

City Study 2022:

INDIANAPOLIS

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Summary of Findings

03 APPENDIXES

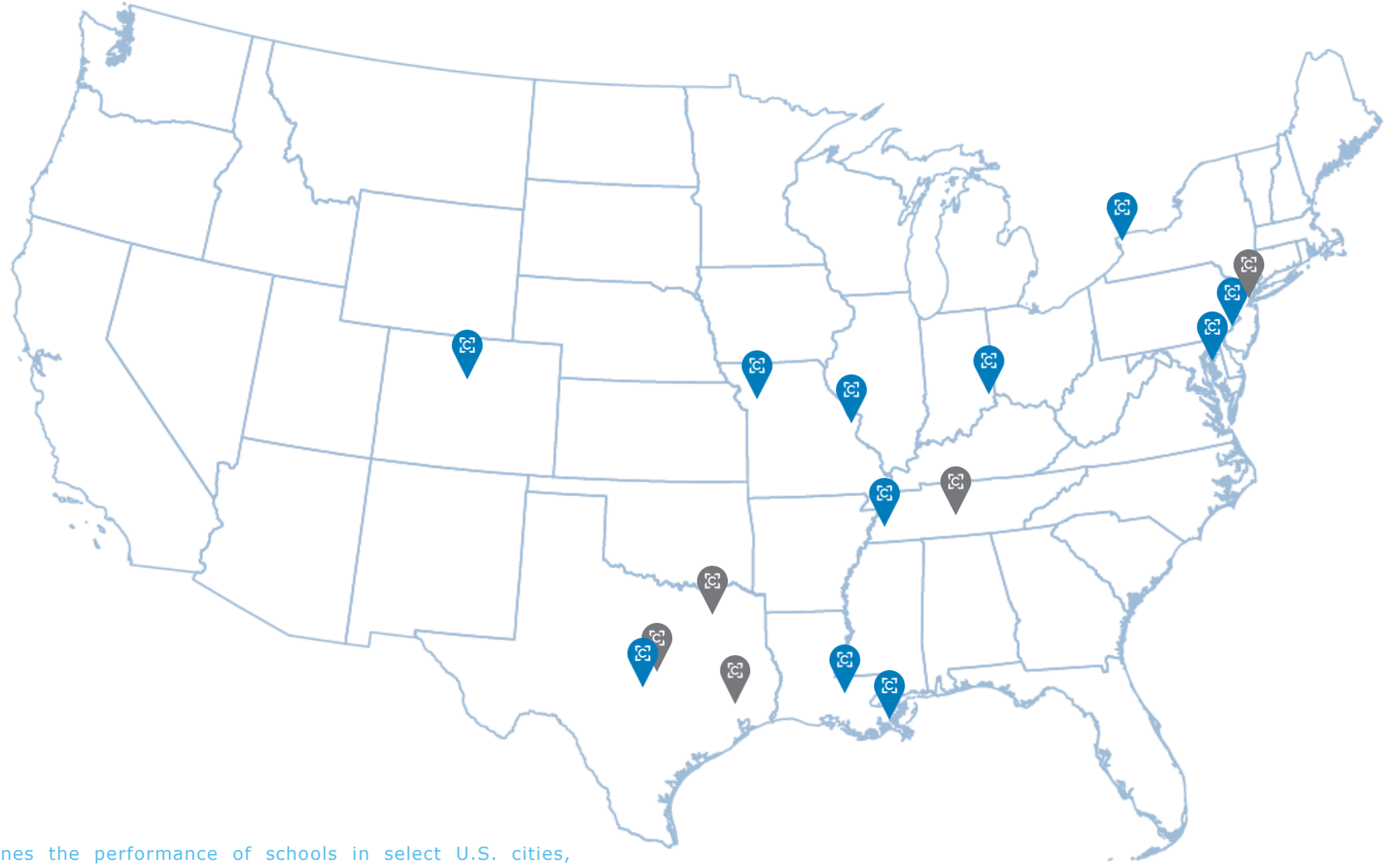
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○ REPORT OVERVIEW

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.

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.**

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.



○ 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.





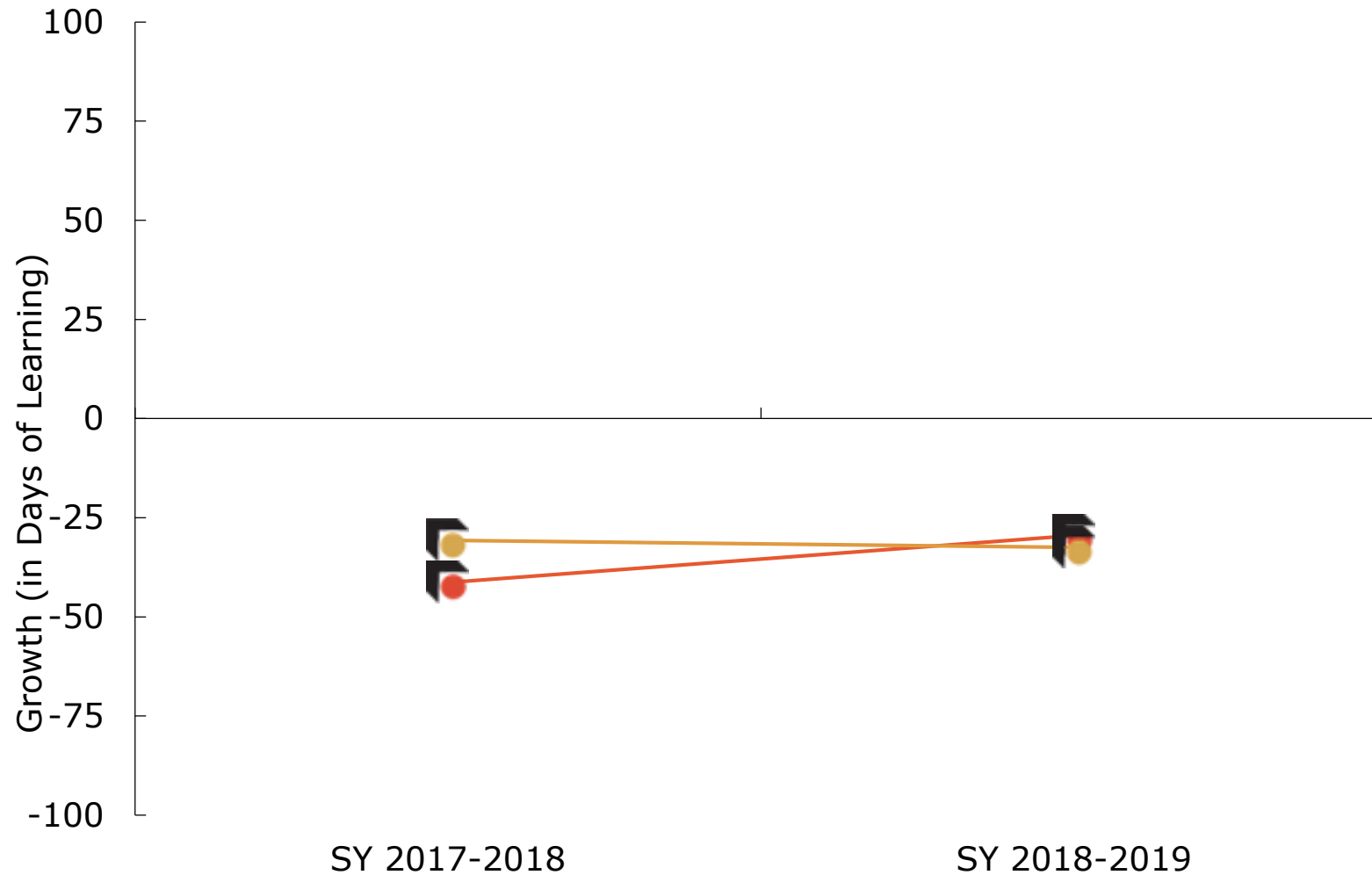
○ RESEARCH FINDINGS

02



Research Findings > Overall Indianapolis Results > Reading & Math

Average One-Year Learning Gains for All Indianapolis Students Compared to the State Average Learning Gains, by Year and Subject



significantly different at $p < 0.05$

reading

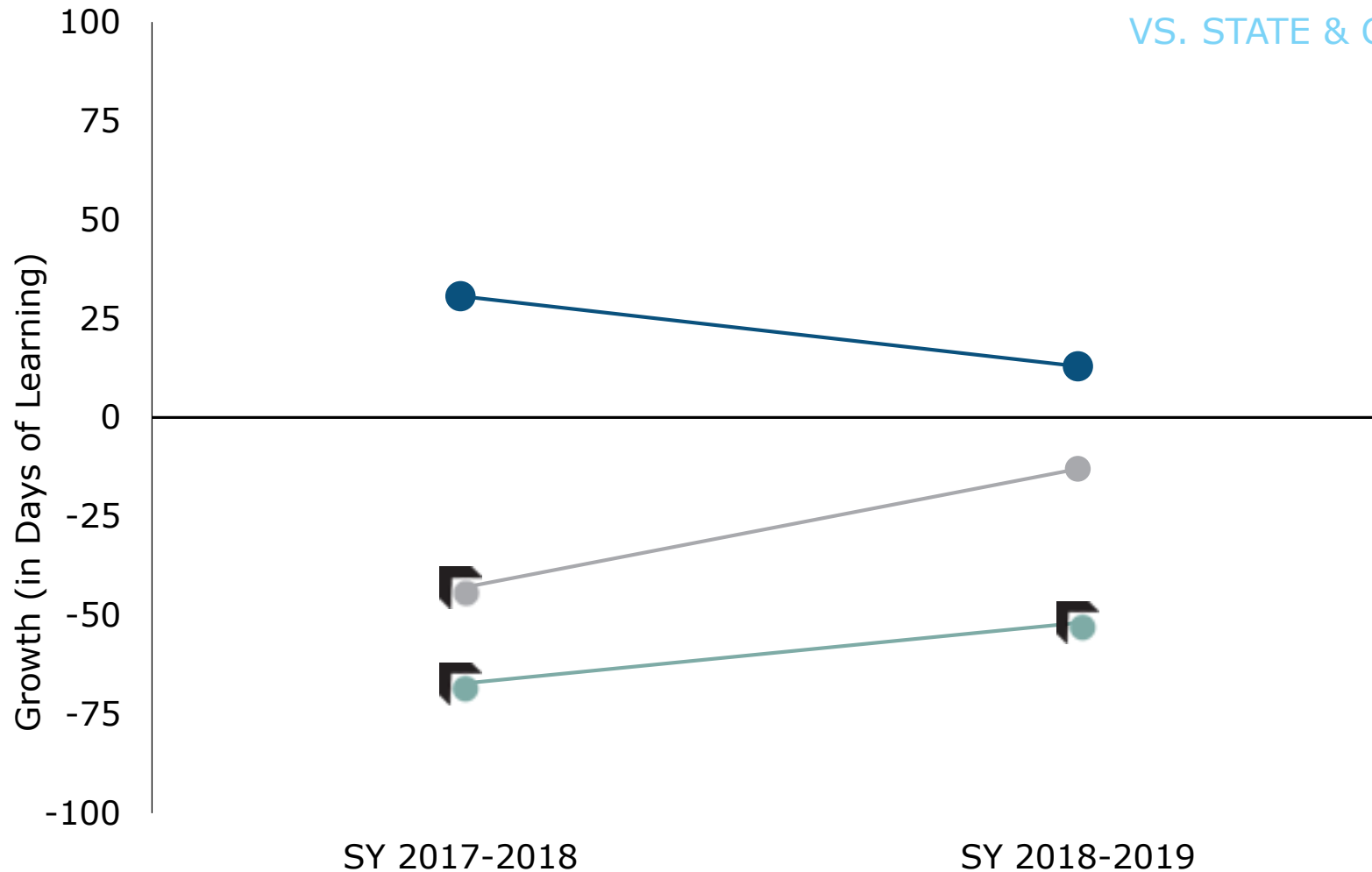
math

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 $p < 0.05$

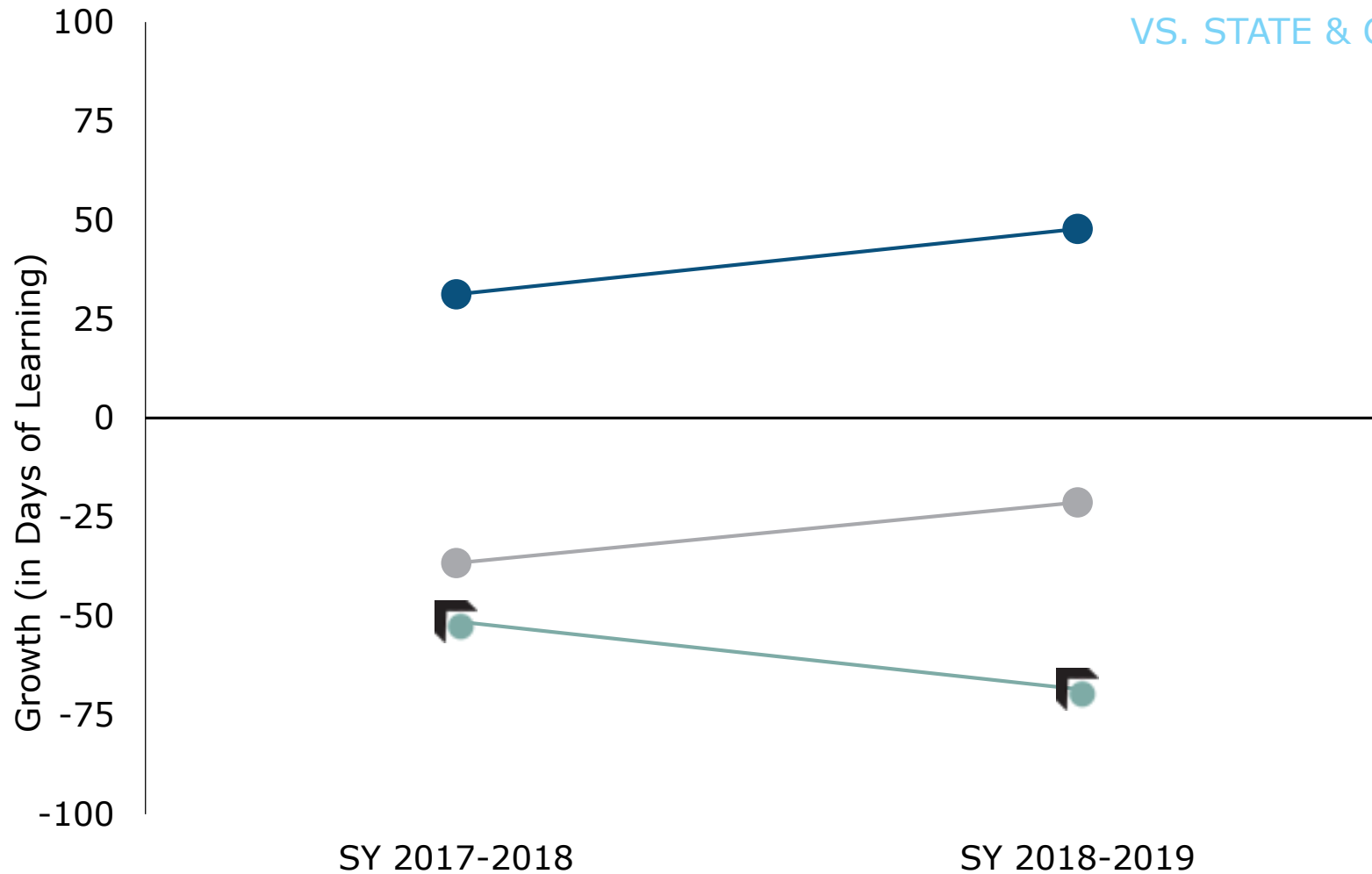
● charter ● Innovation ● district

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		

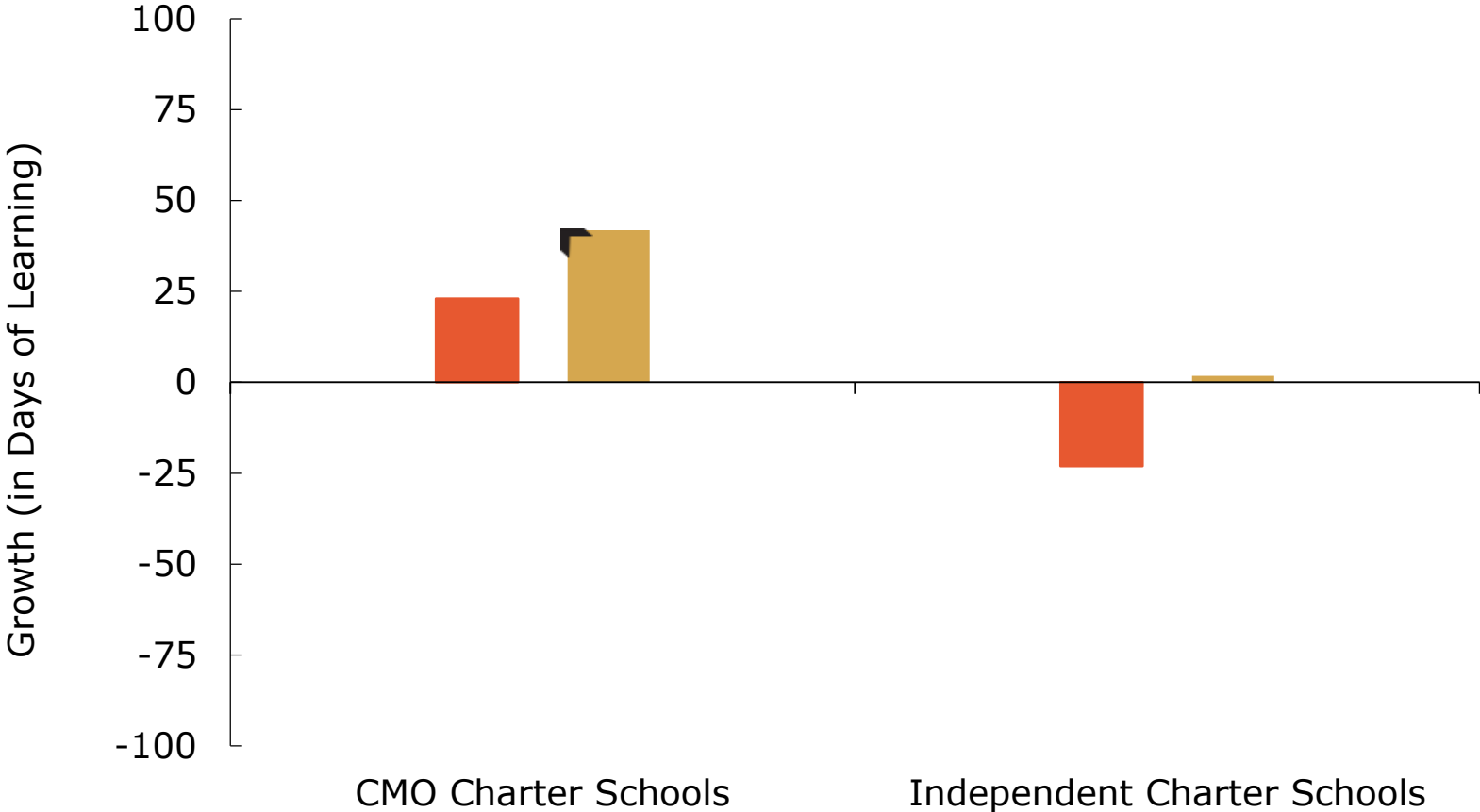
↖ significantly different at $p < 0.05$

● 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

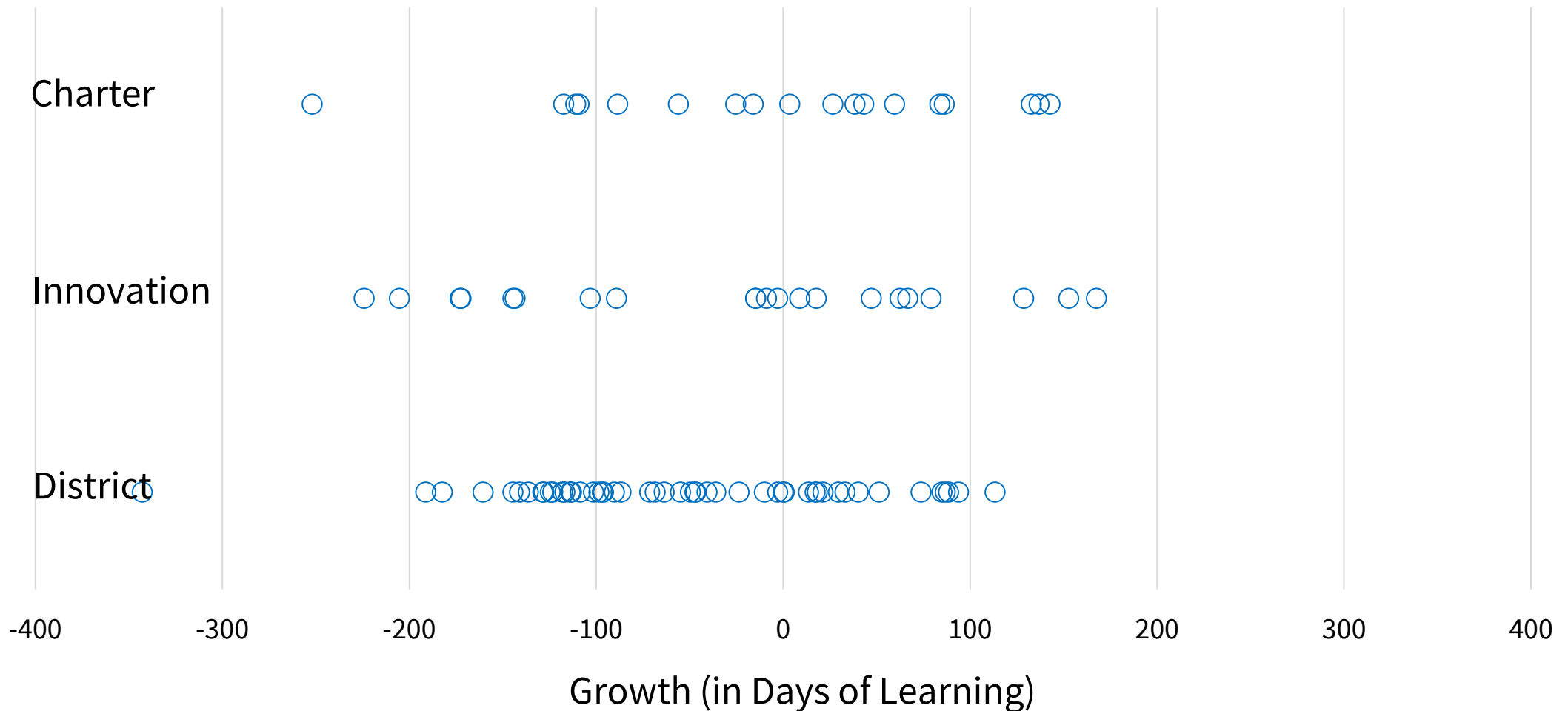
Reading sig
 CMOs vs Independent Charter Schools

Math
 CMOs vs Independent Charter Schools

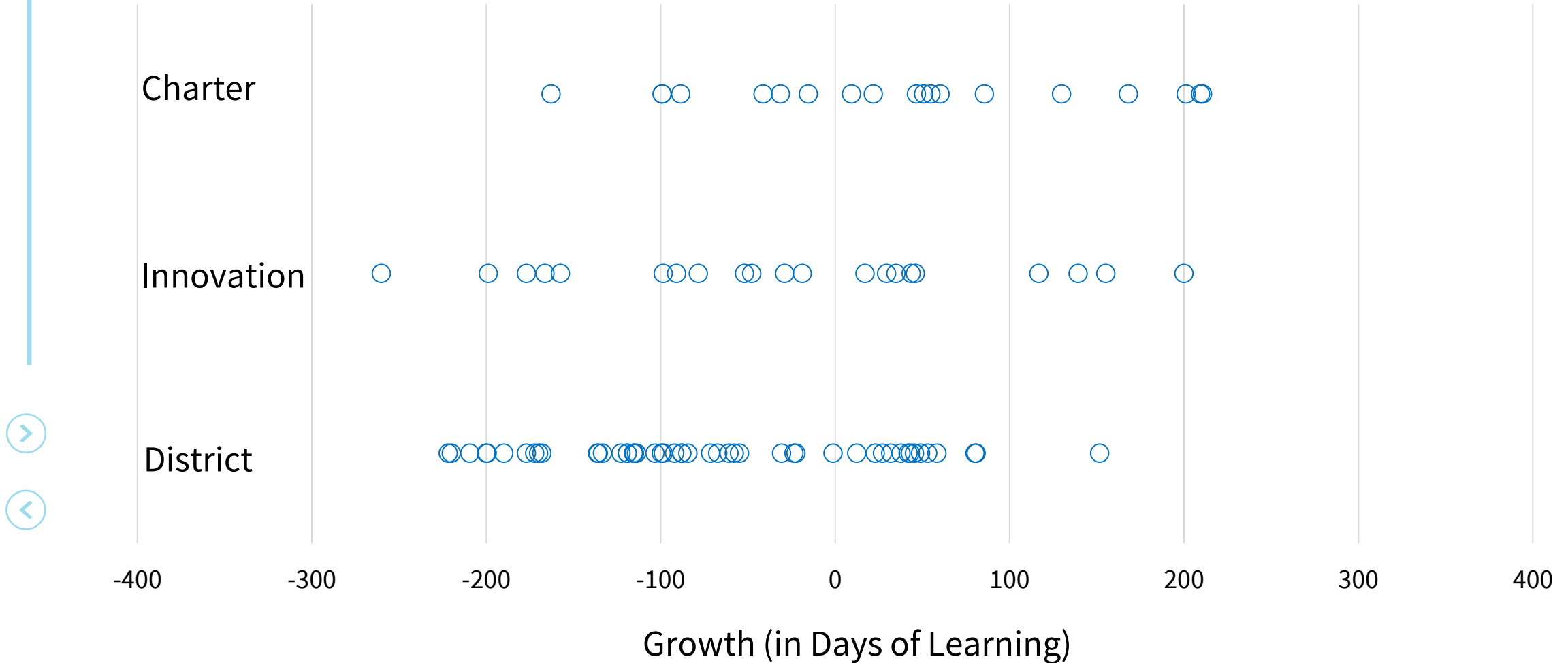
significantly different at $p < 0.05$

● reading ● math

Research Findings > School-Level Performance by Sector > Reading



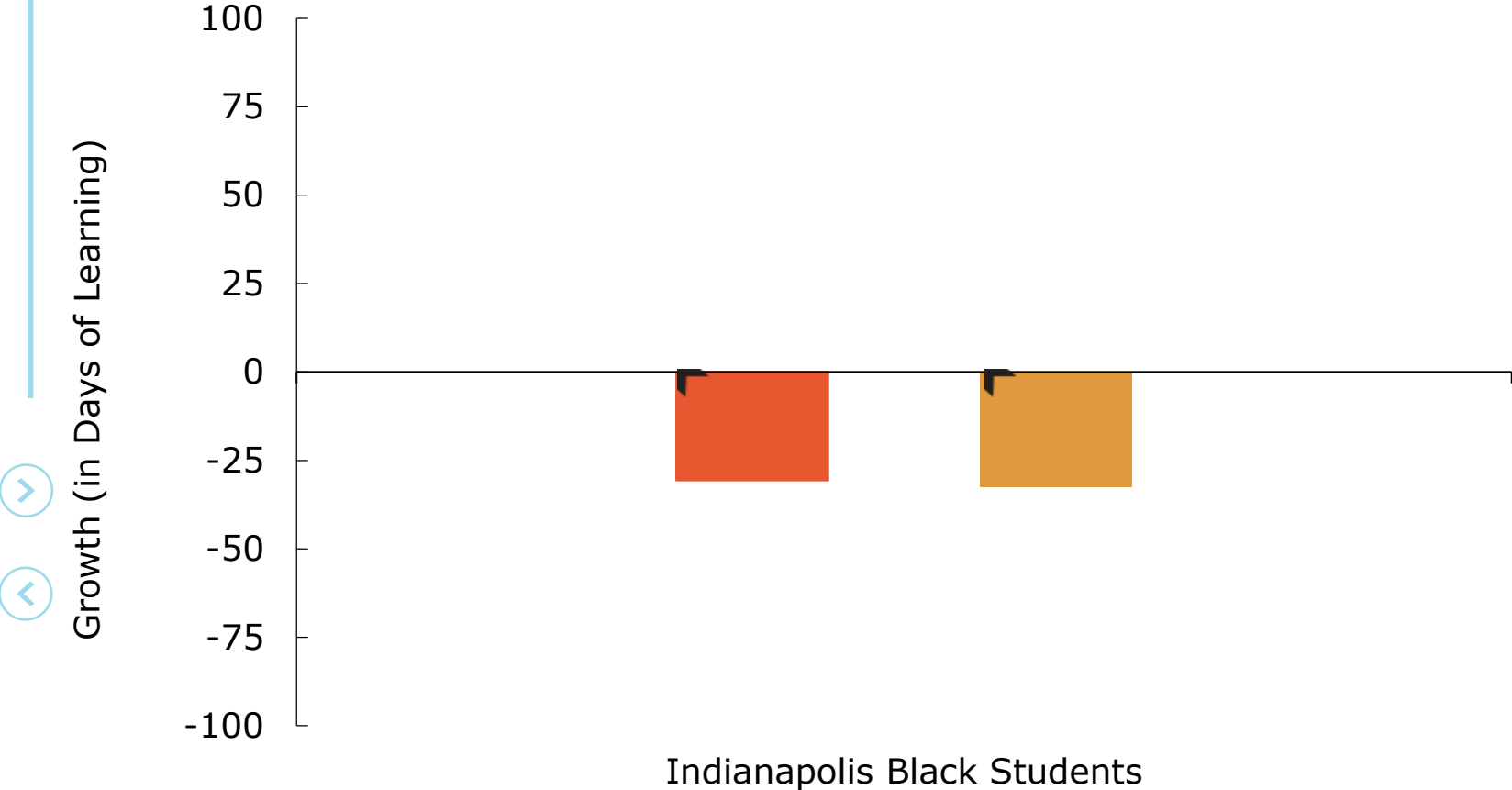
Research Findings > School-Level Performance by Sector > Math



Research Findings > Student Subgroup Analysis > Black Students

ALL VS. STATE

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



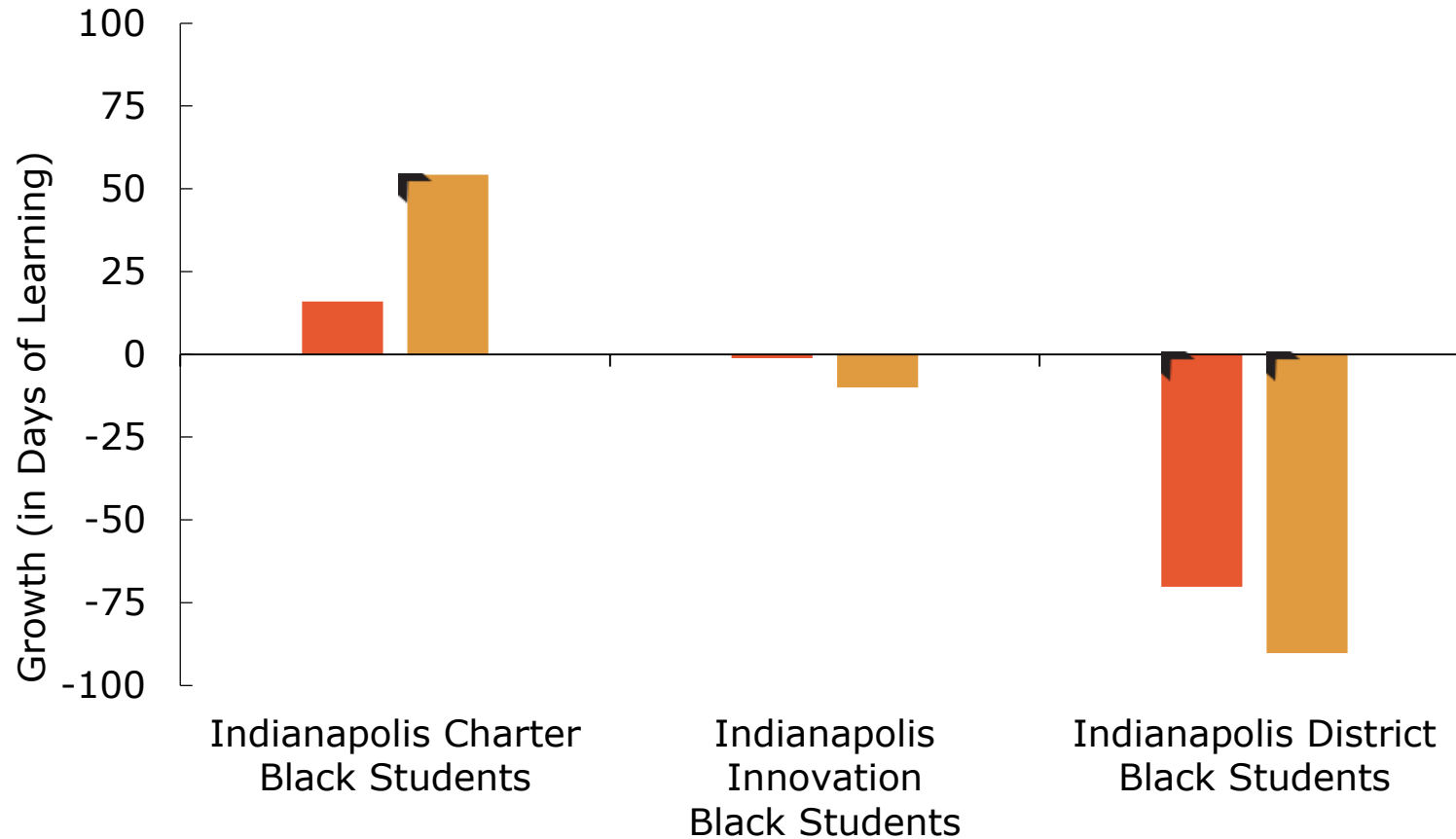
significantly different at $p < 0.05$

reading math

Research Findings > Student Subgroup Analysis > Black Students

VS. STATE BY SECTOR & COMPARISON WITHIN 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

Reading sig
 Charter Black vs. District Black
 Innovation Black vs. District Black

Math
 Charter Black vs. District Black
 Innovation Black vs. District Black

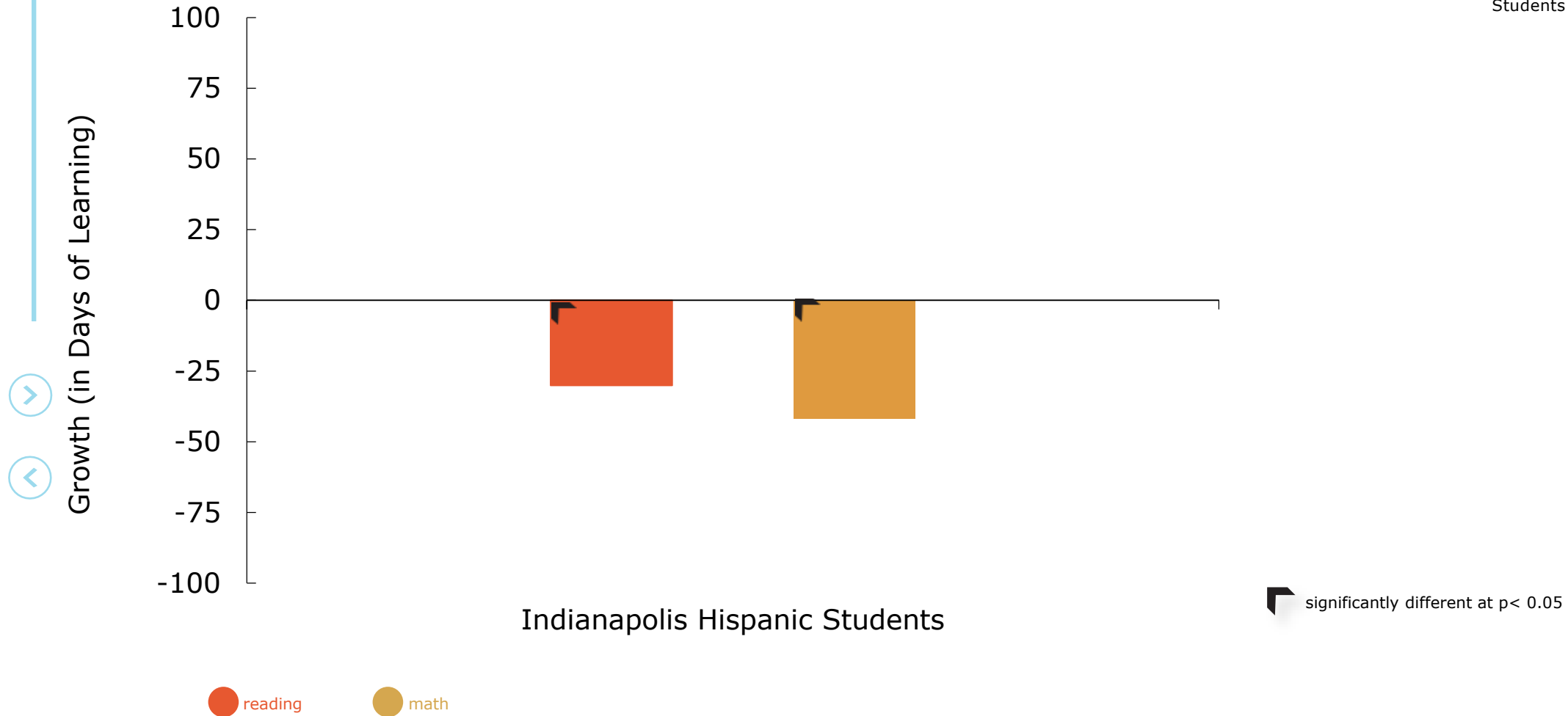
significantly different at $p < 0.05$

reading math

Research Findings > Student Subgroup Analysis > Hispanic Students

ALL VS. STATE

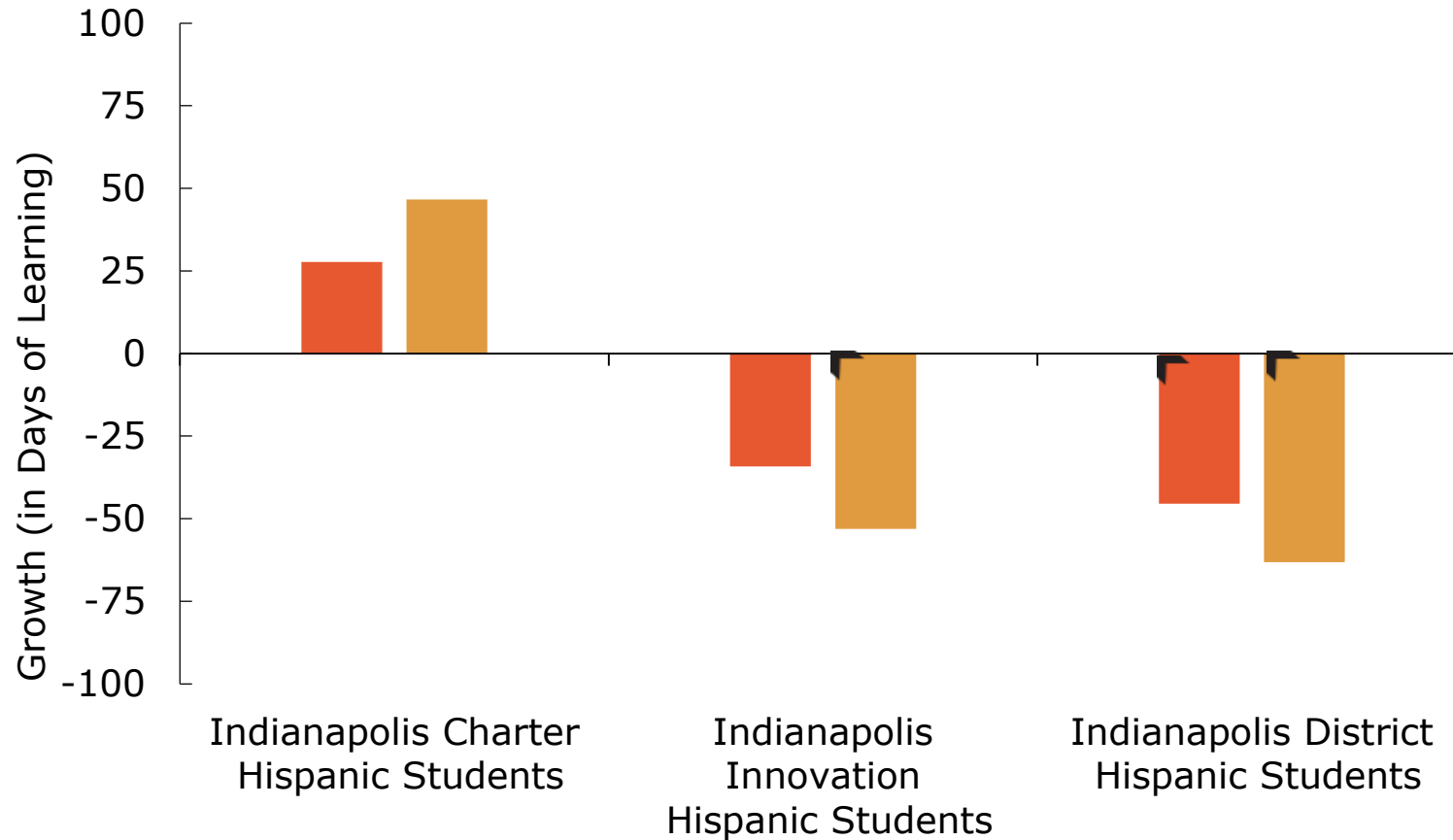
Learning Gains for All Indianapolis Hispanic Students
Compared to the Average Learning Gains of Hispanic
Students Statewide, by Subject



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 sig
 Charter Hispanic vs. District Hispanic
 Innovation Hispanic vs. District Hispanic

Math
 Charter Hispanic vs. District Hispanic
 Innovation Hispanic vs. District Hispanic

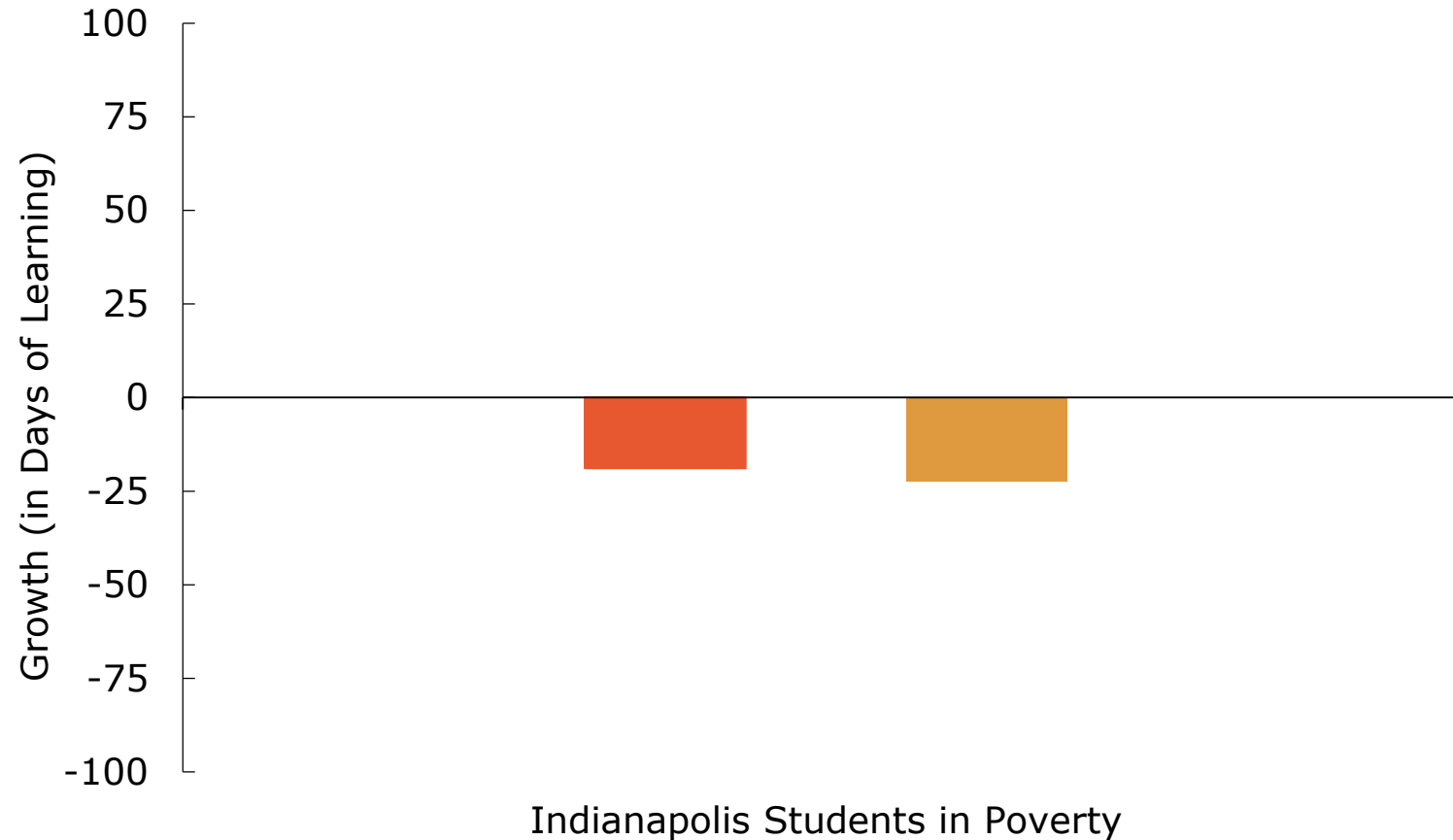
significantly different at $p < 0.05$

reading math

Research Findings > Student Subgroup Analysis > Students in Poverty

ALL VS. STATE

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



significantly different at $p < 0.05$

reading

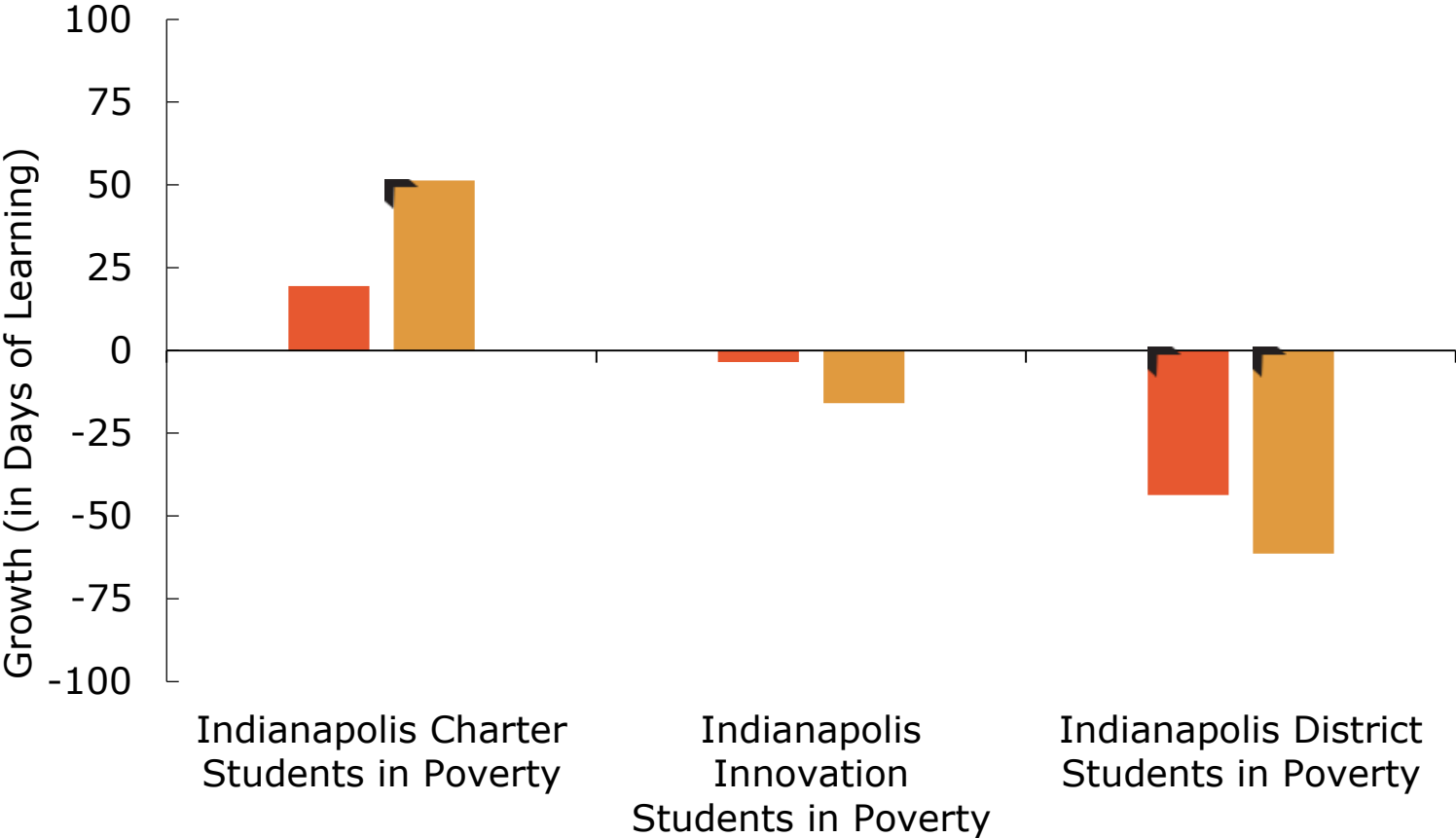
math

Research Findings > Student Subgroup Analysis

> Students in Poverty

VS. STATE BY SECTOR & COMPARISON WITHIN 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 $p < 0.05$

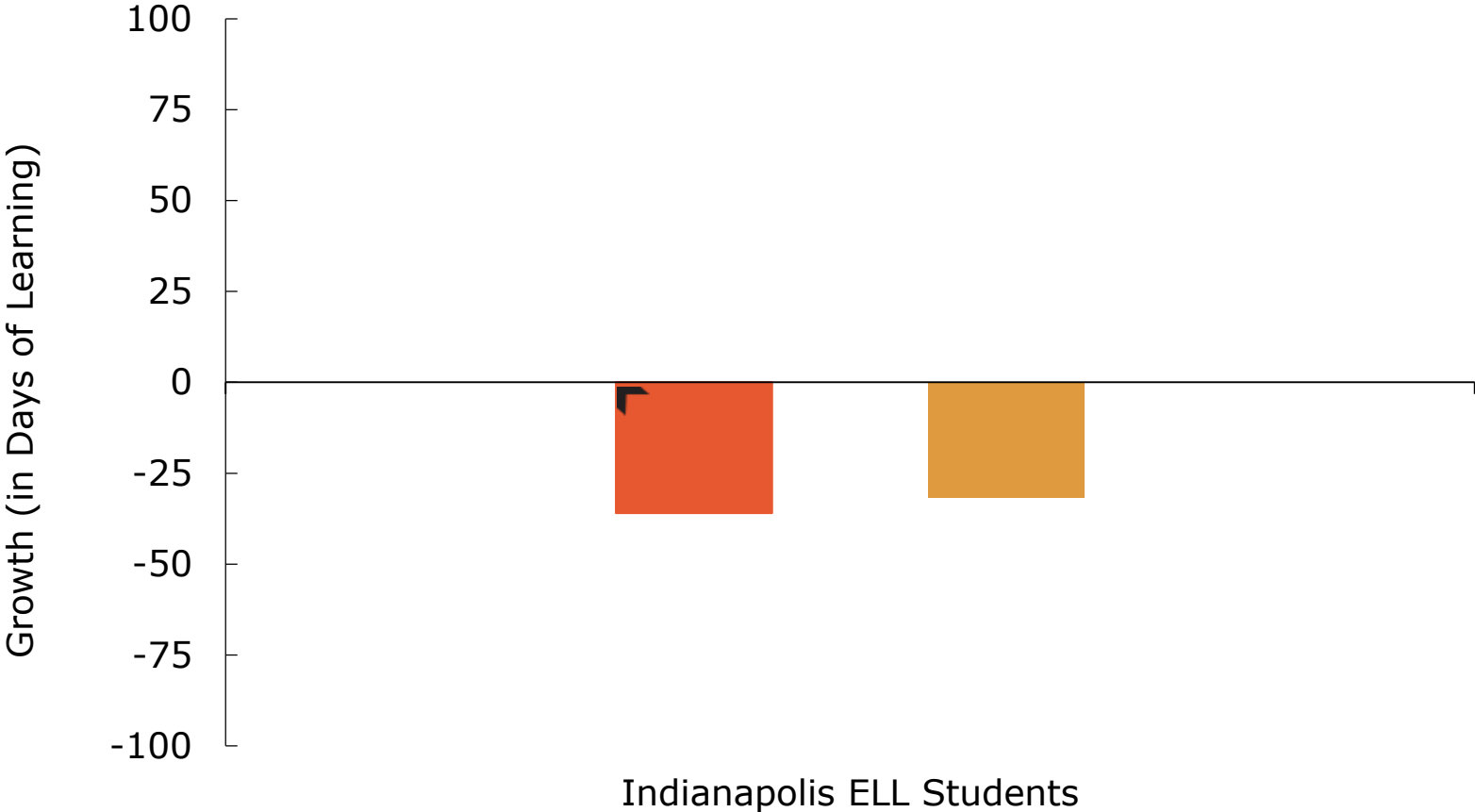
● reading ● math

Research Findings > Student Subgroup Analysis

> ELL Students

ALL VS. STATE

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



significantly different at $p < 0.05$

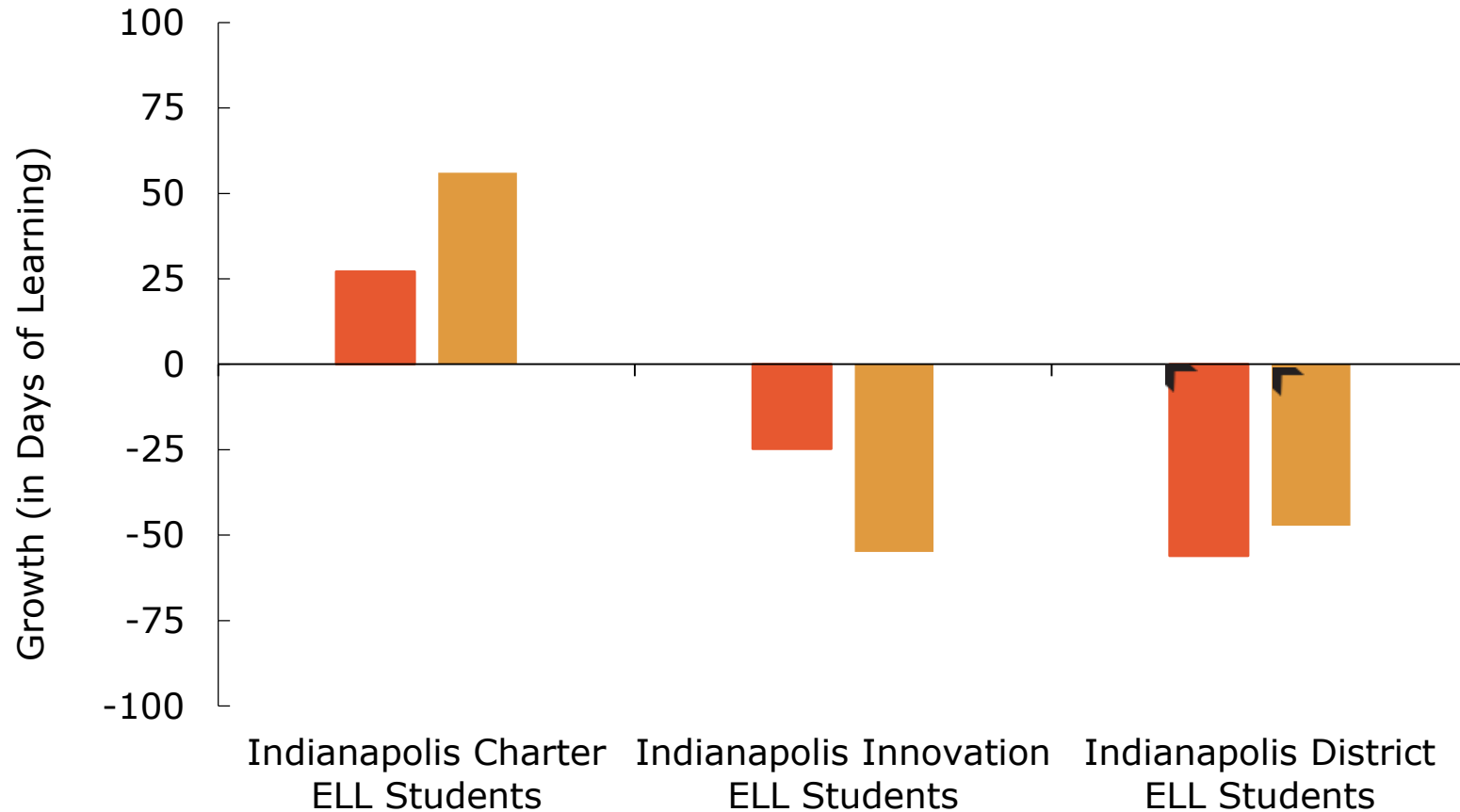
reading math

Research Findings > Student Subgroup Analysis

> ELL Students

VS. STATE BY SECTOR & COMPARISON WITHIN 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

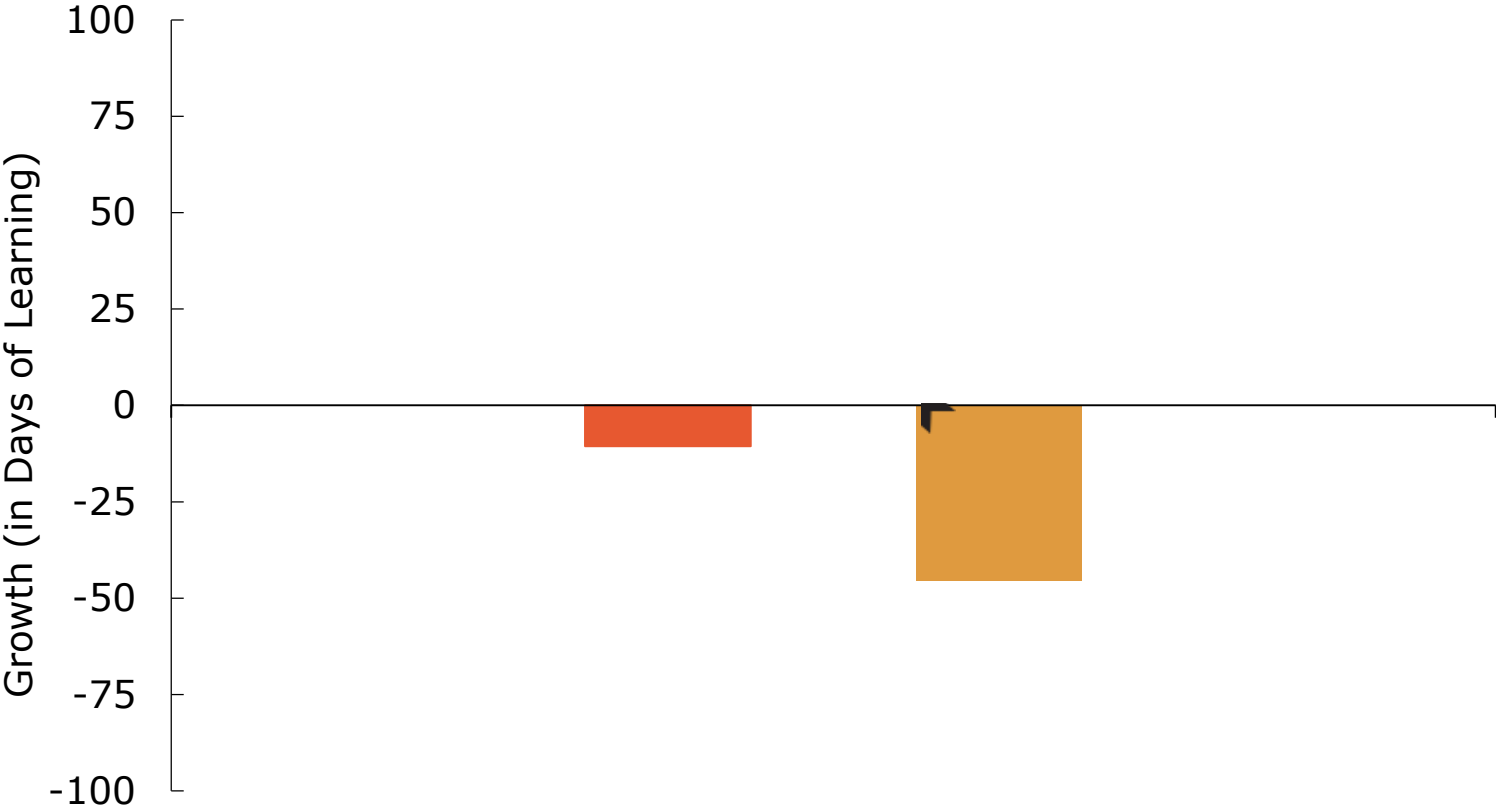
significantly different at $p < 0.05$

reading math

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



Indianapolis Special Ed Students

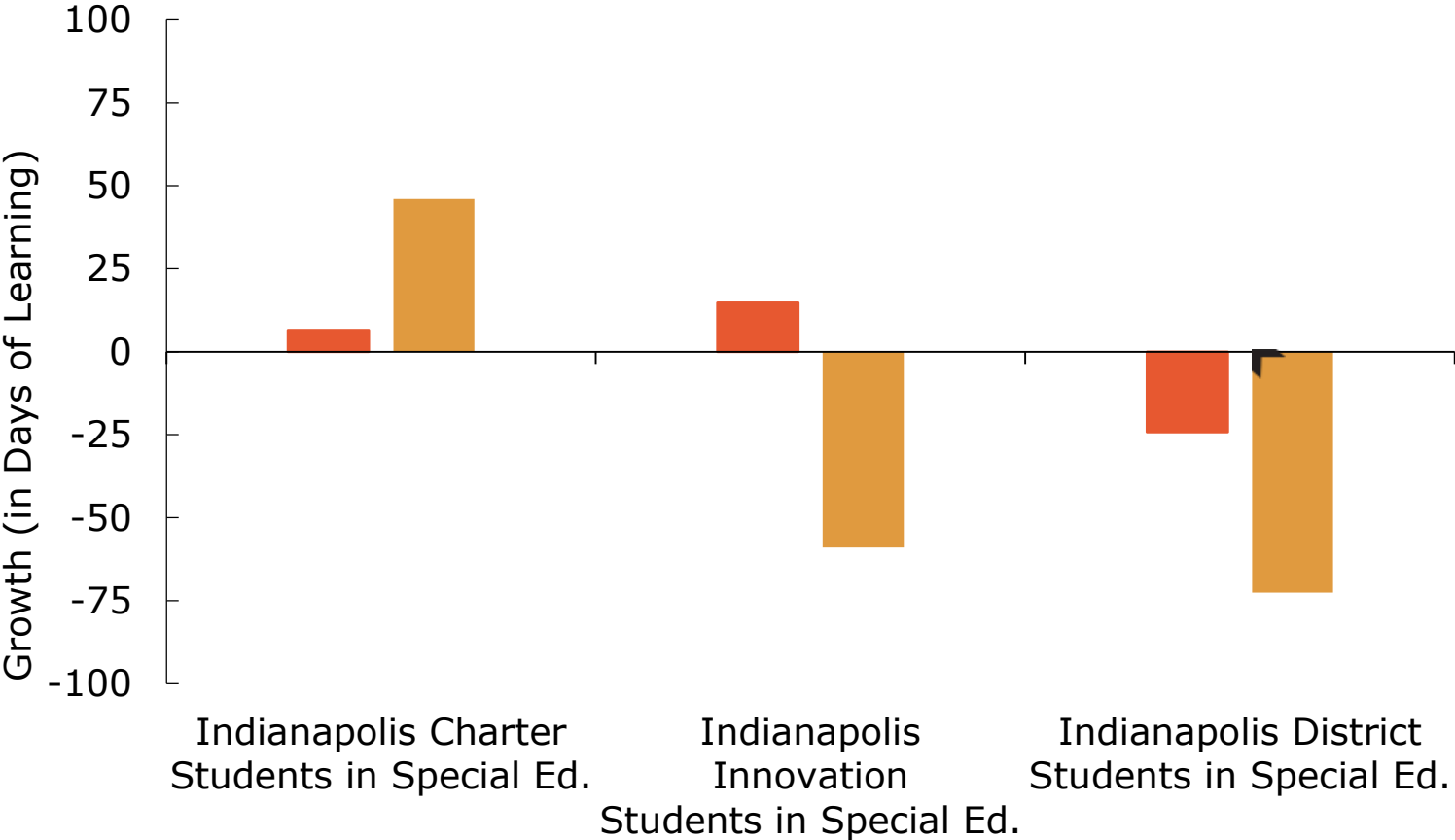
significantly different at $p < 0.05$

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 $p < 0.05$

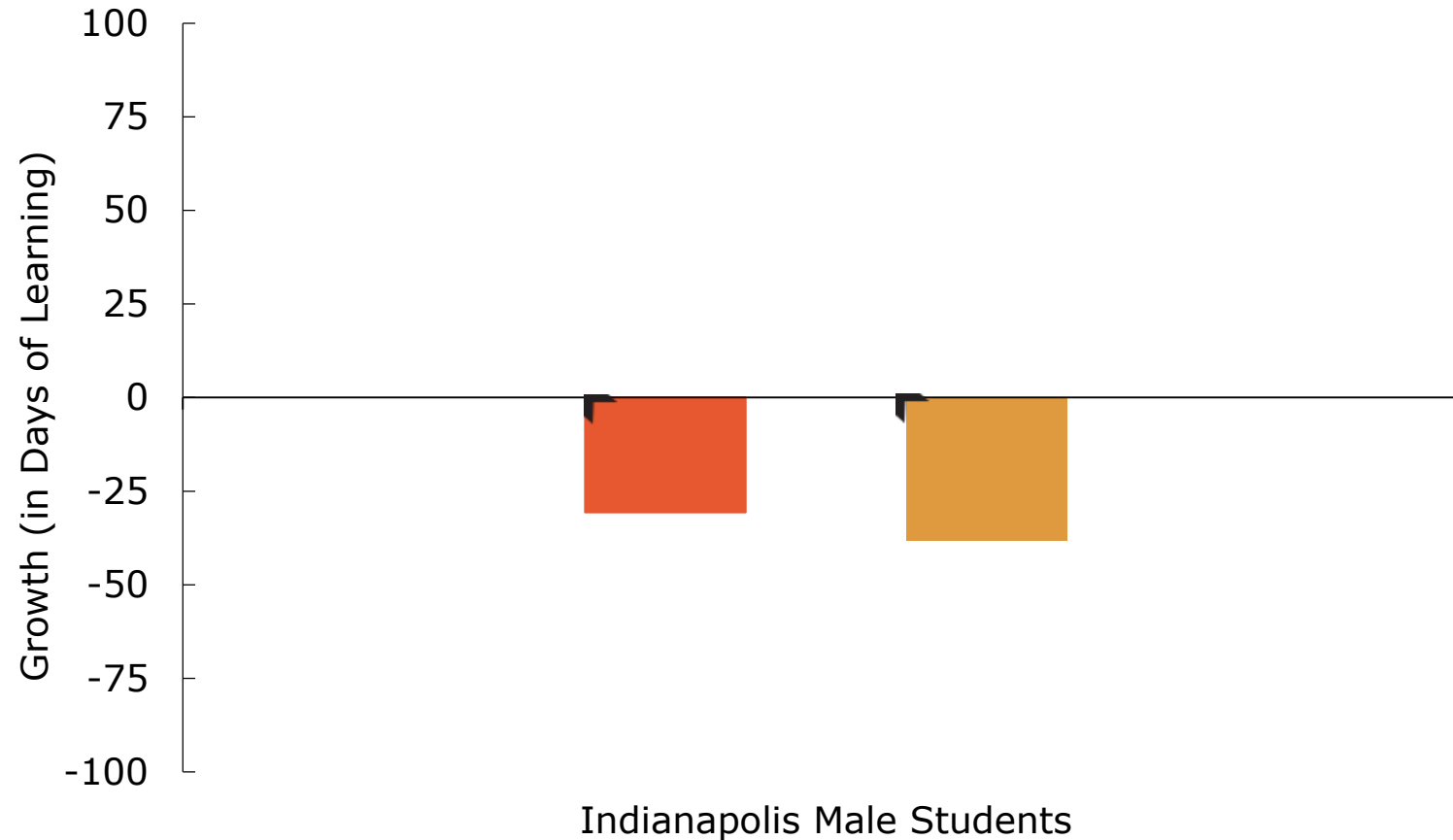
● reading ● math

Research Findings > Student Subgroup Analysis

> Male Students

ALL VS. STATE

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



significantly different at $p < 0.05$

reading

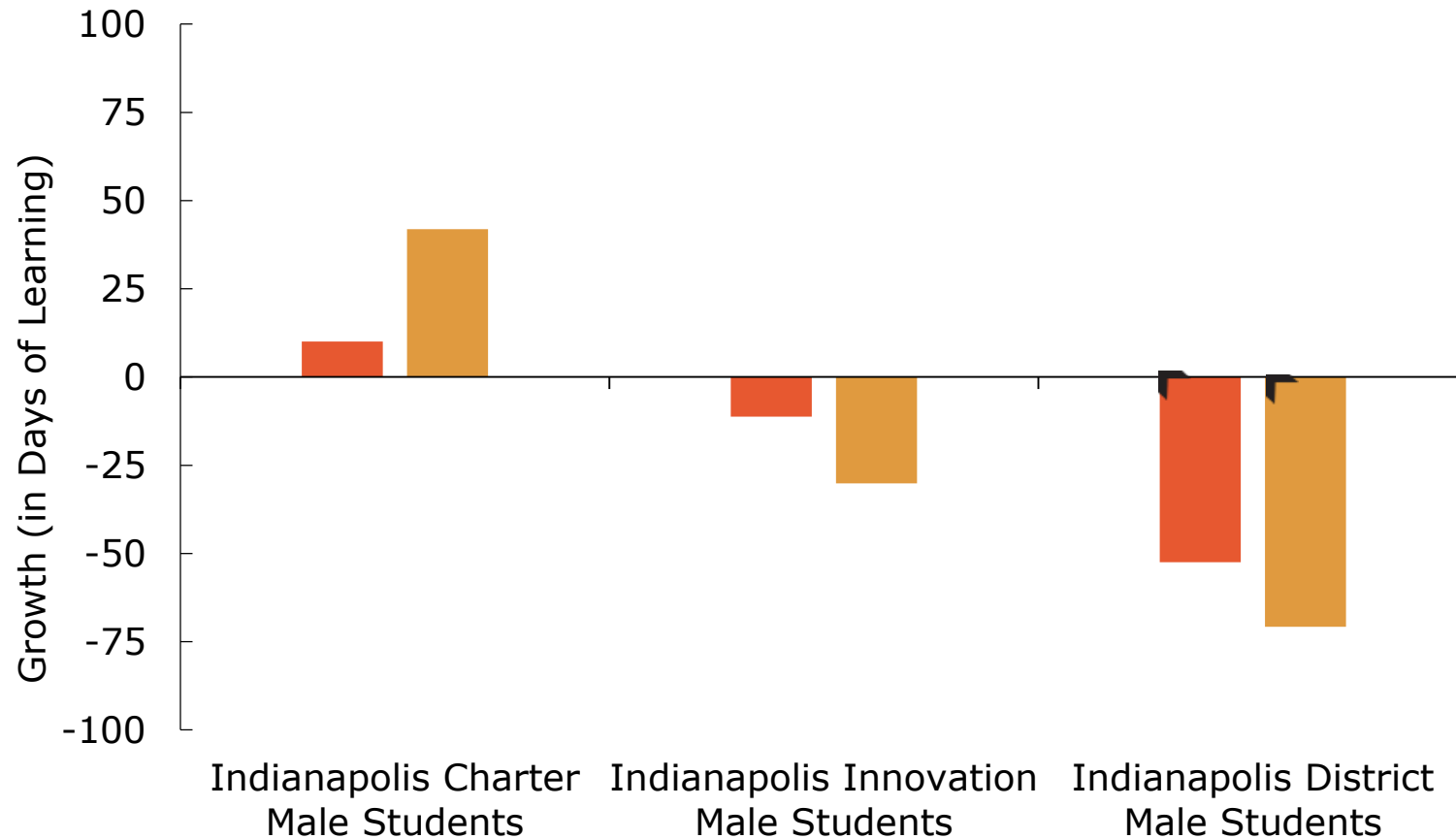
math

Research Findings > Student Subgroup Analysis

> Male Students

VS. STATE BY SECTOR & COMPARISON WITHIN 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

Reading

sig

Charter Male vs. District Male

Innovation Male vs. District Male

Math

Charter Male vs. District Male

Innovation Male vs. District Male

significantly different at $p < 0.05$

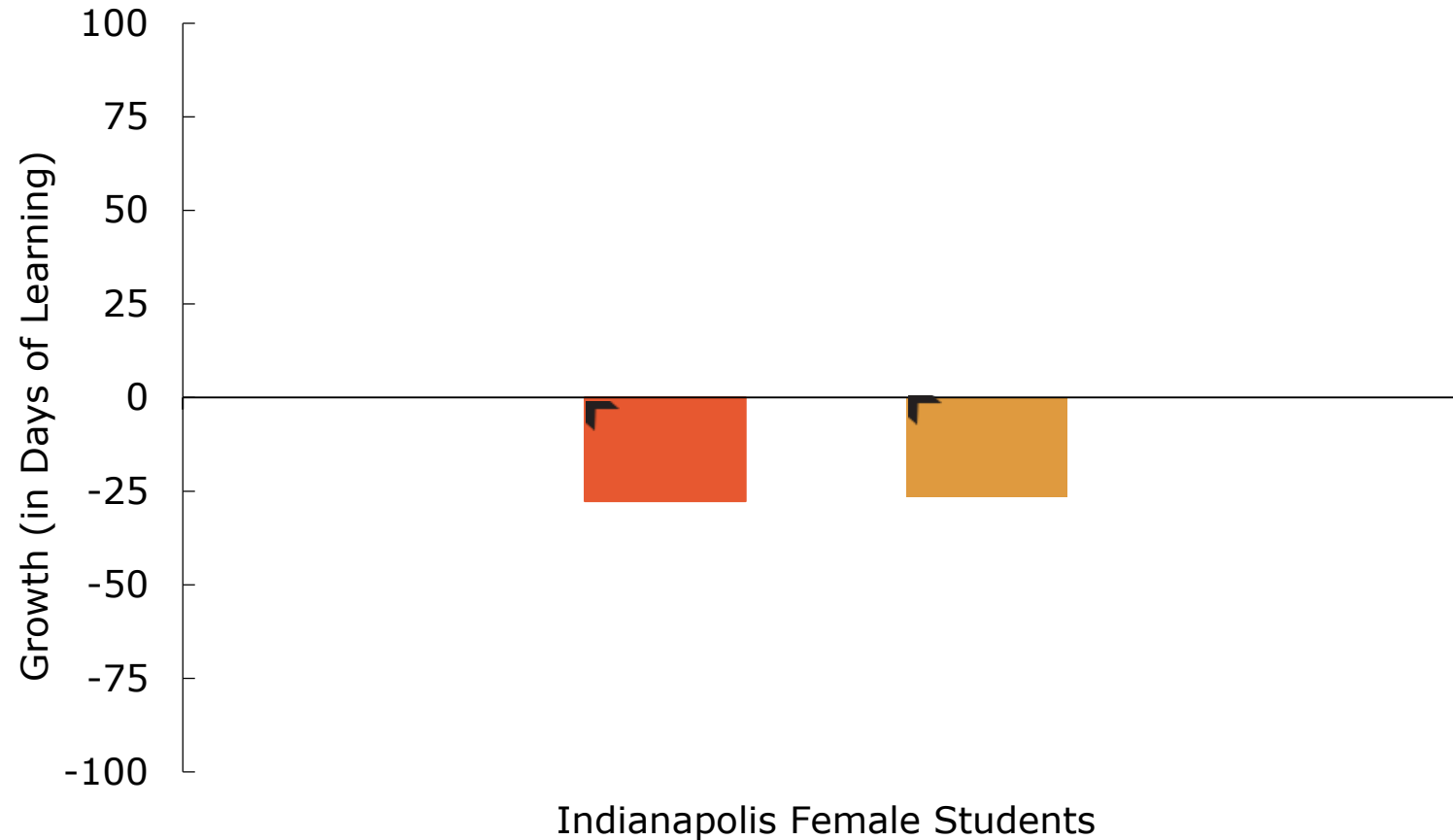
reading

math

Research Findings > Student Subgroup Analysis > Female Students

ALL VS. STATE

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



significantly different at $p < 0.05$

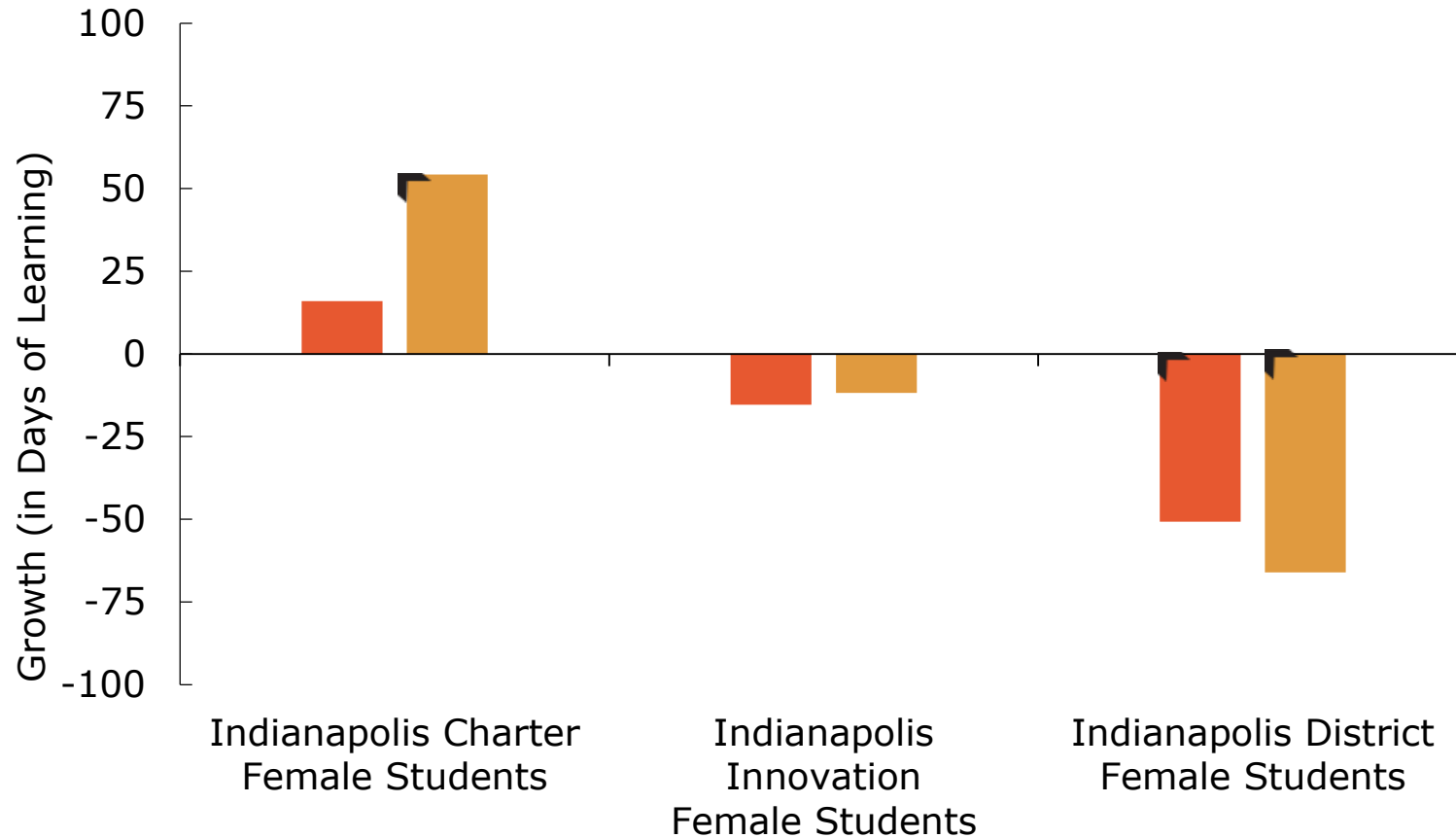
reading

math

Research Findings > Student Subgroup Analysis > Female Students

VS. STATE BY SECTOR & COMPARISON WITHIN 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 sig
 Charter Female vs. District Female
 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.

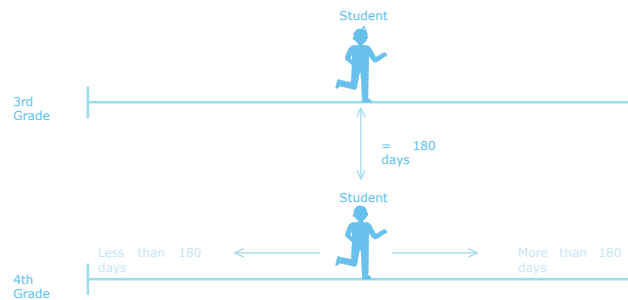
We also explore how one-year growth of Indianapolis students for the period ending in Spring 2019 differs by school type, race, poverty status, English language learner status, special education status, and gender.



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.

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 $p < 0.01^{**}$

THANK YOU

