

DECEMBER 2018

Summary Report on the Bright Key® Program

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2018 Summary Report on the Bright Key® Program
Public Affairs Research Council of Alabama

EXECUTIVE SUMMARY

Background: The Bright Key® program provides an enriched academic experience for students at two elementary schools in the Dothan City School system, Highland Elementary School and Selma Street Elementary School. Volunteers and community partners provide staffing and support for the program.

The program is stakeholder driven, with input from parents, teachers, and community partners. As such, activities are tailored to each school. During implementation, stakeholders provide feedback on progress to program staff. These data, along with student assessments and behavioral data provide a foundation for measuring the success of the program.

Components of the program include:

- Academic Dream Room
- Language and Culture
- Music
- Mentoring

For additional information about the Bright Key® program, see the program website at <http://brightkeywiregrass.org/>

Methodology

Using data from Scantron assessments and behavioral records provided by the Dothan City Schools, comparisons were made between students participating in Bright Key and students who did not. These data were subjected to a variety of statistical comparisons to see if patterns observed are statistically significant, controlling for other student characteristics.

Key Findings:

- Students in the Bright Key® program generally had **higher academic gains in both Math and Reading** for the 2017-2018 school year.
- Bright Key® students generally had **a higher rate of meeting academic targets** than their peers.
- Bright Key® students, on average, were generally **less likely to have infractions and had fewer infractions per student** than other students.

Conclusion:

These findings suggest Bright Key is effective in supporting significant academic gains and fewer behavioral infractions during the early grades of schooling. These findings could be enriched by analysis that increases understanding of how the stakeholder driven model improves services and necessary conditions.

Introduction

Bright Key® is a partnership between Wiregrass Foundation and Dothan City Schools to pilot an innovative, grassroots community school initiative in two Dothan City schools: Highlands Elementary and Selma Street Elementary. This is a community schools program for Dothan City Schools dedicated to meeting the comprehensive needs of every student. The program fosters growth by considering all facets of a student's life, including the student's family, school and community.

Bright Key is a “stakeholder-driven”, community schools partnership between Dothan City Schools and the Wiregrass Foundation.

Bright Keys Process

The Bright Key process starts with meetings where stakeholders talk about their school and offer their ideas to strengthen student achievement. From there a lead team is formed, consisting of the school's resource coordinator, teachers, faculty, parents and community members. These team members narrow and organize the ideas presented by stakeholders, propose a vision/mission, long and short term goals, and program areas. These are presented back to the stakeholders for approval, and work begins.

The school lead team is also responsible for designing and implementing program activities. Programs focus on the students, but activities are developed for families as well. A Bright Key® Resource Coordinator at each school serves as a liaison between Bright Keys and the school and manages the work of the lead team. They are actively running daily activities, pulling in resources from the community and neighboring businesses, and finding organizations to partner with the school to accomplish the stakeholder goals. In turn, stakeholders evaluate the success of the program and determine if next steps for Bright Key® at their school.

Process in the Two Schools

Both schools began their work with a series of stakeholder forums. Parents, teachers, staff, and persons from the school community were invited to meetings to discuss what they wanted to see in their neighborhood school. They were given data about basic student benchmarks---attendance, grades, behavior—and invited to think about what their students might need to make improvements in all areas, for all students.

Each school developed a vision statement and program areas for improving student achievement. Both schools identified academic tutoring and enrichment. This program area became the foundation for the “Academic Dreamrooms” at each school. From there, school-programming was very different at the two places. For example, Highland Elementary stakeholders wanted to reintroduce the arts to engage students, whereas Selma Street stakeholders saw mentoring as a more effective means to affect student achievement. The basic areas identified by each set of stakeholders are included on the two charts provided below.

However, Bright Key stakeholder involvement does not end with a wish list. For each program desired, a Program Team of interested, committed adults is formed. Together they decide what that particular area of focus should “look like” at their school. What students will be involved? Will it be during school or after school? Who will provide the programming? Are there costs involved, and if so, how will a

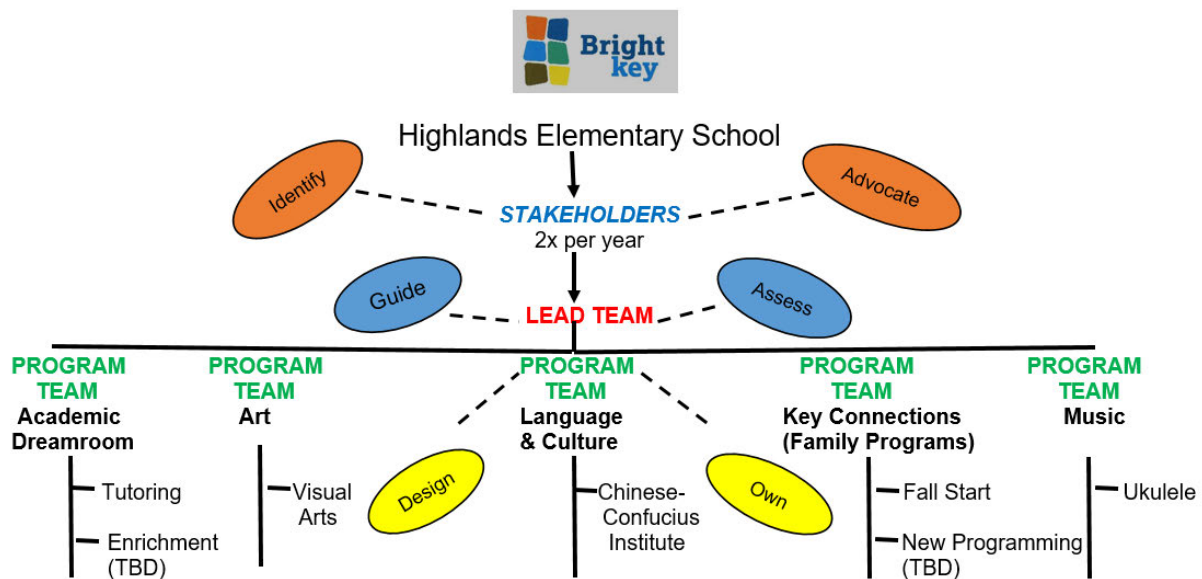
self-sustaining program be designed? After conceptualizing the program they work together to implement programming, bringing other interested parties into the school to assist.

For both Highlands and Selma Street, the developmental process that defines Bright Key is consistent. However, the actual activities and programs that take place are tailored to the students in each school and the perceptions of the adults (parents, teachers and staff) who are responsible for the success of the students.

One last word—about the school staff. Bright Key is not an easy concept to integrate into a school. The principal must be well-versed in curriculum development and be willing to take a calculated, research-driven risk to innovate for students. They must also be willing to allow a truly collaborative process to take partial hold of what is delivered to the students. Teachers and staff also must be willing to try something very different from common top-down, tightly controlled programming. Both Highlands and Selma Street have that kind of courageous, visionary leadership and staffing. These components are critical to the functioning of the program.

Selma Street Elementary and Highland Elementary Bright Key Programs

Below are schemata showing the development of each Bright Key program at Highland Elementary and Selma Street Elementary, including the visions, and short- and long-term goals for both the Bright Key program teams.



VISION

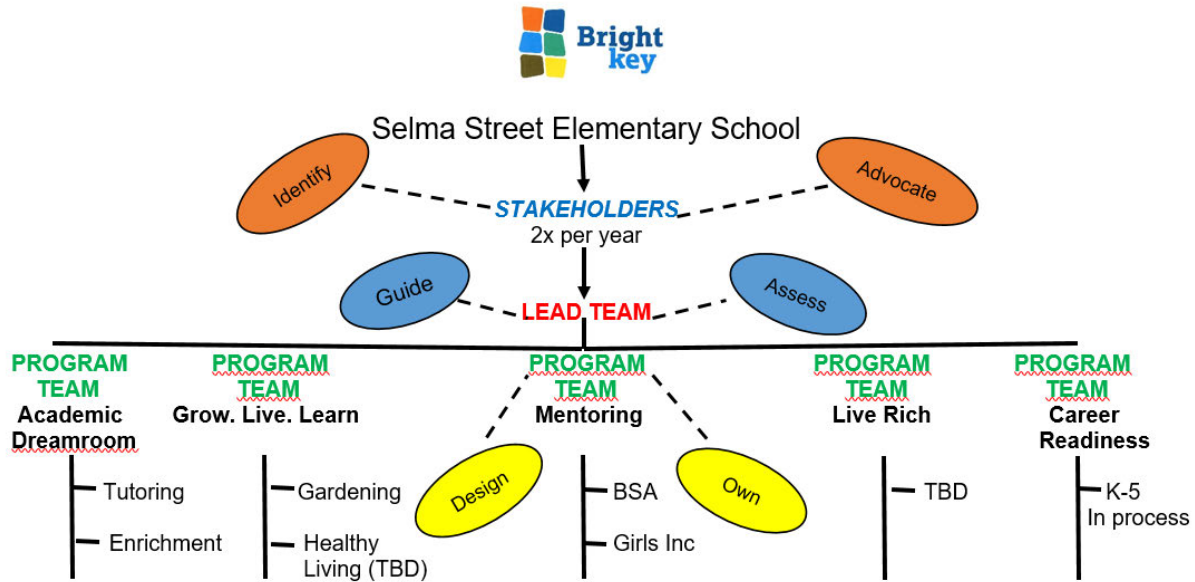
Developing the whole child through a learning environment that reaches and extends beyond the classroom walls.

SHORT TERM GOALS

1-Have a tutoring program in place for fall 2015; ✓ 2-Develop at least one additional program for Fall 2015. ✓

LONG TERM GOALS

1-Improve overall attendance; 2-Sustain programs initiated in 2015 and add at least one additional program each year; 3-Summer programming. (Note: summer programming was piloted in 2016. Due to the short summer and the competition from a wide selection of summer activities for children in Dothan, Bright Key will indefinitely postpone attempting future summer activities.)



VISION

Preparing all of our children and families, with a dedication to excellence, by getting them college, career, and life ready.

SHORT TERM GOALS

1-Increase parental involvement; ✓ 2-Start at least 2 programs in Fall of 2015 ✓

LONG TERM GOALS

1-Sustain programs and add one new program per school year; 2-Implement summer programming by 2016. (Note: summer programming was piloted at Highlands Elementary School in 2016. Due to the short summer and the competition from a wide selection of summer activities for children in Dothan, Bright Key will indefinitely postpone attempting future summer activities.)

It is important to note that activities provided at each school differ according to the plan designed for that school. To facilitate feedback from stakeholders during the implementation of the program, two surveys were conducted to gauge progress, one in March and another in April. Parent involvement and stakeholder participation are critical components.

Chart 1: Parent Involvement, March Survey

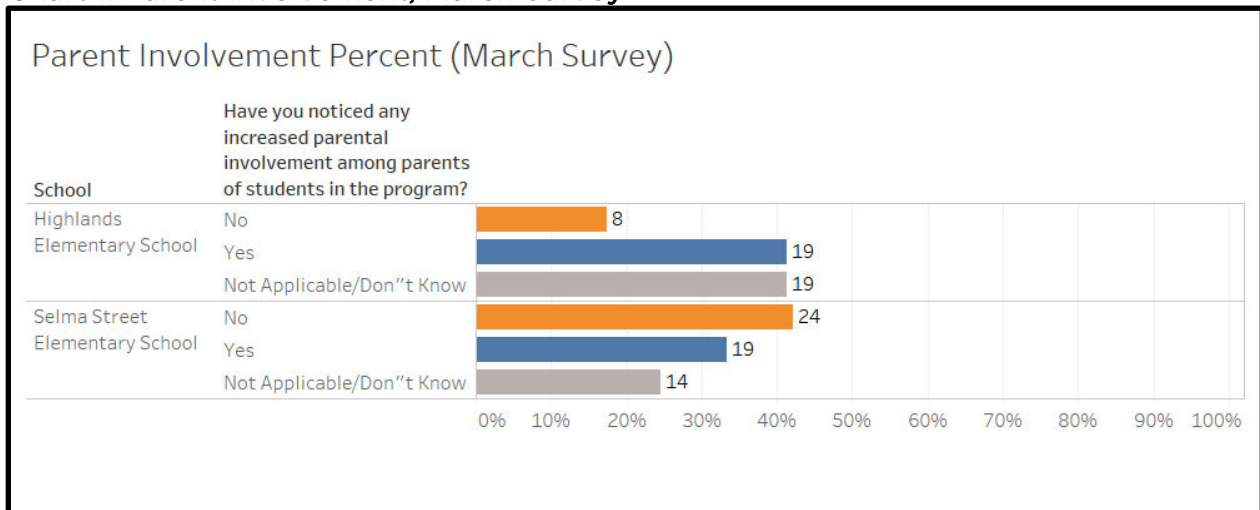


Chart 2: Stakeholder Understanding of Goals, April Survey

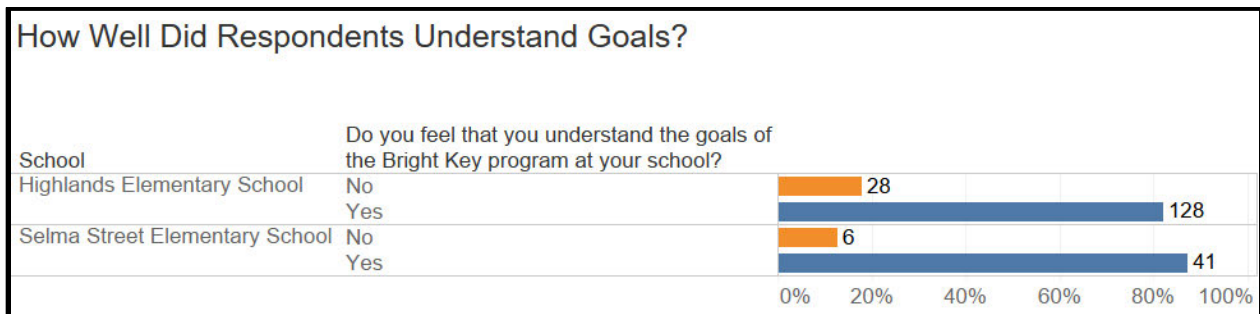
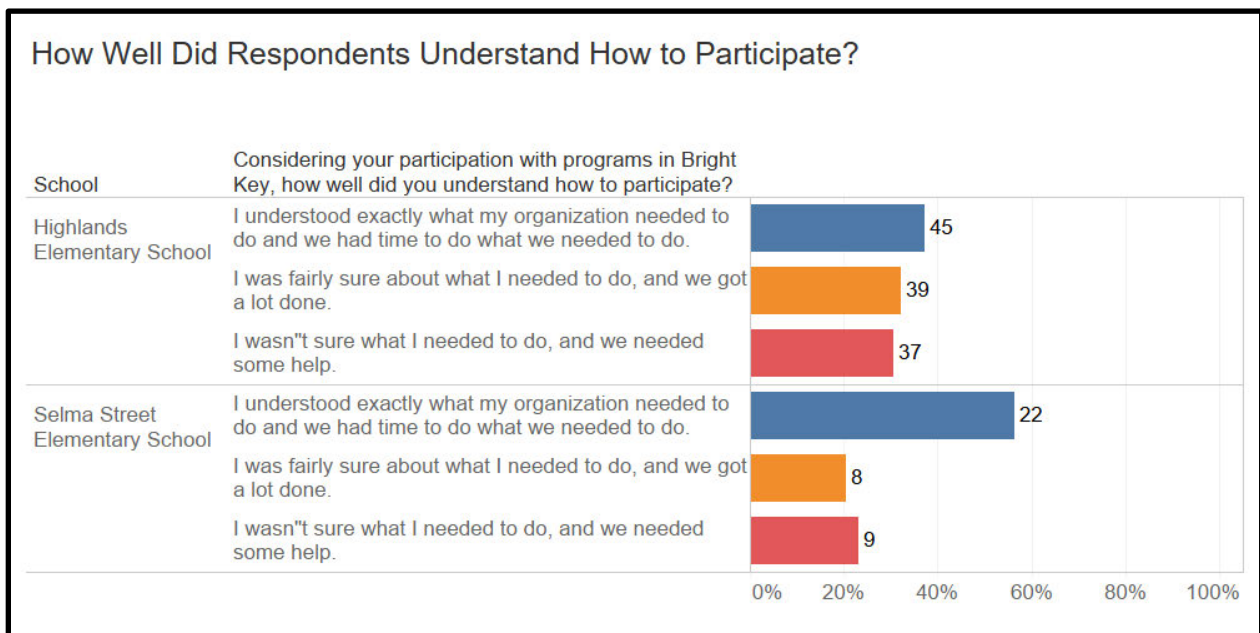


Chart 3: Stakeholder Understanding about How to Participate, April Survey



Along with improvements in stakeholder understanding about how the program works and how to participate, additional information was gathered on the activities in which they were involved at each school. The data summarized in Chart 4 shows the number of stakeholders involved in each potential area of engagement cited by survey respondents (N=176).

Chart 4: Stakeholder Participation, April Survey

Areas of Engagement: Highlands		Areas of Engagement: Selma Street	
In which specific Bright Key program at Highland Elementary have you participated?		In which specific Bright Key programs at Selma Street Elementary have you participated?	
Music;Art;Language;Culture - Chinese	45	Academic Dreamroom - Tutoring	11
Language & Culture - Chinese	33	Mentoring	11
Art;Language; Culture - Chinese	24	Career Readiness	3
Music;Language; Culture - Chinese	11	Gardening	3
Music;Art	8	Academic Dreamroom - Tutoring;Career Readiness	2
Music	6	Mentoring;Academic Dreamroom - Tutoring	2
Art	5	Live Rich - Parent Program	1
Music;Art;Academic Dream Room -Tutoring;Language & Culture - Chinese	3	Live Rich - Parent Program;Academic Dreamroom - Tutoring	1
Academic Dream Room -Tutoring	2	Mentoring;Career Readiness	1
Music;Academic Dream Room -Tutoring;Language; Culture - Chinese	1	Mentoring;Gardening	1
		Mentoring;Gardening;Live Rich - Parent Program;Academic Dreamroom - Tutoring;Career Rea..	1
		Mentoring;Live Rich - Parent Program;Academic Dreamroom - Tutoring;Career Readiness	1

Methodology

The following evaluation of the impact on student performance relies on standardized academic assessments and administrative records pertaining to student behavior. These data are described below.

- Three different comparisons between students who attended Bright Key programs and those who did not were made.
- Two of these comparisons relied on academic assessments.
- A third comparison was made based on discipline records.

Data provided by the Dothan City Schools included Scantron Assessments from the 2017-2018 school year for all schools, including those schools that provided Bright Key programs and those that did not.

Scantron assessment¹ scores were available for Math and Reading for grades 3 through 5. Differences between scaled scores were calculated. Two comparisons were made using these data. The first used the differences to compare gains in scaled scores. To ensure that those comparisons were not unduly influenced by outliers, z-scores were calculated to filter the data to include only those students with losses or gains that exceeded plus or minus two standard deviations from the mean.

Assessment data also included reference to whether students met academic gains in both math and reading. Percentages for Bright Key and other students were calculated.

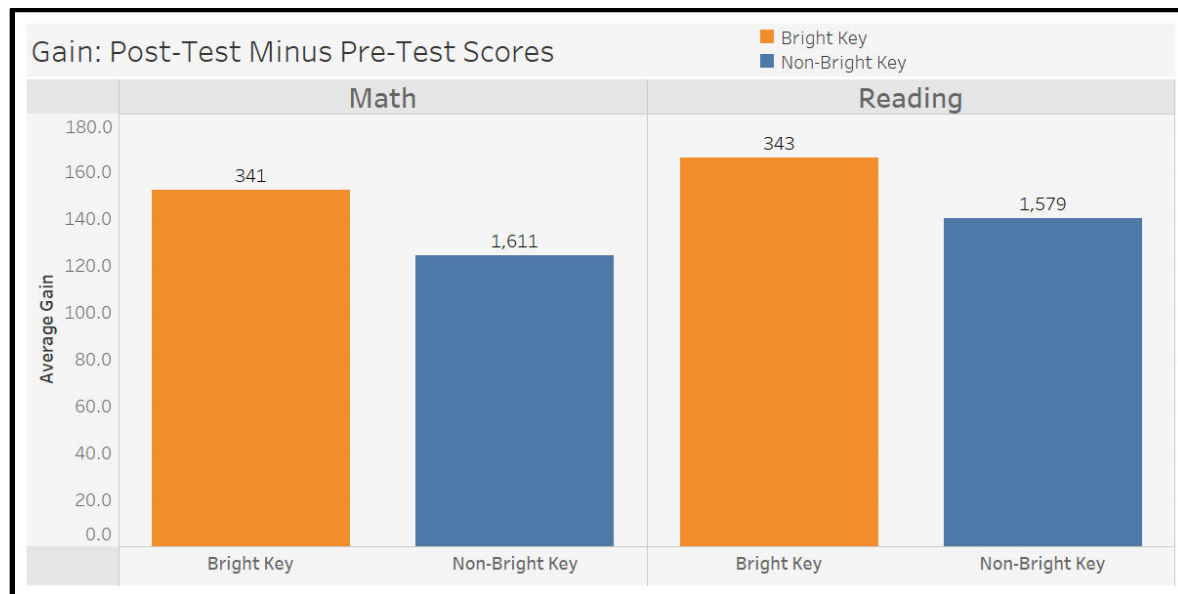
Finally, each indicator of student performance was subjected to a multivariate regression analysis to determine whether the independent impact of Bright Key participation is statistically significant, controlling for student race and economic disadvantage.

Using the conventional threshold of .05, the results were statistically significant for positive program effects.

Comparison of Student Gains

Average gains for students in math and reading are illustrated in Chart 5, which shows the additional points made after subtracting pre-test scores from the assessment taken in the fall of 2017 from post-test scores from the assessment taken in the spring of 2018. The number of students in each comparison group are listed at the top of the bars. Appendix III provides school-by-school comparisons.

Chart 5: Overall Student Gains in Math & Reading



¹ For a detailed description of the Scantron Performance Series assessment, see these files maintained by the Alabama State Department of Education, pertaining to implementation in Alabama: https://www.dropbox.com/sh/1ptzb21ekg0bvby/AACyBctnun4sqcigBbSghtYla/Performance%20Series%20Information/Student%20Score%20and%20Growth%20Information?dl=0&subfolder_nav_tracking=1

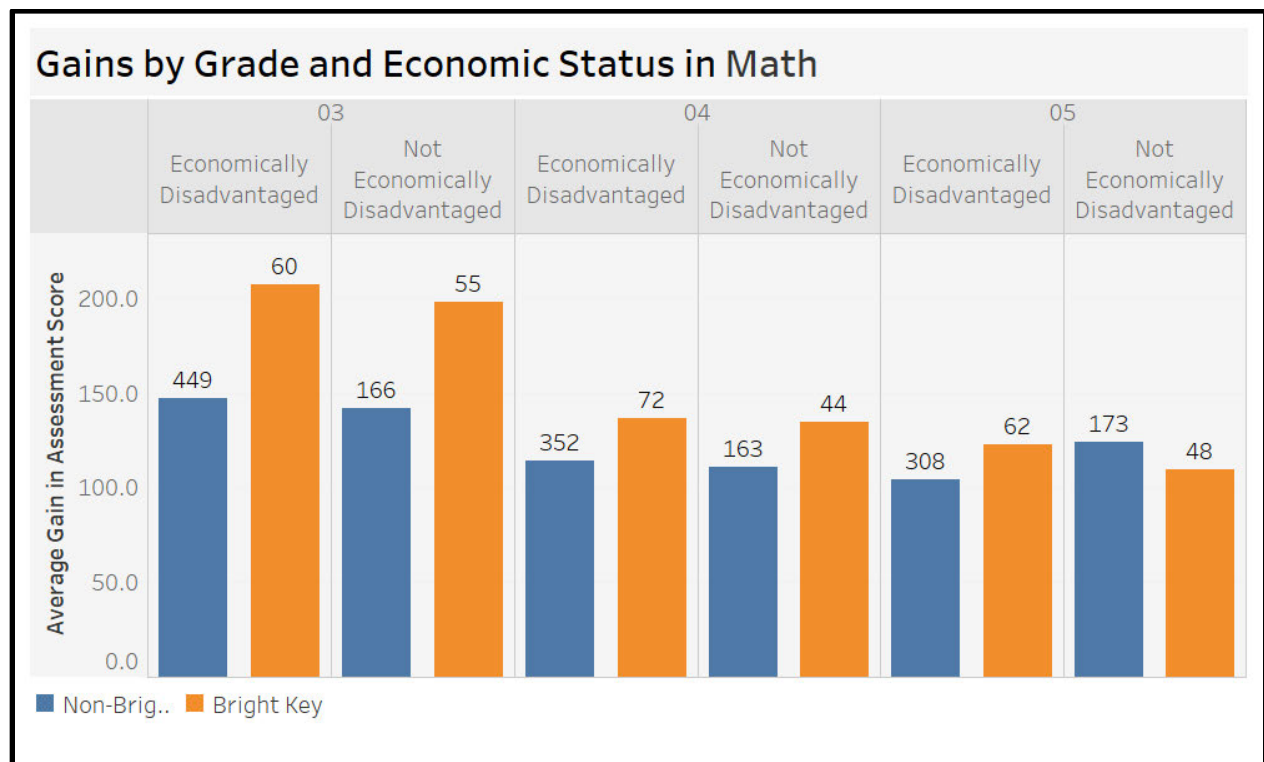
On average, the scaled score gains in math by students in Bright Key are estimated to be approximately 23 percent higher than gains by students who did not attend Bright Key programs. Differences in gains were slightly lower for Reading at approximately 19 percent, as shown in Chart 5. ²

Analysis of Gains by Subgroups

Among the most challenging obstacles to overcome in promoting academic gains are the influences of poverty and race. Students with economic disadvantages consistently generate lower scores than those who are not economically disadvantaged. Differences between white students and African-American and other ethnic categories of students are typically significant as well. To examine whether the Bright Key program is benefitting all student subgroups, comparisons were made between Bright Key participants within each subgroup.

The following charts detail the patterns of gains across grades (3-5) for students participating in the Bright Key program and those who did not, broken down by economic status and by race. School-by-school comparisons are in Appendix III.

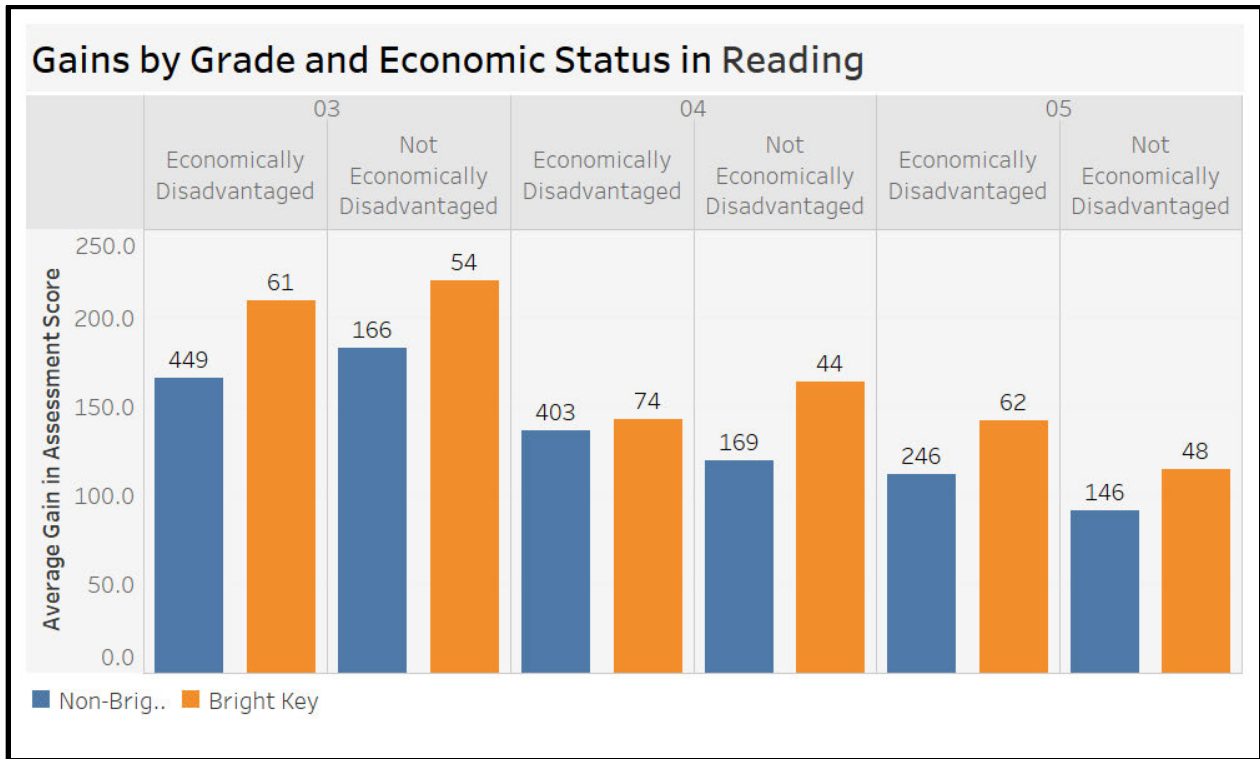
Chart 6: Gains in Math by Grade and Economic Status



Math gains are generally higher for students who participated in the Bright Key program, with the exception of students who were not economically disadvantaged in 5th grade. Chart 7 shows that in reading, higher gains for Bright Key participants were evident in both categories, in every grade. There are differences among schools, which appear in Appendix III.

² Scaled scores may not be a consistent interval, so the comparisons are rough approximations based on the reported numerical values. Unless otherwise noted, all summary statistics include all student scores.

Chart 7 Gains in Reading by Grade and Economic Status



Due to low numbers in some ethnic categories, to preserve student anonymity, gains across ethnic categories are limited to comparisons between white students and African-American students, by grade.

Math gains are displayed in Chart 8 by race, showing they are generally higher for Bright Key participants, except for white students in 5th grade. This pattern mimics the pattern in Chart 5 where Bright Key students in the 5th grade who are not economically disadvantaged also had lower gains than their non-Bright Key peers. That drop disappears in the reading gains presented in Chart 9, where the Bright Key participants have higher gains than their non-Bright Key peers in each grade and in each subgroup, except for African-American students in 4th grade whose gains were slightly lower at 136.4 compared to non-Bright Key peers at 137.6.³

³ African-American students in Bright Key had higher gains at Highland Elementary than at Selma Street Elementary.

Chart 8: Gains in Math by Grade and Racial Categories

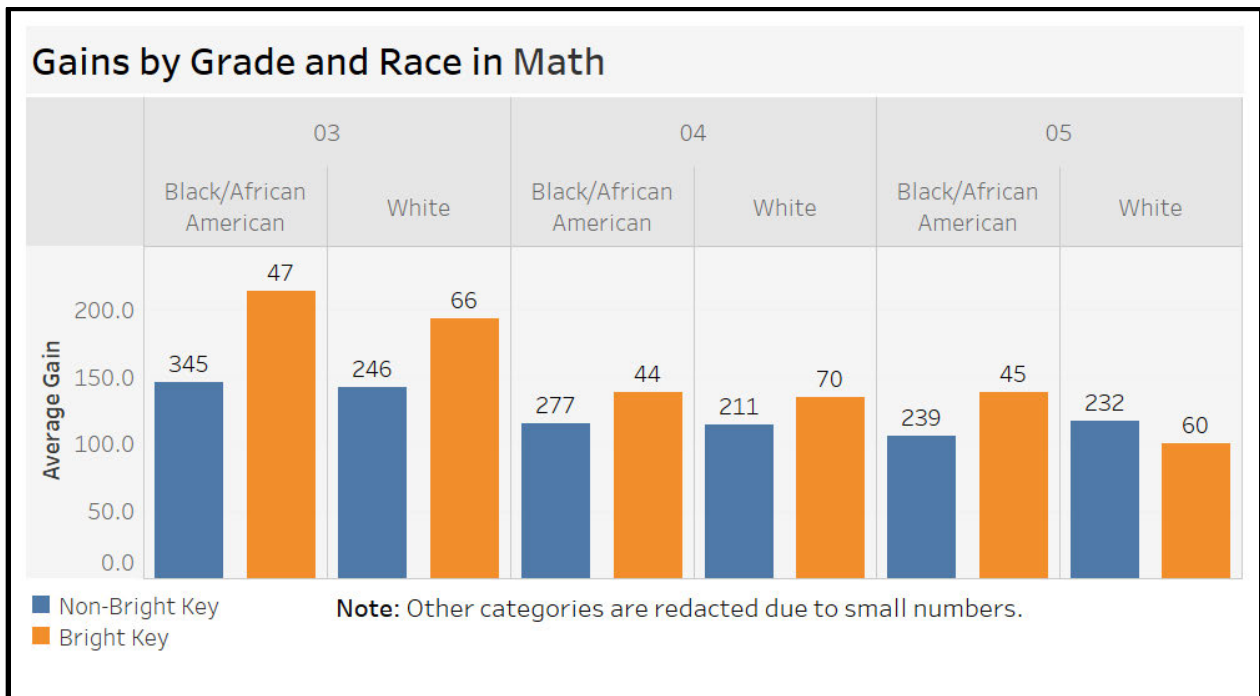
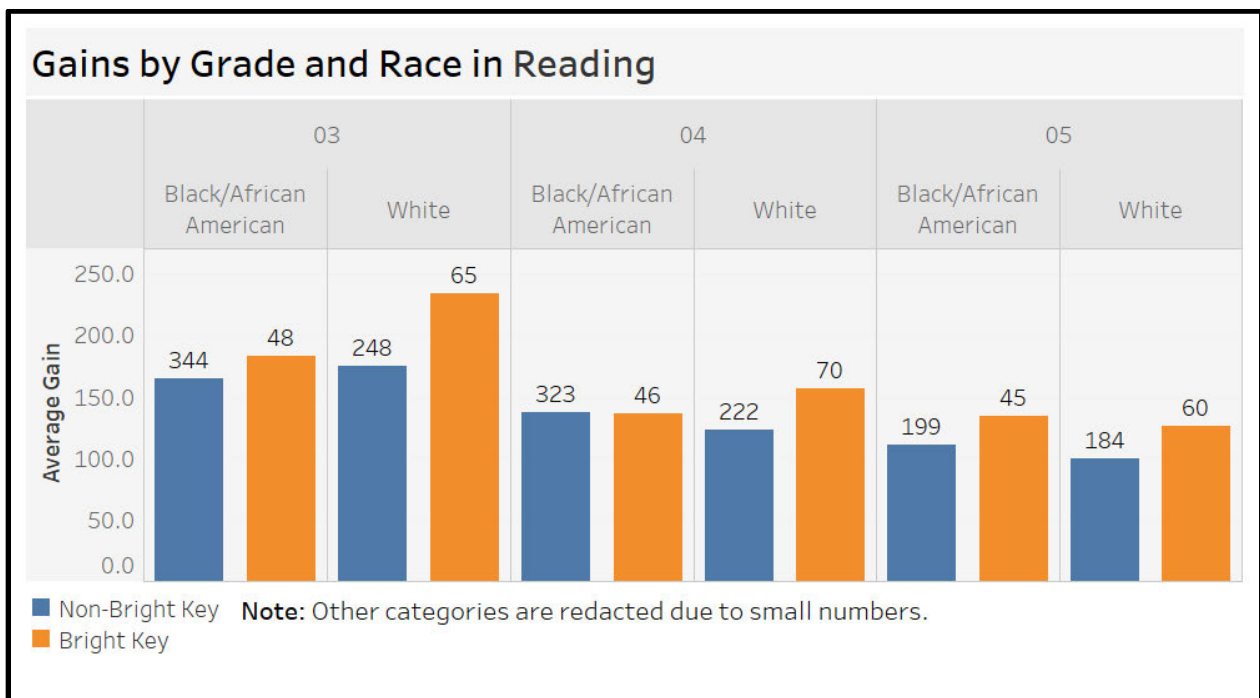


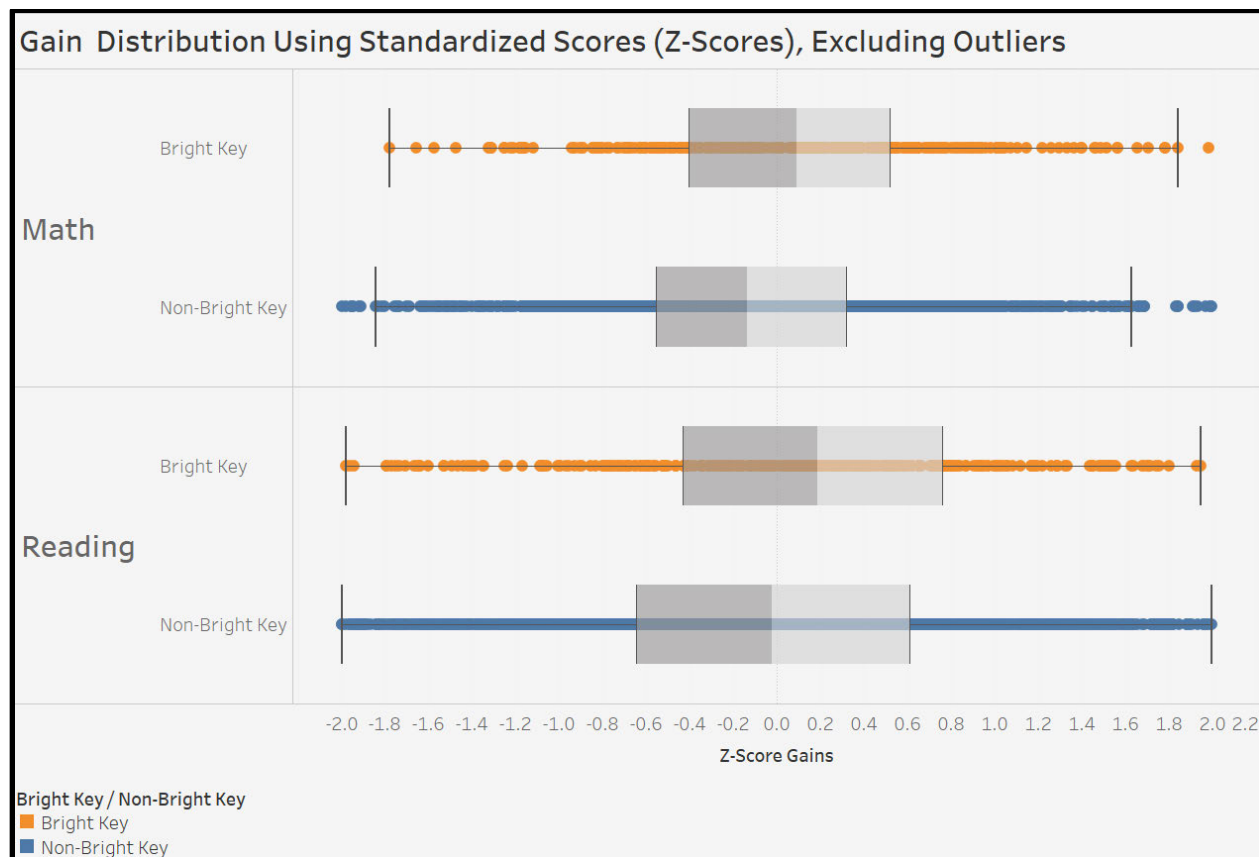
Chart 9: Gains in Reading by Grade and Racial Categories



Charts 8 and 9 are followed by Chart 10 which shows the distribution of gains by subject using standardized statistics, with the removal of outliers that might unduly influence the comparisons. The overall differences remain consistent with the

pattern using all data, suggesting that the results are fairly robust. This is further supported by regression analyses provided in Appendix I. Chart 10 shows gains, excluding outliers, after converting scaled scores into standardized z-scores.

Chart 10: Gain Distributions for Math and Reading, Excluding Outliers



Excluding outliers that exceeded more than two standard deviations of the mean, the gains are still larger among students who participated in the Bright Key program than for those who did not participate in the program. Bright Key students also met academic *targets* at higher percentages as well.

Student Academic Target Achievement

Chart 11 depicts differences between Bright Key attendees and other students on the percent meeting academic targets. Fifty-five percent of Bright Key students met academic targets in grades 3 through 5 in Math. Students who did not attend Bright Key programs had a 47 percent rate of meeting academic targets for a difference of eight percentage points. Similarly, fifty-nine percent of Bright Key students met their academic target compared to forty-seven percent of students not participating in Bright Key.

Chart 11: Percent of Students Meeting Academic Targets in Math and Reading

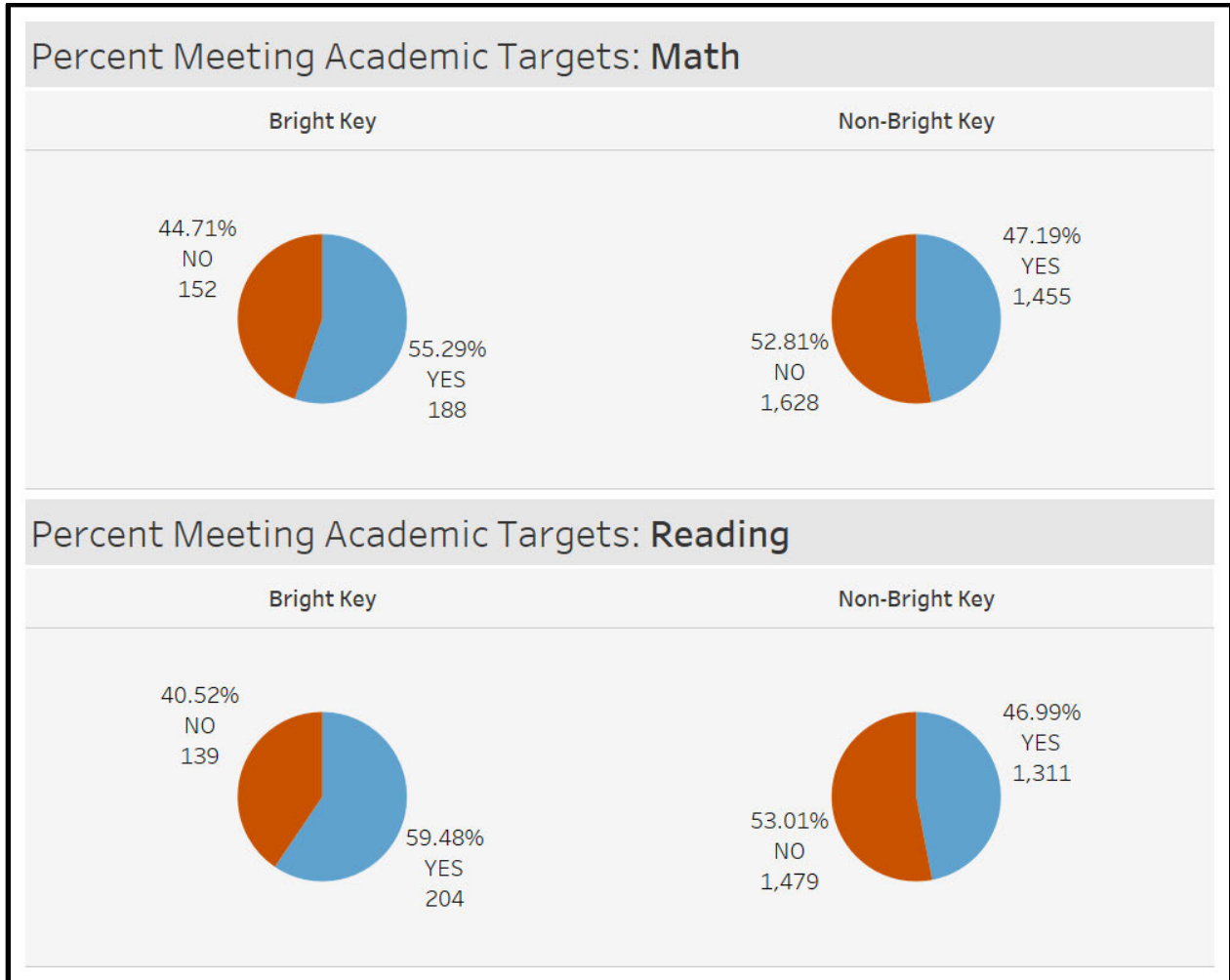


Table 1 shows that Bright Key students were more likely to meet targets than students who did not attend Bright Key programs in each grade as well.

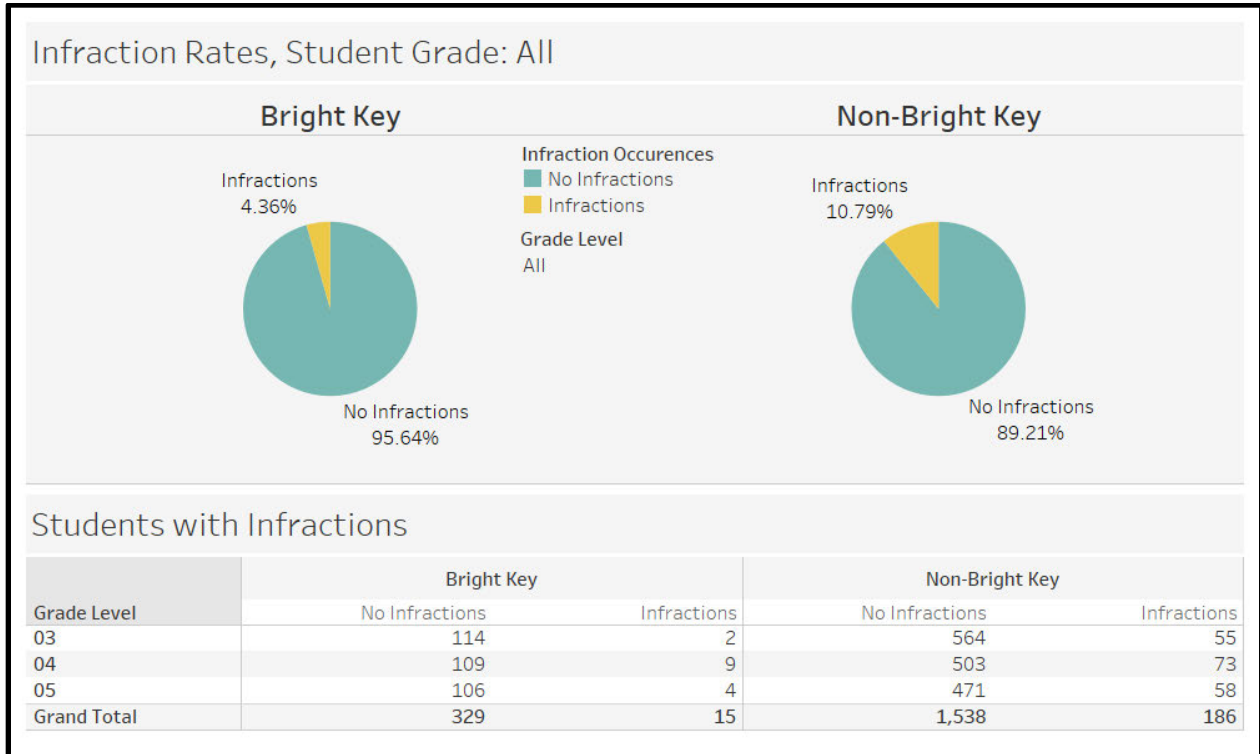
Table 1: Meeting Academic Targets by Grade

Grade Level	Math				Reading			
	Bright Key		Non-Bright Key		Bright Key		Non-Bright Key	
	YES	NO	YES	NO	YES	NO	YES	NO
03	76	38	270	342	72	43	271	344
04	56	60	197	318	68	50	273	299
05	56	54	220	260	64	46	192	199
Grand Total	188	152	687	920	204	139	736	842

Student Discipline:

Data on student behavior also indicates that students who attended Bright Key programs benefitted, with fewer infractions.

Chart 12: Infraction Rates in Grades 3-5 by Program Participation



CONCLUSION

Based on the data provided by the Dothan City Schools, there are clear patterns of improvement in academic performance on math and reading assessments for students participating in the Bright Key program.

Behavioral data likewise shows that students participating in Bright Key had lower rates of infractions than students not participating.

These findings provide evidence that Bright Key is a highly effective program providing valuable service to students in the early grades where so much is at stake. It bears repeating that the engine for this program is stakeholder involvement, feedback, and participation.

APPENDIX I

STATISTICAL ANALYSIS

Differences in average gains and differences in behavior were statistically significant at the $p < .05$ level for social science studies. Students in grades 3 to 5 attending the Bright Key® program were predominantly economically disadvantaged (57.3%) as were students who did not attend a Bright Key® program (70.5%). The percentage of students who were White also differed between the schools that had Bright Key® services and those that did not, with 16 percent more White students in the Bright Key® schools.

Table 1: Bright Key Student's Ethnicity and Economic Status

Bright Key Ethnicity						
Bright Key / Non-Bright Key	American Indian/Alaskan Native	Asian	Black/African American	Multi Race - Two or More Races	Native Hawaiian or Other Pacific Islander	White
Bright Key		1.74%	40.41%	0.87%		56.98%
Non-Bright Key	0.35%	1.74%	55.39%	1.28%	0.29%	40.95%

Bright Key Economically Disadvantaged		
Bright Key / Non-Bright Key	Econ Disadvantaged	Not Economically Disadvantaged
Bright Key	57.27%	42.73%
Non-Bright Key	70.53%	29.47%

Based on the preponderance of research on poverty and race, both factors would increase expectations that measures for academic and behavioral indicators would be better in those schools. For that reason, a multiple regression analysis of each outcome was conducted to control for the variances in the economic and ethnic factors. In each case, the models show a positive effect for Bright Key® program participation controlling for these other factors.

Multiple regression analysis of the gains in math, the gains in reading, and the number of infractions all supported the finding that the differences between students in the Bright Key® program were not due to the differences in ethnicity or economic advantages.

The coefficients for participation in the Bright Key® program are significant in each case, while controlling for the other factors as shown in Tables 2, 3, and 4 below

Table 2: Regression Analysis of Math Gains

SUMMARY OUTPUT FOR MATH GAINS								
<i>Regression Statistics</i>								
Multiple R		0.43						
R Square		0.19						
Adjusted R Square		0.18						
Standard Error		95.00						
Observations		2007						
ANOVA								
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>			
Regression	5	4105822.176	821164.4352	90.97921123	0.0000			
Residual	2001	18060719.72	9025.846938					
Total	2006	22166541.9						
	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	690.3609391	27.75153119	24.88	0.0000	635.936	744.786	635.936	744.786
Ethnicity Desc	8.948746865	2.676880996	3.34	0.0008	3.699	14.199	3.699	14.199
Economic Disadvantage	-30.37740611	5.62233169	(5.40)	0.0000	(41.404)	(19.351)	(41.404)	(19.351)
Program Desc	25.6083525	5.701289361	4.49	0.0000	14.427	36.789	14.427	36.789
Grade Level	5.791326954	2.962349252	1.95	0.0507	(0.018)	11.601	(0.018)	11.601
SS1	-0.248110142	0.013160706	(18.85)	0.0000	(0.274)	(0.222)	(0.274)	(0.222)

Table 3: Regression Analysis of Reading Gains

SUMMARY OUTPUT FOR READING GAINS								
<i>Regression Statistics</i>								
Multiple R		0.36						
R Square		0.13						
Adjusted R Square		0.13						
Standard Error		156.85						
Observations		2085						
ANOVA								
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>			
Regression	5	7753788.823	1550758	63.03663	0.0000			
Residual	2079	51145267.38	24600.9					
Total	2084	58899056.21						
	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	648.4770414	31.24639727	20.75	0.0000	587.200	709.755	587.200	709.755
Ethnicity Desc	12.6005729	4.2842744	2.94	0.0033	4.199	21.002	4.199	21.002
Economic Disadvantage	-38.01517576	9.343255657	(4.07)	0.0000	(56.338)	(19.692)	(56.338)	(19.692)
Program Desc	30.77944453	9.355722258	3.29	0.0010	12.432	49.127	12.432	49.127
Grade Level	-0.784129835	4.867816825	(0.16)	0.8720	(10.330)	8.762	(10.330)	8.762
SS1	-0.200648246	0.012912021	(15.54)	0.0000	(0.226)	(0.175)	(0.226)	(0.175)

Table 4: Regression Analysis for Behavior (Infractions)

SUMMARY OUTPUT FOR BEHAVIOR (INFRACTIONS)								
<i>Regression Statistics</i>								
Multiple R	0.29							
R Square	0.08							
Adjusted R Square	0.08							
Standard Error	1.37							
Observations	2068							
ANOVA								
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>			
Regression	5	350.238986	70.0478	37.24613	0.0000			
Residual	2062	3877.948151	1.880673					
Total	2067	4228.187137						
	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	-0.454706021	0.16156438	(2.81)	0.00493	(0.772)	(0.138)	(0.772)	(0.138)
Gender	0.429974204	0.060371125	7.12	0.00000	0.312	0.548	0.312	0.548
Ethnicity	0.236597302	0.037091283	6.38	0.00000	0.164	0.309	0.164	0.309
Economic Disadvantage	0.296497984	0.077922967	3.81	0.00015	0.144	0.449	0.144	0.449
Bright Key	-0.189277898	0.081697983	(2.32)	0.02061	(0.349)	(0.029)	(0.349)	(0.029)
Grade Level	0.07267235	0.037091608	1.96	0.05022	(0.000)	0.145	(0.000)	0.145

APPENDIX II STAKEHOLDER FEEDBACK

Chart 1: Feedback on Student Attitudes (March)

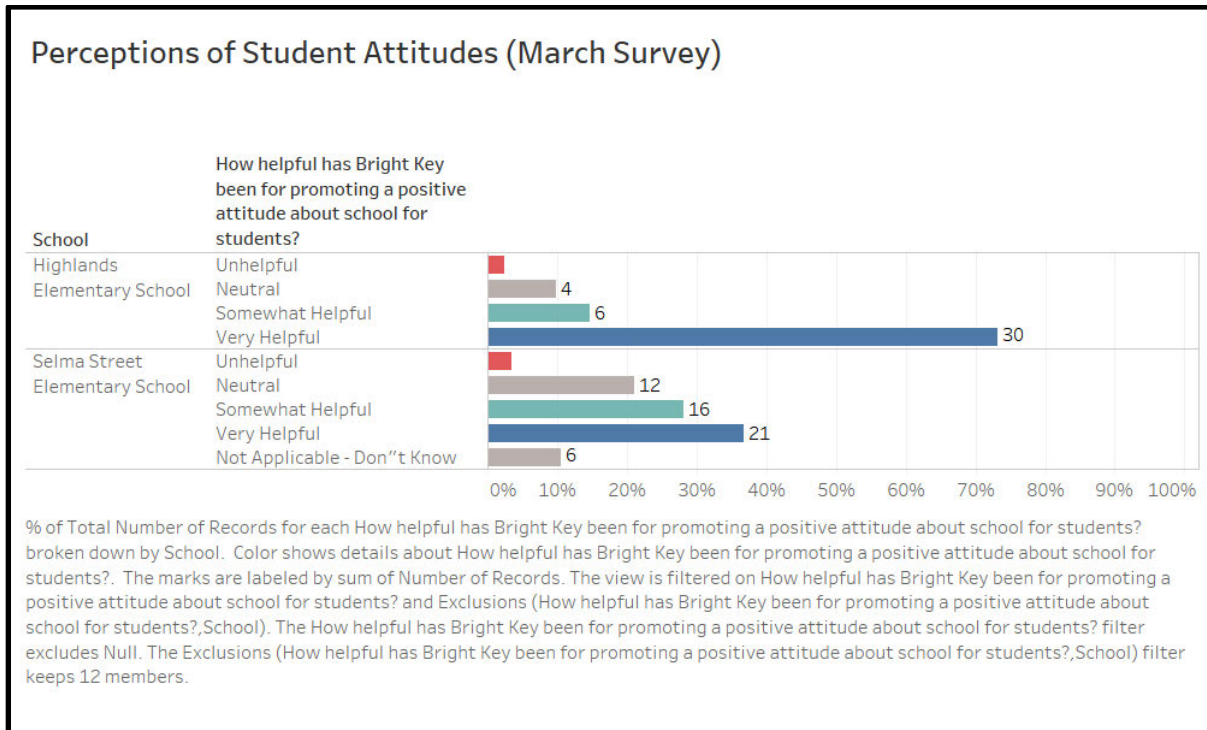


Chart 2: Feedback on Student Attitudes (April)

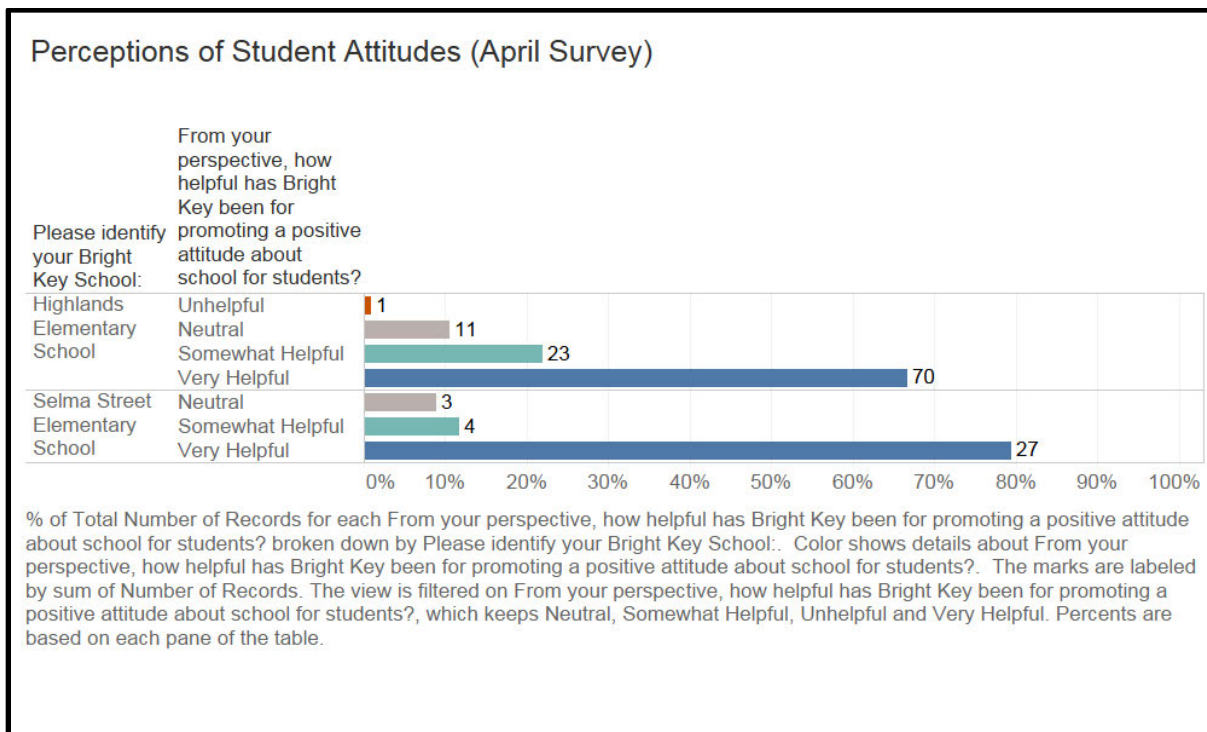
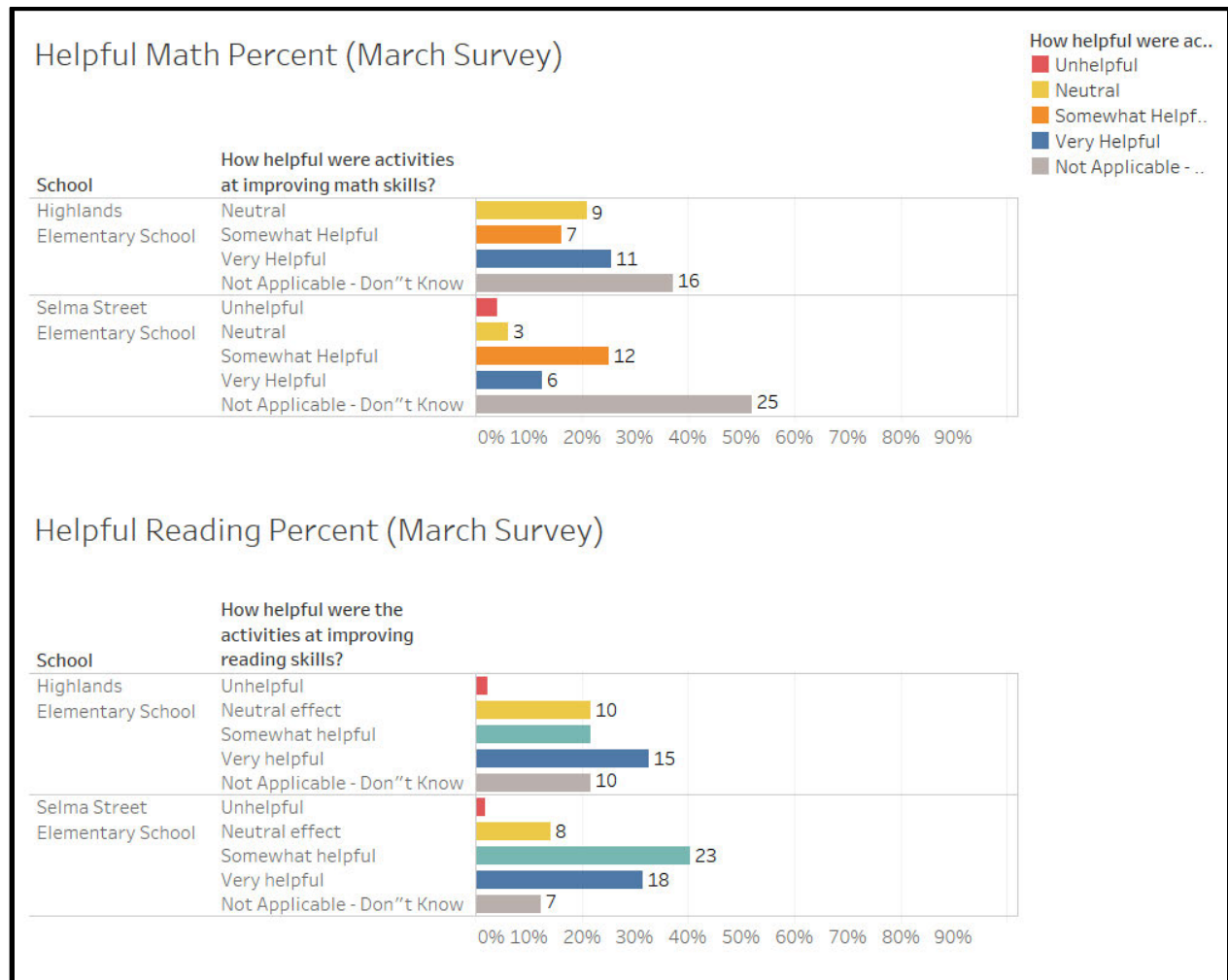


Chart 3: How helpful were activities at improving academic skills? (March 2018)



APPENDIX III

School by School Breakouts

Chart 1: Average Math Gains by School

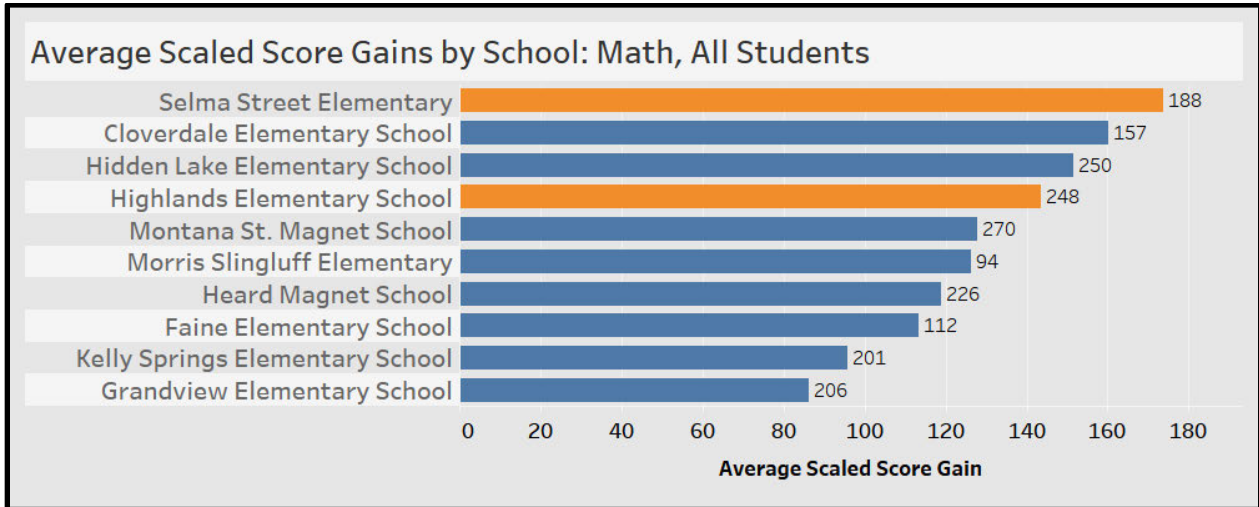
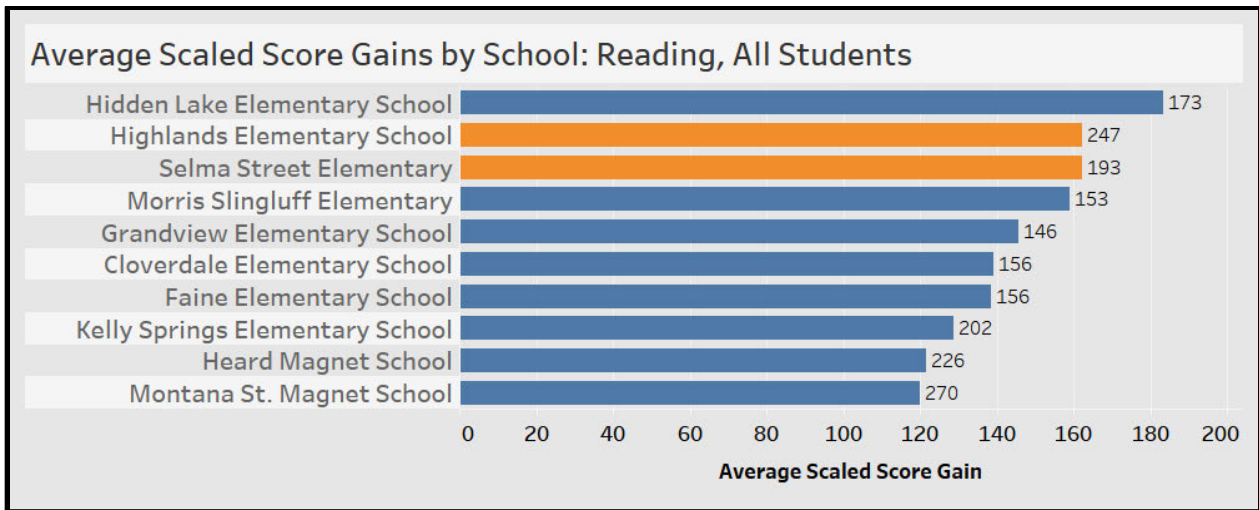


Chart 2: Average Reading Gains by School



Economically Disadvantaged Students

Chart 3: Average Math Gains by School - Economically Disadvantaged Students

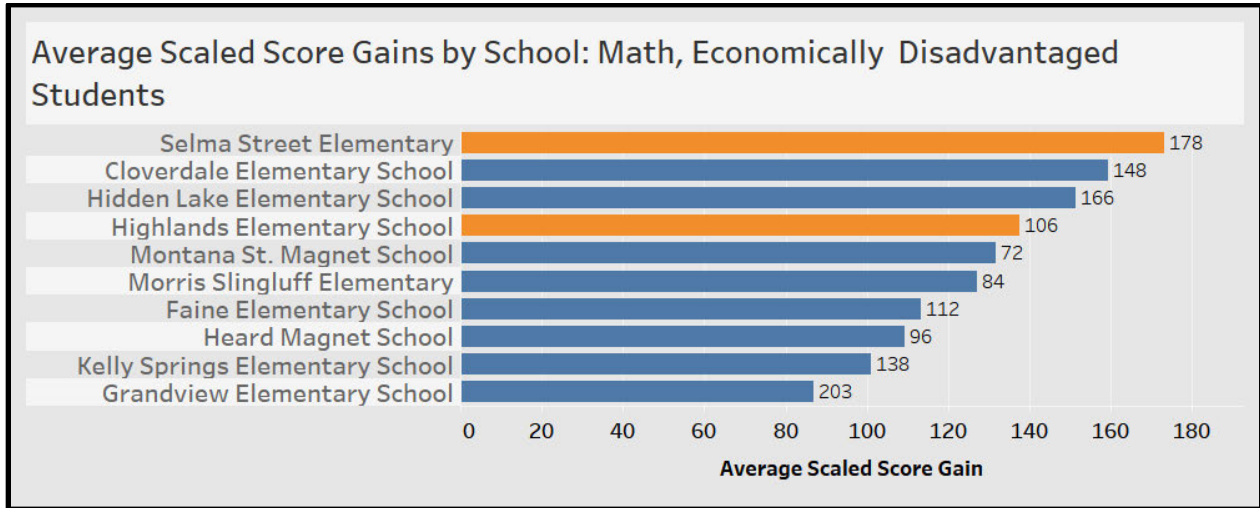
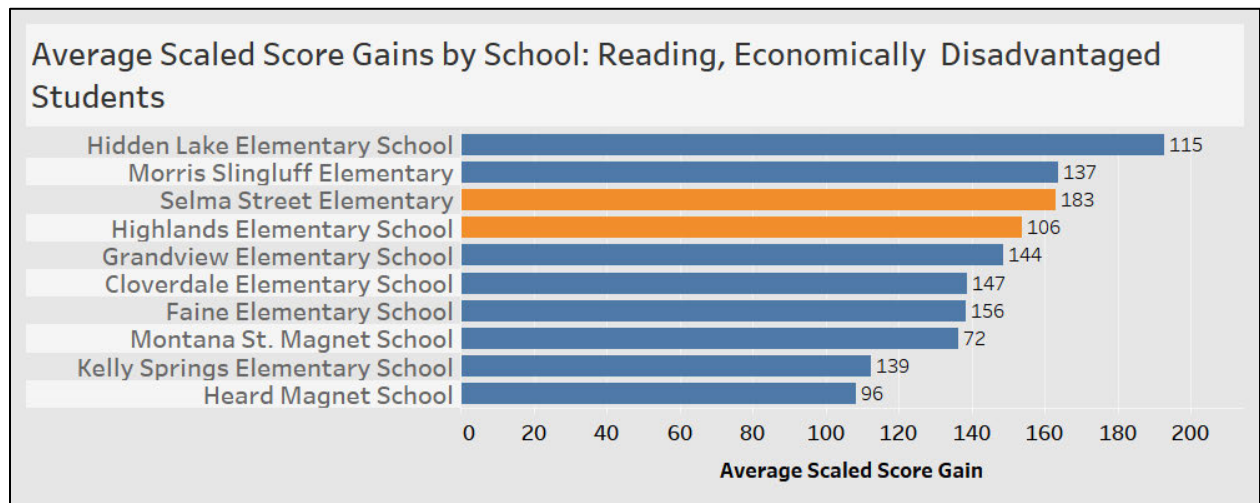


Chart 4: Average Reading Gains by School - Economically Disadvantaged Students



School Performance by Ethnicity

Chart 5: Average Math Gains by School: African American & Other

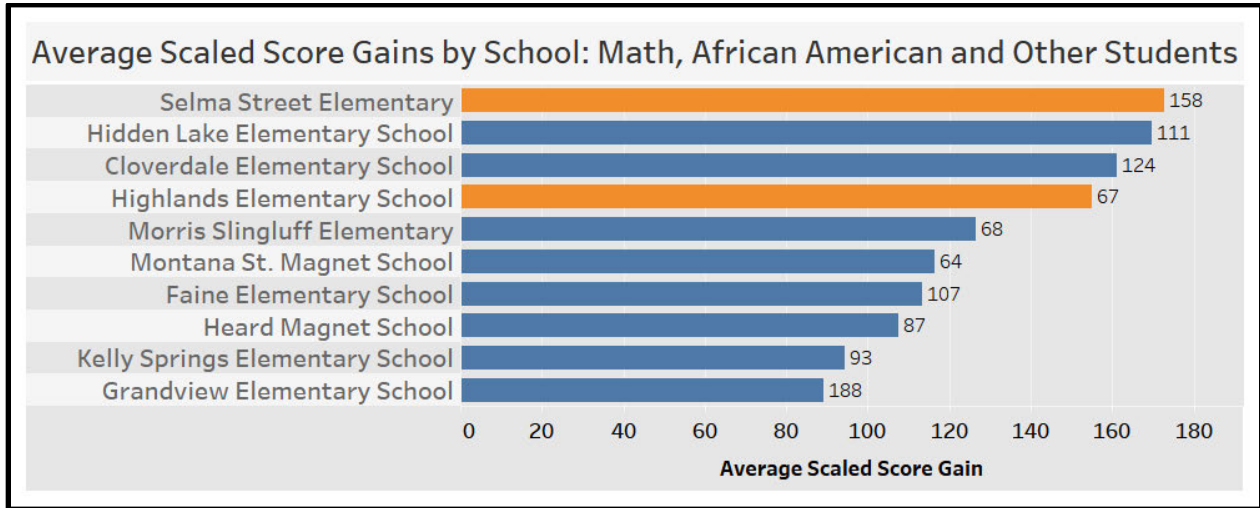


Chart 6: Average Reading Gains by School: African American & Other Students

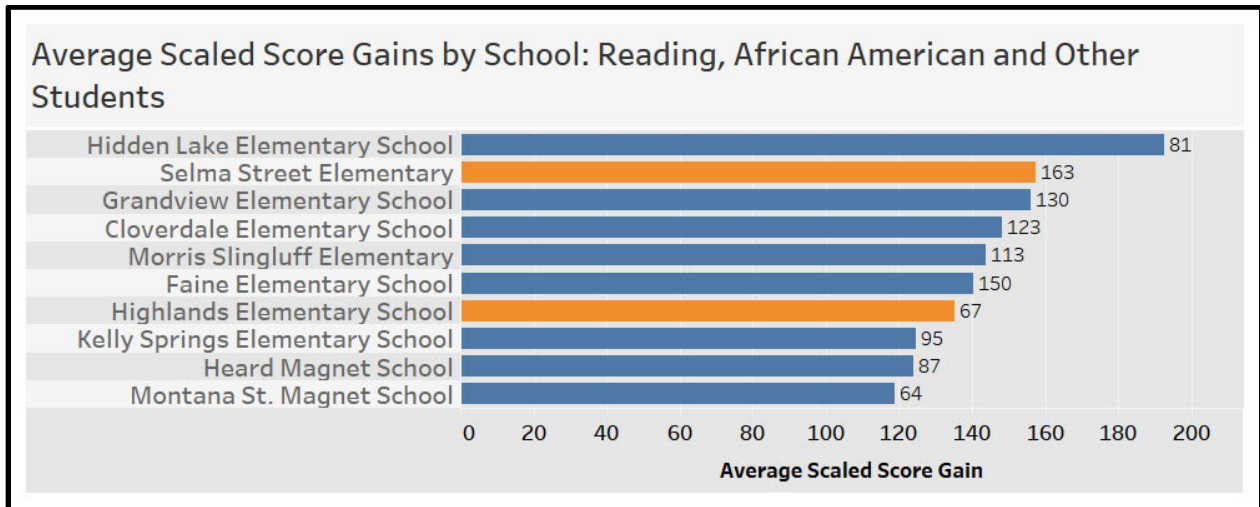


Chart 7: Average Math Gains by School - White Students

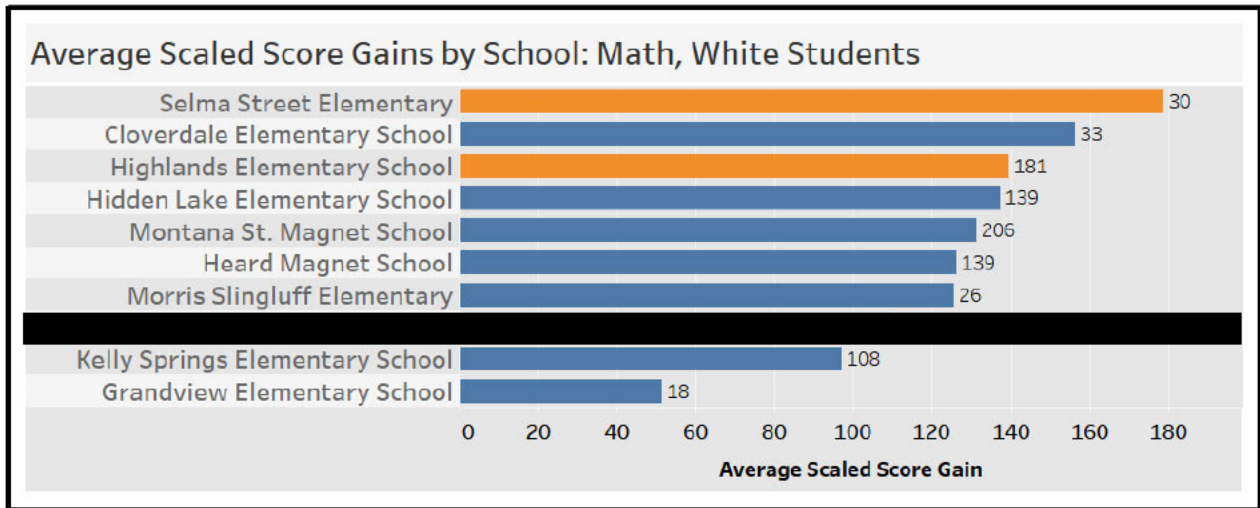


Chart 8: Average Reading Gains by School - White Students

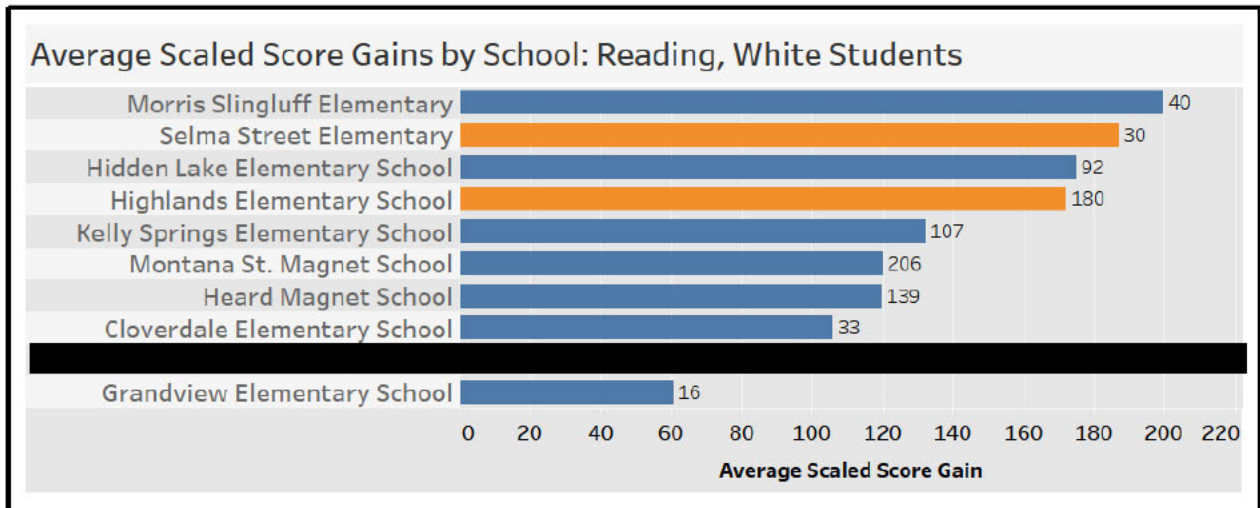


Chart 9: Average Math Gains – Scores by School, Showing Title 1 Status

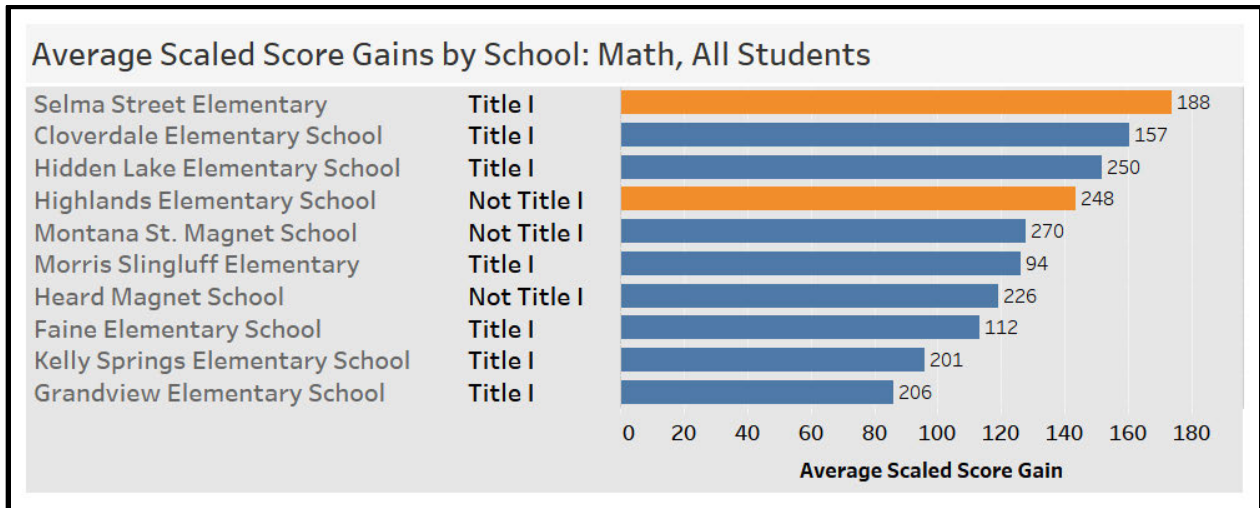


Chart 10: Average Reading Gains – Scores by School, Showing Title 1 Status

