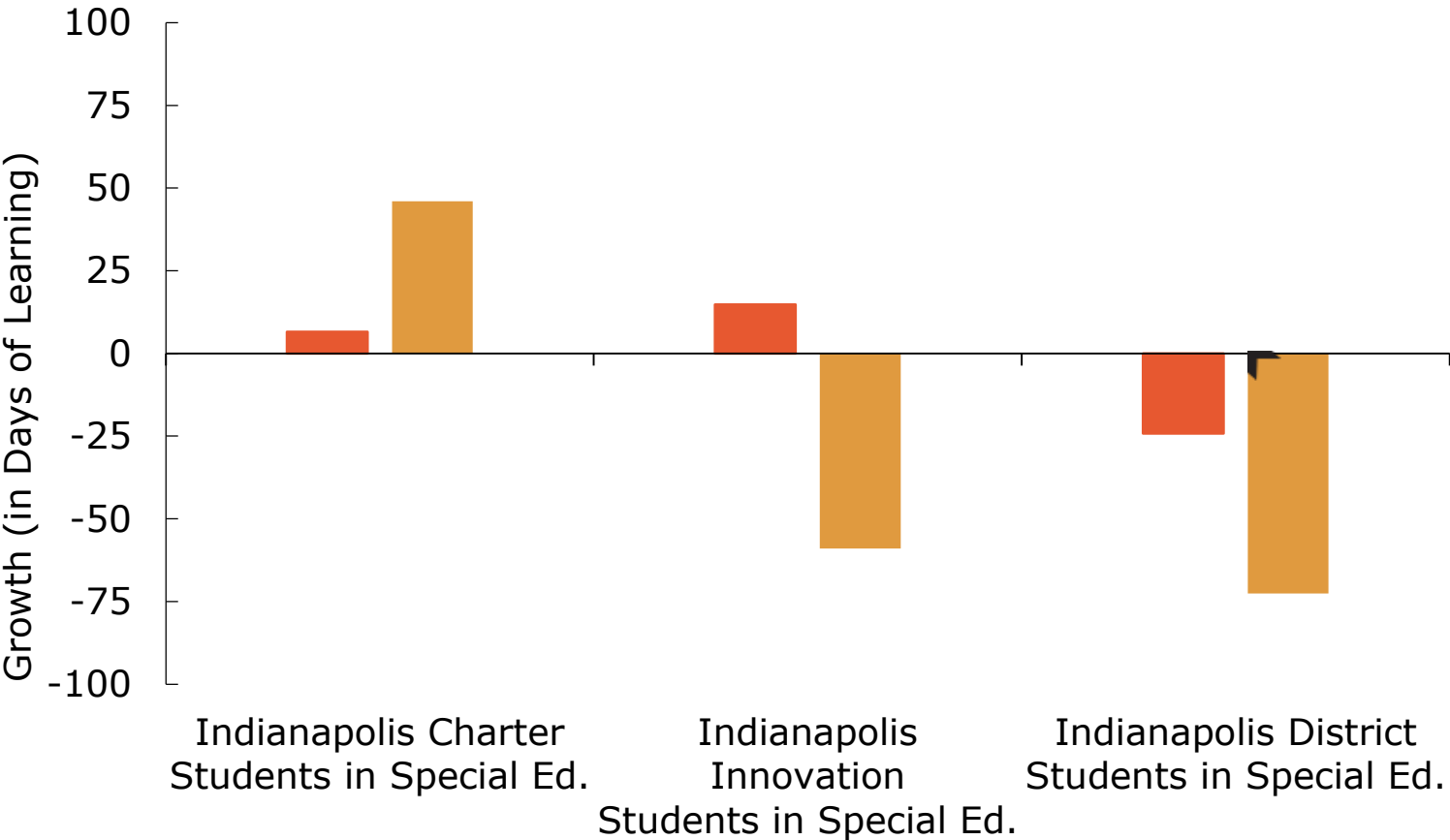● reading   ● math

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Research Findings > Student Subgroup Analysis > Female Students

VS. STATE BY SECTOR & COMPARISON WITHIN INDIANAPOLIS

Learning Gains for Female Students in Indianapolis Charter Schools, Female Students in Indianapolis Innovation Schools, and Female Students in Indianapolis District Schools Compared to the Average Learning Gains of Female Students Statewide, by Subject
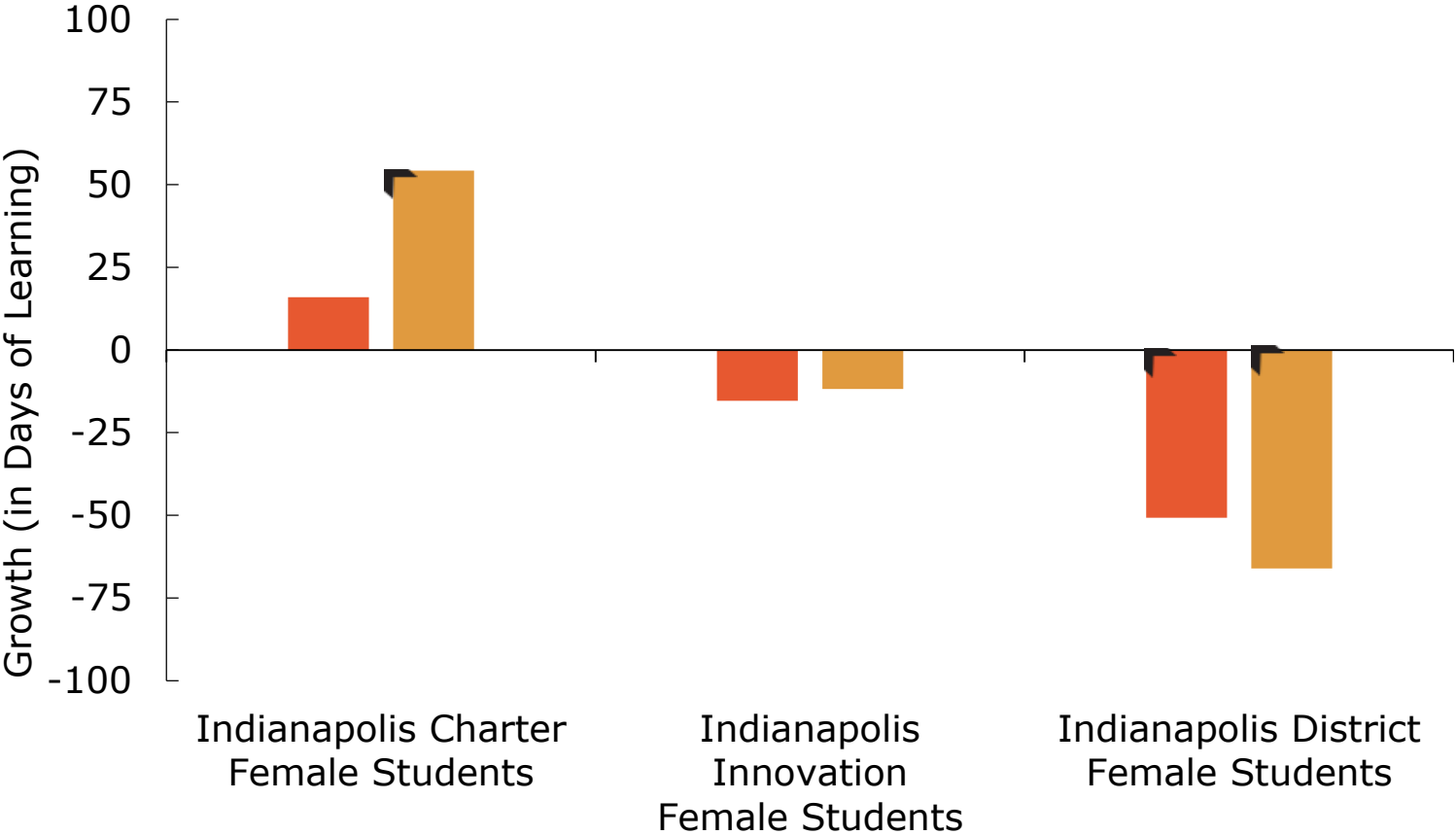
Tests of Differences	
Reading	
Charter Female vs. District Female	sig
Innovation Female vs. District Female	
Math	
Charter Female vs. District Female	
Innovation Female vs. District Female	

◤ significantly different at p< 0.05

● reading   ● math

Summary of Findings

The summary of the findings from the analysis of Indianapolis schools is presented here.

APPENDIXES
03

Acknowledgments

Student-level data were provided by the **Indiana Department of Education**.

The Mind Trust assisted CREDO with verifying the list of public schools in Indianapolis.

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 INDIANAPOLIS 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 Indianapolis from 2016-17 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 Indianapolis 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.
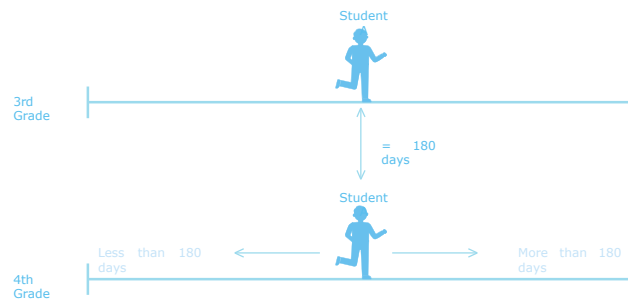
01 **Think about the students in your state's public schools.** For many of their years of schooling, they take achievement tests to measure what they know at the end of the school year. We can identify the average score for each test each year.

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.

Student

3rd Grade

= 180 days

Student

Less than 180 days

More than 180 days

4th Grade

Overall Indianapolis Results

	READING		MATH	
	Standard Deviation	Days of Learning	Standard Deviation	Days of Learning
Indianapolis Overall 2017-18	-0.07**	-42**	-0.05*	-31*
Indianapolis Overall 2018-19	-0.05*	-30*	-0.06*	-33*

Significant at p < 0.05*

Significant at p < 0.01**

Indianapolis School Sectors Compared to State Average

	READING		MATH	
	Standard Deviation	Days of Learning	Standard Deviation	Days of Learning
Charter Schools 2017-18	0.05	30	0.05	31
Charter Schools 2018-19	0.02	12	0.08	47
Innovation Schools 2017-18	-0.07*	-44*	-0.06	-37
Innovation Schools 2018-19	-0.02	-13	-0.04	-22
Other District Schools 2017-18	-0.11**	-68**	-0.09**	-52**
Other District Schools 2018-19	-0.09**	-52**	-0.12**	-69**

Significant at p < 0.05*

Significant at p < 0.01**

Comparison of School Sectors within Indianapolis

	READING		MATH	
	Standard Deviation	Days of Learning	Standard Deviation	Days of Learning
Charter Schools vs. Other District Schools 2017-18	0.17	97	0.14	82
Charter Schools vs. Other District Schools 2018-19	0.11	64	0.2*	116*
Innovation Schools vs. Other District Schools 2017-18	0.04	24	0.03	14
Innovation Schools vs. Other District Schools 2018-19	0.07	38	0.08	47

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
Indianapolis CMOs vs. State Average	0.04	23	0.07*	41*
Indianapolis Independent Charters vs. State Average	-0.04	-24	0.00	1
Indianapolis CMOs vs. Indianapolis Independent Charters	0.08	46	0.07	40

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				
Indianapolis Black Students Overall	-0.05*	-31*	-0.06*	-33*
Indianapolis Charter School Black Students	0.03	15	0.09*	54*
Indianapolis Innovation School Black Students	0.00	-2	-0.02	-11
Indianapolis Other District School Black Students	-0.12**	-71**	-0.15**	-91**
Compared with Black Students in Other District Schools in Indianapolis				
Indianapolis Charter School Black Students	0.15**	86**	0.25**	144**
Indianapolis Innovation School Black Students	0.12	69	0.14	80

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				
Indianapolis Hispanic Students Overall	-0.05*	-31*	-0.07**	-42**
Indianapolis Charter School Hispanic Students	0.05	27	0.08	46
Indianapolis Innovation School Hispanic Students	-0.06	-35	-0.09*	-54*
Indianapolis Other District School Hispanic Students	-0.08**	-46**	-0.11**	-64**
Compared with Hispanic Students in Other District Schools in Indianapolis				
Indianapolis Charter School Hispanic Students	0.12*	73*	0.19*	109*
Indianapolis Innovation School Hispanic Students	0.02	11	0.02	10

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				
Indianapolis Students in Poverty Overall	-0.03	-19	-0.04	-23
Indianapolis Charter School Students in Poverty	0.03	19	0.09*	51*
Indianapolis Innovation School Students in Poverty	-0.01	-4	-0.03	-16
Indianapolis Other District School Students in Poverty	-0.07**	-44**	-0.10**	-62**
Compared with Students in Poverty in Other District Schools in Indianapolis				
Indianapolis Charter School Students in Poverty	0.11**	63**	0.19**	112**
Indianapolis Innovation School Students in Poverty	0.07	40	0.08	45

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				
Indianapolis ELL Students Overall	-0.06**	-36**	-0.05	-32
Indianapolis Charter School ELL Students	0.05	27	0.10	56
Indianapolis Innovation School ELL Students	-0.04	-25	-0.09	-55
Indianapolis Other District School ELL Students	-0.10**	-57**	-0.08**	-48**
Compared with ELL Students in Other District Schools in Indianapolis				
Indianapolis Charter School ELL Students	0.14	83	0.18	103
Indianapolis Innovation School ELL Students	0.05	31	-0.01	-8

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				
Indianapolis Special Ed Students Overall	-0.02	-11	-0.08**	-46**
Indianapolis Charter School Special Ed Students	0.01	6	0.08	46
Indianapolis Innovation School Special Ed Students	0.03	14	-0.10	-59
Indianapolis Other District School Special Ed Students	-0.04	-25	-0.12**	-73**
Compared with Special Ed Students in Other District Schools in Indianapolis				
Indianapolis Charter School Special Ed Students	0.05**	30**	0.20	118
Indianapolis Innovation School Special Ed Students	0.07	38	0.02	13

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				
Indianapolis Male Students Overall	-0.05*	-31*	-0.07**	-39**
Indianapolis Charter School Male Students	0.02	10	0.07	41
Indianapolis Innovation School Male Students	-0.02	-12	-0.05	-31
Indianapolis Other District School Male Students	-0.09**	-53**	-0.12**	-71**
Compared with Male Students in Other District Schools in Indianapolis				
Indianapolis Charter School Male Students	0.11	62	0.19	112
Indianapolis Innovation School Male Students	0.07	41	0.07	40

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				
Indianapolis Female Students Overall	-0.05*	-28*	-0.05*	-27*
Indianapolis Charter School Female Students	0.03	15	0.09**	54**
Indianapolis Innovation School Female Students	-0.03	-16	-0.02	-12
Indianapolis Other District School Female Students	-0.09**	-51**	-0.11**	-67**
Compared with Female Students in Other District Schools in Indianapolis				
Indianapolis Charter School Female Students	0.11*	66*	0.20*	120*
Indianapolis Innovation School Female Students	0.06	35	0.09	54

Significant at p < 0.05*

Significant at p < 0.01**