

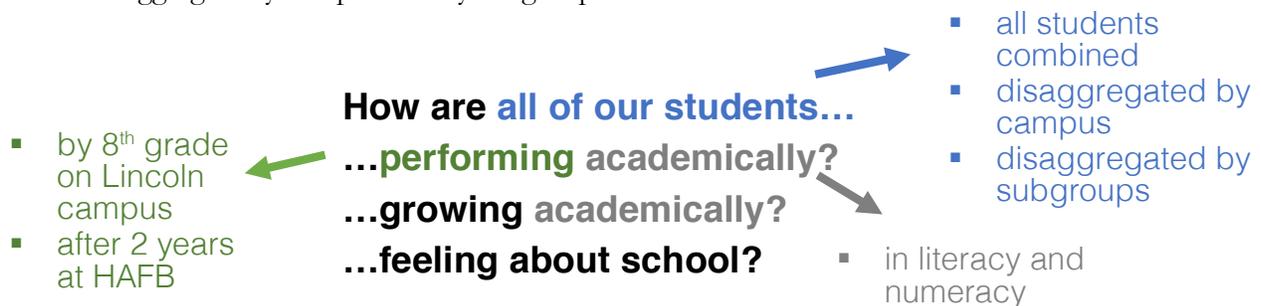
# Lincoln Public Schools

## Key Yearly Measures Report

### *November 2017*

#### Introduction

As a district, we seek to answer the following questions through the use of qualitative and quantitative measures: “How are all of our students a) performing academically; b) growing academically; and c) feeling about school?” We particularly care about our students’ performance and growth in literacy and numeracy and believe it is important to not only examine data of all students across measures but also to disaggregate by campus and by subgroups.



Educators rarely lack data. Instead, as a field, we struggle more when we are inundated with data to the point of not being able to identify salient parts that could guide us, or when we lack the type of data that speaks fully to our guiding questions. We have found ourselves in both of these situations at times.

In July, we chose to discontinue using the STAR Math Assessment because it was not serving our needs. Although STAR Math provided a longitudinal measurement of overall math progress, it did not provide diagnostic information for teachers. The tool produced a score but did not reveal specific details as to students’ strengths and weaknesses. We felt it was better to step back and clarify our assessment needs rather than require teachers and students to continue using an assessment in which we did not have confidence. In addition, we are not including data on the district writing assessment or from math interviews. These assessments are valuable tools for individual teachers to use in understanding their students. However, reporting data across district-wide cohorts did not prove to be as meaningful. We are committed to constructing a suite of varied, holistic, meaningful measures that simultaneously inform teachers’ practice as well as allow the district to measure progress toward our goals over the coming years. We believe this revised report is one step in that larger process.

In an attempt to focus our conversations, we have opted to present a more limited amount of data than in previous years. This report focuses on three measures including MCAS for ELA and math grades 3-8, Fountas and Pinnell Benchmark Assessment System for grades 1-5, and the School Climate Survey for grades 5 and 8. We aim to clarify not only the measures we value but also the key yearly indicators within those measures.

# MCAS (Massachusetts Comprehensive Assessment System)

Last spring was the first year of the new, next-generation MCAS. The scoring categories are also new, and a new standard-setting process was used for each category. We began shifting to an online testing platform, which was new for our students, and this could also impact students' scores. Because the test itself (including its online mode), the scoring categories, and the scoring standards are all new, we cannot compare last year's results to this year's. In addition, since each district has approached phasing in computer-based testing differently, comparing results between districts this year does not provide a complete or accurate understanding of the results and their context. Moving forward, we expect to be able to analyze longitudinal data. (More information about the new next-generation MCAS can be found on our website at <https://www.lincnet.org/mcasupdate>.)

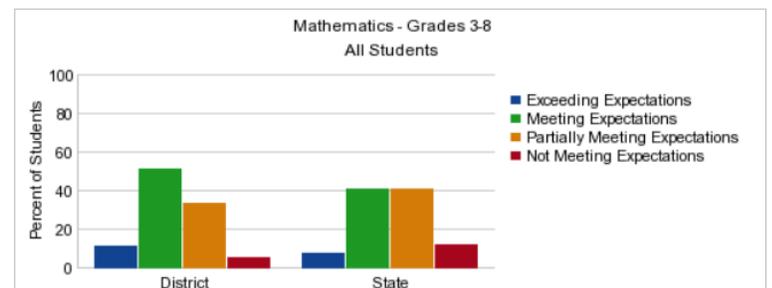
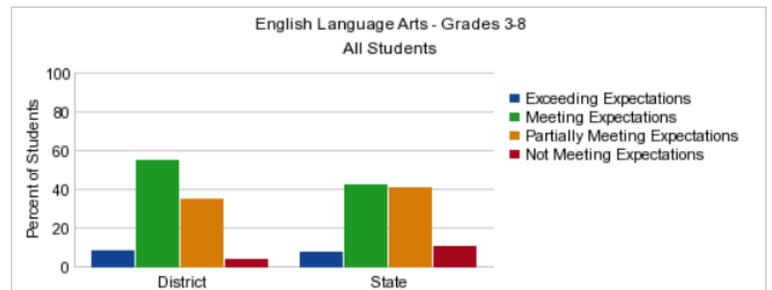
## Overall achievement in grades 3-8 across the district

One basic indicator for student achievement on MCAS is the percent of students across the district in grades 3-8 who meet or exceed expectations. In the spring of 2017, 62% of our students in both ELA and math met or exceeded expectations on MCAS as compared to 49% in ELA and 48% in math statewide. Of the students who did not meet or exceed expectations, nearly all partially met expectations and only a small fraction did not meet expectations in ELA and math.

**62% ELA 62% MATH**  
**Meeting or Exceeding Expectations**  
**LINCOLN DISTRICT Grades 3-8**

**49% ELA 48% MATH**  
**Meeting or Exceeding Expectations**  
**STATE-WIDE Grades 3-8**

	ELA		Math	
	% LPS	% State	% LPS	% State
Exceeding Expectations	8	7	11	8
Meeting Expectations	54	42	51	40
Partially Meeting Expectations	35	41	33	41
Not Meeting Expectations	3	10	5	12



## District-wide achievement in 8<sup>th</sup> grade

The percentage of students meeting or exceeding expectations in 8<sup>th</sup> grade is a measure of students' academic progress before they move on to Lincoln-Sudbury, Bedford, or another high school program. In 2017, 68% of 8<sup>th</sup> grade students met or exceeded expectations on the next-generation state MCAS assessment. State-wide, 48% of 8<sup>th</sup> grade students met or exceeded expectations in both ELA and Math.

**68% ELA**  
**68% MATH**  
**Meeting or Exceeding Expectations, Grade 8**

## Overall growth in grades 4-8 across the district

Student Growth Percentiles (SGP) are a measure of how students perform on MCAS relative to other students state-wide who performed similarly in prior years. Students are grouped by performance on prior years of the legacy MCAS. Students are then given a percentile rank within that group based on their performance on the latest MCAS assessment. Students in grade 3 do not have a SGP because they have not previously taken an MCAS assessment in order to compare growth across years. The state has defined SGPs of 40-60 to indicate Moderate Growth, SGPs below 40 to be Very Low or Low Growth, and SGPs above 60 to be High or Very High Growth. The median SGP in the state is always 50. This past year, across all grades, the median SGP in the district was 54 in ELA and 60 in Math.

**54 ELA**  
**60 MATH**  
**Median SGP, Grades 4-8**

While performance levels are not directly comparable between next-generation and prior legacy MCAS (due to changes in standards, testing format, and performance levels), growth percentiles are more comparable across the two versions of MCAS. In Math, LPS students had a median SGP of 60, exceeding the SGP from the prior three years of the legacy version of MCAS, and falling into the High Growth category. The median SGP in ELA falls within the Moderate Growth category at 54, consistent with prior years.

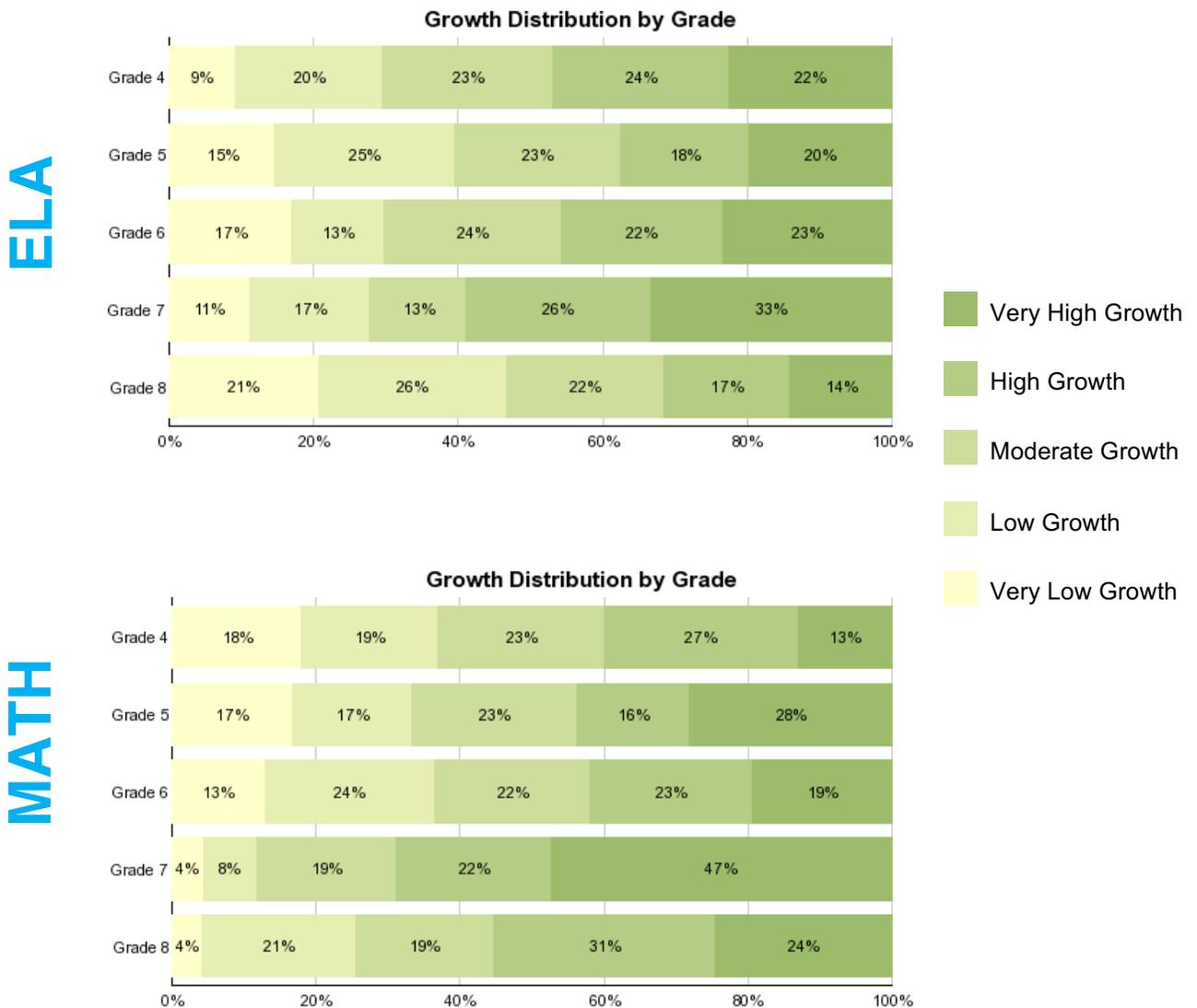
Year	ELA SGP	Math SGP
2017*	54	60
2016	62	52
2015	55	47
2014	58	49.5

\*Next-Generation MCAS

## Growth across grades in the district

When examining the distribution of growth percentiles by grade, we note that in ELA students in grades 5 and 8 showed typical growth distribution as compared to students state-wide. Grade 7 shows particularly strong growth, with 59% of students demonstrating high or very high growth.

In math, in all grades, the district either met or exceeded the state in the percent of students demonstrating high or very high growth. Significant growth can be seen in 7<sup>th</sup> and 8<sup>th</sup> grade math, where 69% and 55% of students, respectively, showed high or very high growth and only 4% of students showed very low growth.



## Achievement and growth as compared to other districts

Comparing districts is especially challenging this year. Districts phased in computer-based testing at different rates and there is no way to easily note which ones had a small number, majority, or all of their students test on computers last year. Additionally, in prior years some districts opted to assess their students with PARCC (Partnership for Assessment of Readiness for College and Careers—of which aspects of next-generation MCAS are modeled after) and so their students may have been more prepared for some types of items or test components.

Lastly, while the districts that we included in this report are ones we consider to be our peers, it is important to note that Lincoln is unique among this group. Over half of our students reside on Hanscom Air Force Base. These students frequently arrive throughout the school year, come to us from disparate backgrounds, and rarely stay with us for longer than a few years. In fact, in 2016, Lincoln had the 8<sup>th</sup> highest churn rate<sup>1</sup> amongst traditional public districts, following cities such as Springfield and Boston. Relatedly, our student population had the third lowest stability rate<sup>2</sup> out of traditional public districts, behind Savoy and Holyoke. Serving our students at Hanscom is something our district is proud, committed, and honored to do. We are developing better ways to track the growth of our students so that we can monitor their success in ways that feel appropriate and helpful.

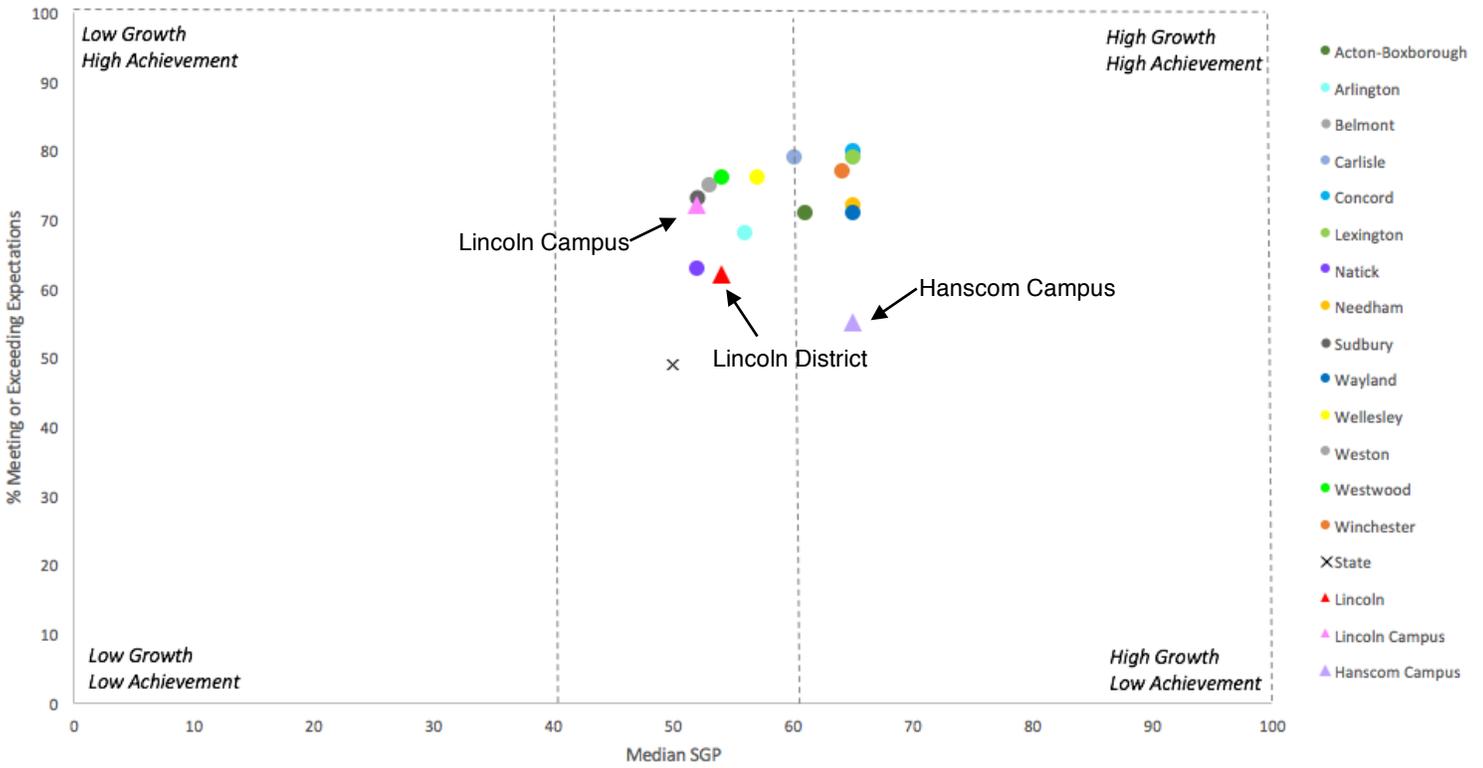
On the following page are two charts that show the median SGP and the percent of students who met or exceeded expectations for fourteen fellow districts. The state is marked by an “x.” The three triangles show Lincoln as an overall district as well as the Lincoln campus and the Hanscom campus. In regards to ELA performance, Hanscom campus is a leading site for growth with a median SGP of 65 alongside Concord, Lexington, Needham, and Wayland. In regards to math performance, Lincoln campus’s growth and achievement was on-par with peer-districts, showing more growth than six of our peer-districts and higher achievement than five others.

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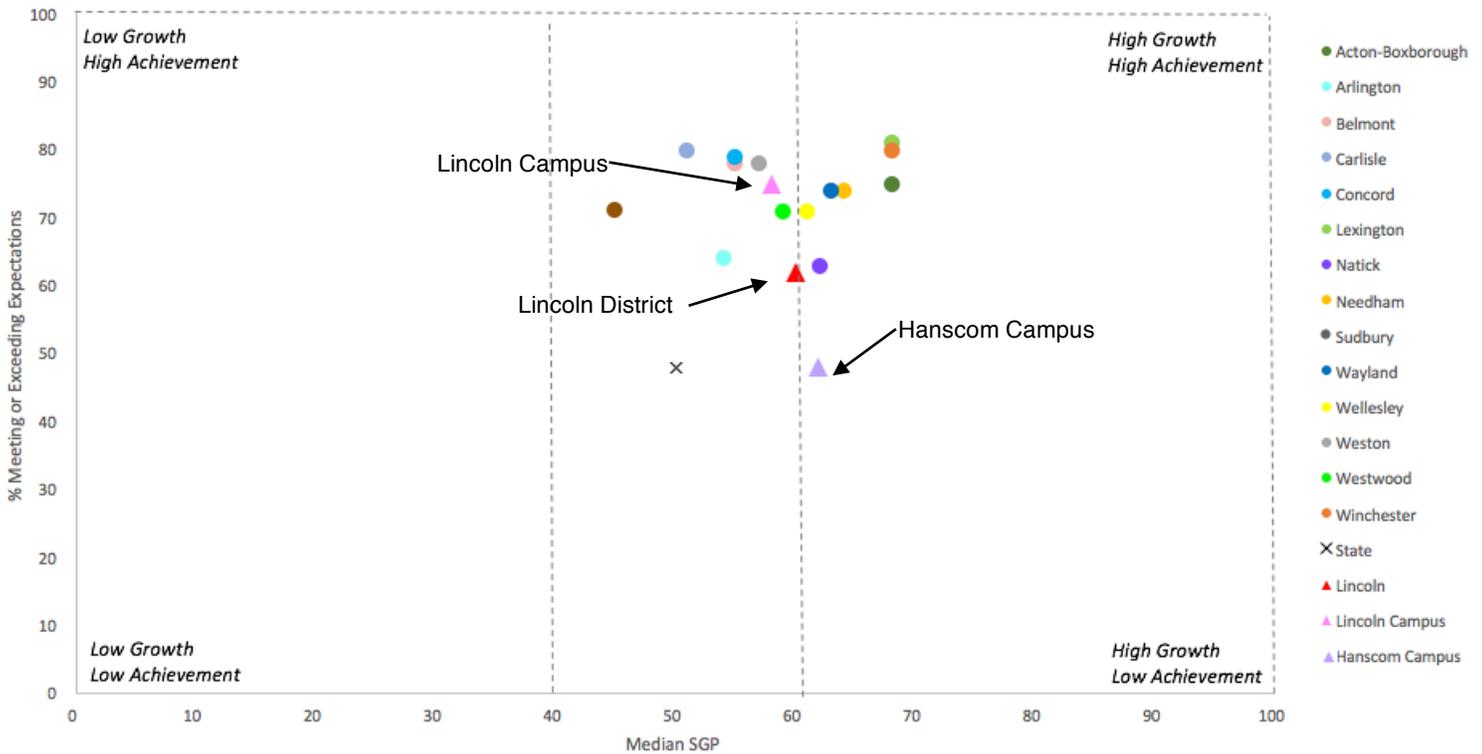
<sup>1</sup> Churn rate measures the number of students transferring into or out of a public school or district throughout the course of a school year.

<sup>2</sup> Stability rate measures how many students attending school on October 1 remain in the school for the entirety of the school year.

### Achievement and Growth in ELA Grades 3-8



### Achievement and Growth in Math Grades 3-8



## LINCOLN – Achievement and Growth by Campus

**72% ELA 75% MATH**  
**Meeting or Exceeding Expectations**  
**Grades 3-8**

**76% ELA 81% MATH**  
**Meeting or Exceeding Expectations**  
**Grade 8**

On the Lincoln campus, nearly three-quarters of students in grades 3-8 met or exceeded expectations, with slightly higher numbers in the 8<sup>th</sup> grade.

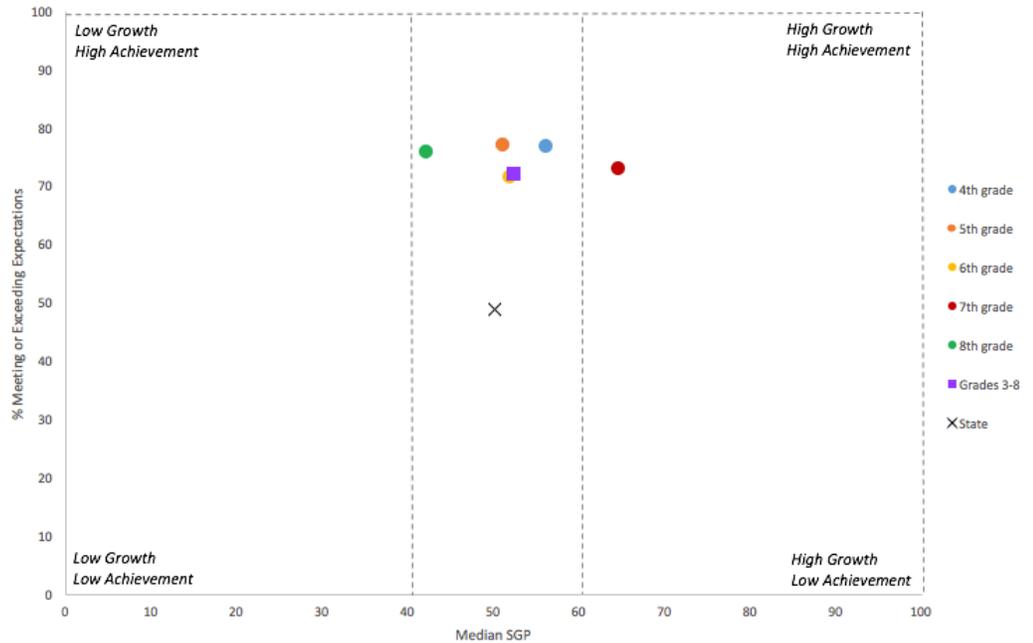
The median SGP for ELA was 52, slightly above the state, while the median SGP for math was 58. One can see a range of growth across grade levels once disaggregated. Of note are the 7<sup>th</sup> graders who achieved high growth in both ELA and in math, with particularly high growth in math. It is important to note that when we examine groups of students within a grade-level at a particular campus, the number of students included in the data is smaller, so it can be more variable year to year.

**52 ELA**

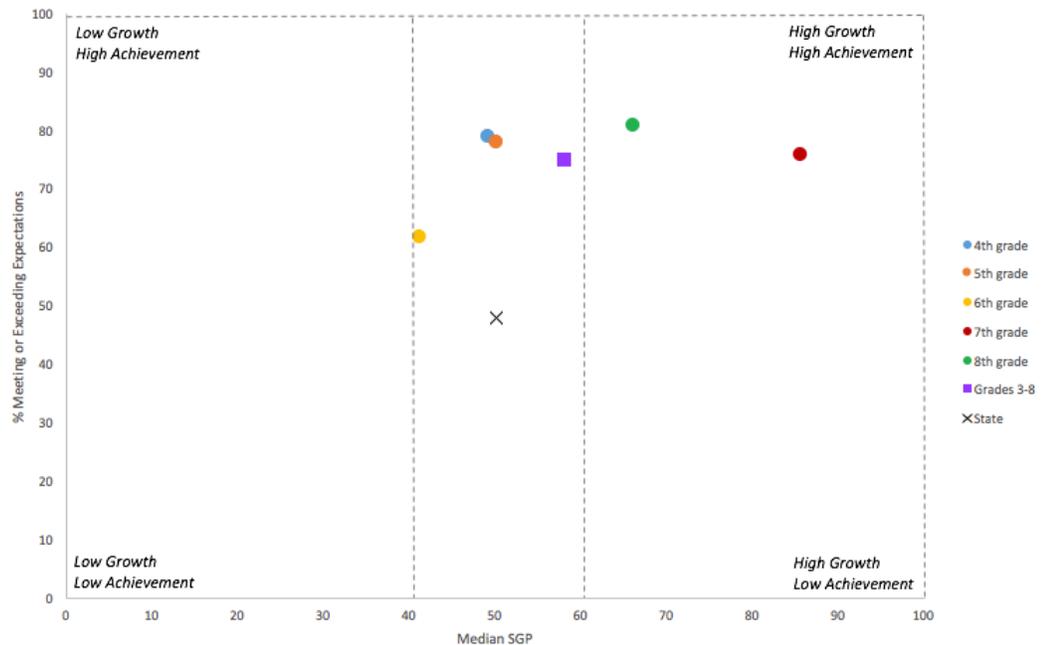
**58 MATH**

**Median SGP**  
**Lincoln Campus**  
**Grades 4-8**

Lincoln Campus Growth and Achievement ELA Grades 3-8



Lincoln Campus Growth and Achievement Math Grades 3-8



# HANSCOM – Achievement and Growth by Campus

**52% ELA 50% MATH** Meeting or Exceeding Expectations Grades 3-8

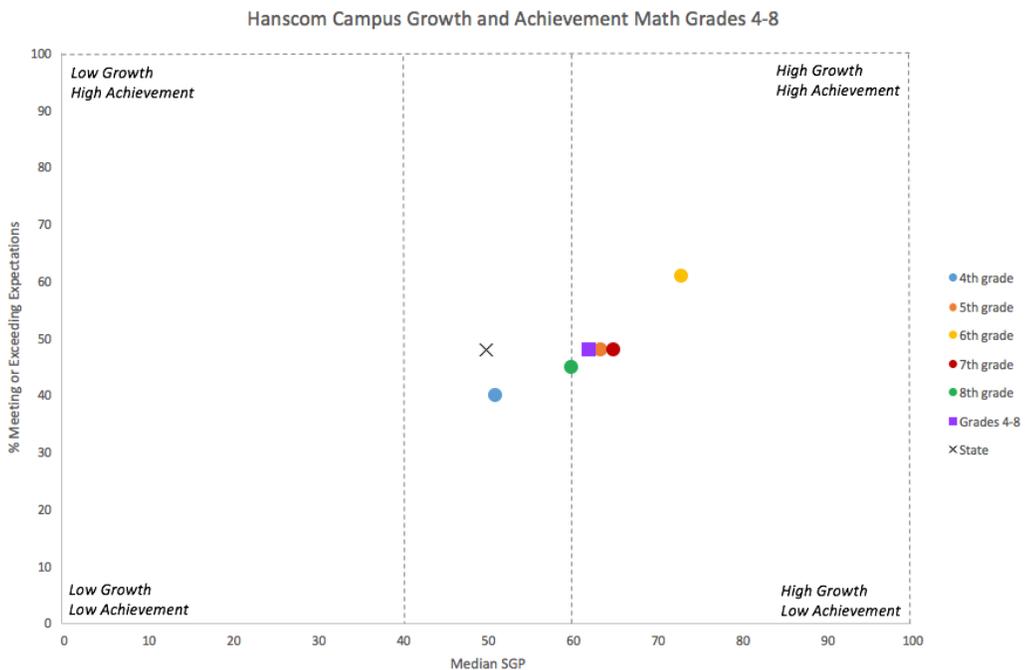
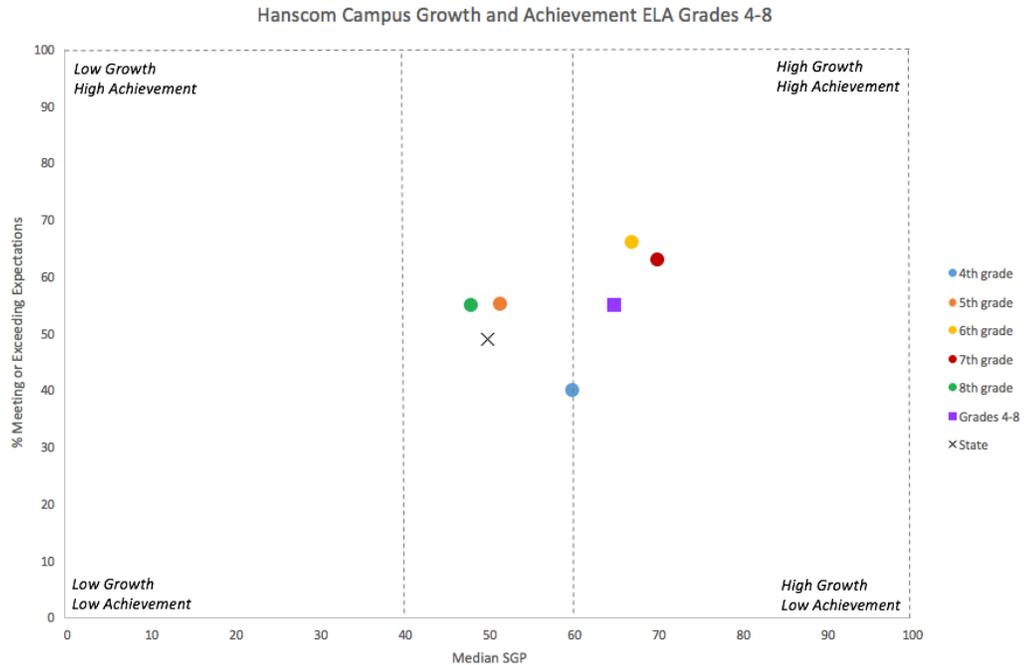
**55% ELA 45% MATH** Meeting or Exceeding Expectations Grade 8

On the Hanscom campus, while overall achievement levels for grades 3-8 are mostly at or slightly above the state, it is important to highlight that the majority of grades were considered High Growth. The median SGP for ELA was 65, and the median SGP in math was 62 across all grade levels. It is important to note that when we examine groups of students within a grade-level at a particular campus, the number of students included in the data is smaller, so it can be more variable across years.

**65 ELA**

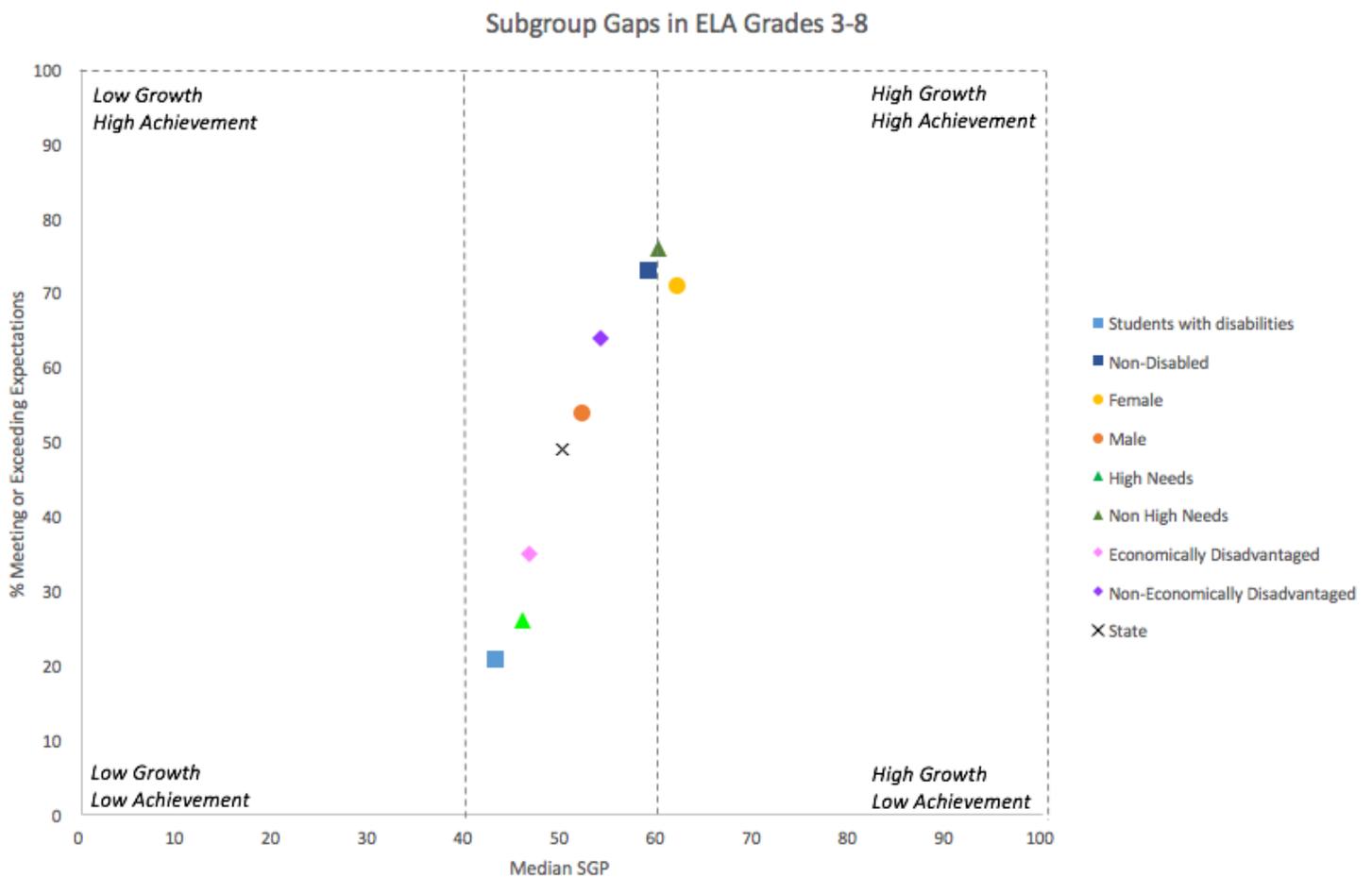
**62 MATH**

**Median SGP  
Hanscom Campus  
Grades 4-8**



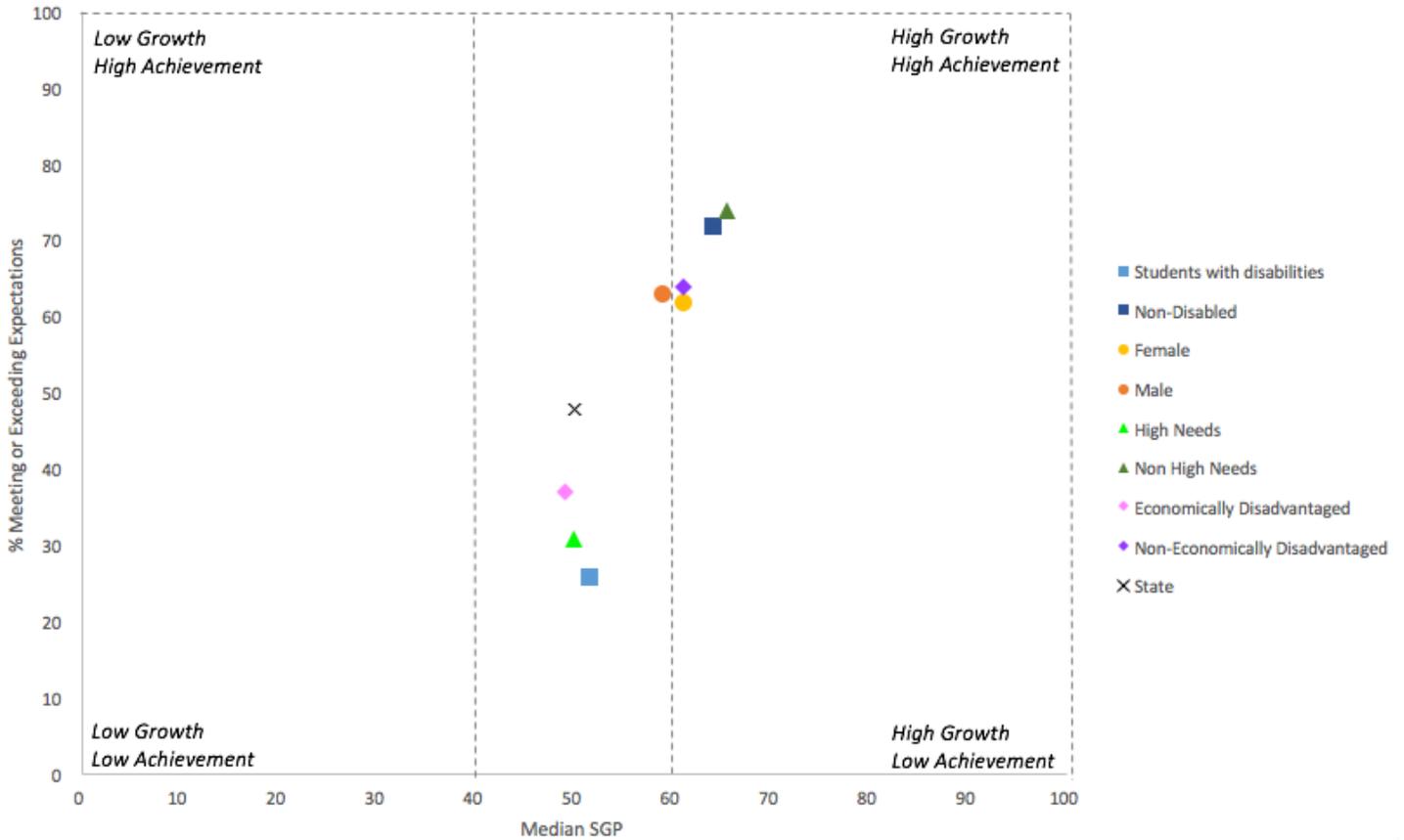
## Gaps Between Subgroups Across the District

Lincoln, like many other districts in the area and in the country, has gaps between subgroups of students. The following two charts illustrate four gaps that are present in our data including the differences between: 1) students with disabilities and non-disabled students; 2) female and male students; 3) students with high-needs and those without; and 4) economically disadvantaged and non-economically disadvantaged students. The category of “high-needs” is an unduplicated count of all students belonging to at least one of the following individual subgroups: students with disabilities, English language learners (ELL) and former ELL students, or economically disadvantaged students. ELL and former ELL students are included in the high needs category, but since the number of students is so low (many of them take the WIDA ACCESS for ELLs rather than MCAS, or they are in grades K-2), we do not disaggregate them as their own subgroup. In Lincoln, “economically disadvantaged” includes almost entirely students who attend the Lincoln School and nearly no students at Hanscom because the measure is based on a student's participation in one or more of the following state-administered programs: the Supplemental Nutrition Assistance Program (SNAP); the Transitional Assistance for Families with Dependent Children (TAFDC); the Department of Children and Families' (DCF) foster care program; and MassHealth (Medicaid); students on HAFB generally do not participate in these state-based programs even though some would qualify as economically disadvantaged under prior measures.

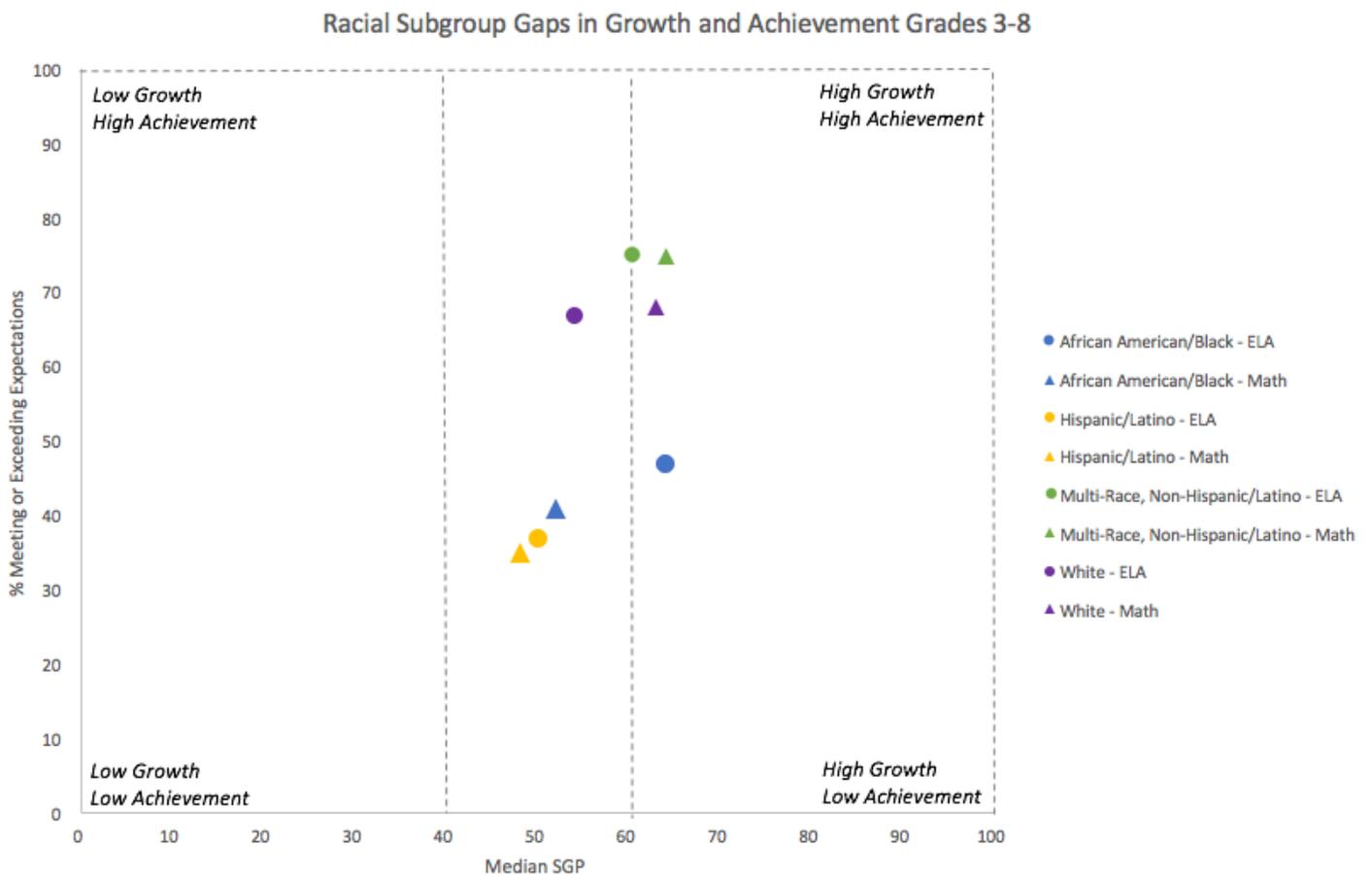


One positive note is that all subgroups showed growth in the median to high levels, and none showed low growth in ELA or math. Our largest gap in both content areas is between our students with disabilities and those who are non-disabled. While 73% of non-disabled students met or exceeded expectations, only 21% of disabled students performed the same. A similarly large gap exists between high and non-high needs students. While there is no gap between female and male students in math, one does exist in ELA, with female students showing higher levels of growth and achievement over their male counterparts.

Subgroup Gaps in Math Grades 3-8



Gaps also exist across race. The percentage of Black and Latino students meeting or exceeding expectations is significantly lower than white and multi-racial students. Multi-race is a category defined by the state as including students whose parents selected multiple races but who did not identify as Latino. Sizes of certain subgroups including Asian, American Indian or Alaska Native, and Native Hawaiian or Other Pacific Islander are too small to be reported reliably without identifying individual students per Department of Elementary and Secondary Education (DESE) guidelines. In the chart below, one can see that Black students in LPS in ELA and multi-racial students in math had the highest SGP with a median of 64, as compared to other racial subgroups.



Closing gaps between subgroups is more important than perhaps any other achievement indicator. Aspects of our programming deserve investigation to see whether there are ways we could better serve our students, including our approach to interventions. There are many strands of work that educators have been pursuing that focus on educating all students well from professional development over the summer to building-based and district-wide Wednesdays to collaborative practice teams. The Assessment Review process that is currently underway has many purposes, but one is to ensure that teachers have high-quality assessments that provide meaningful information in real-time about students' progress so that they can adjust instruction alongside specialists. Math and ELA Content Specialists along with the Assistant Superintendent, are conducting deeper dives into data at the standard, item, and student level to support teachers in the current school year.

# Fountas and Pinnell Benchmark Assessment System

## Overall achievement in grades 1-5 across the district

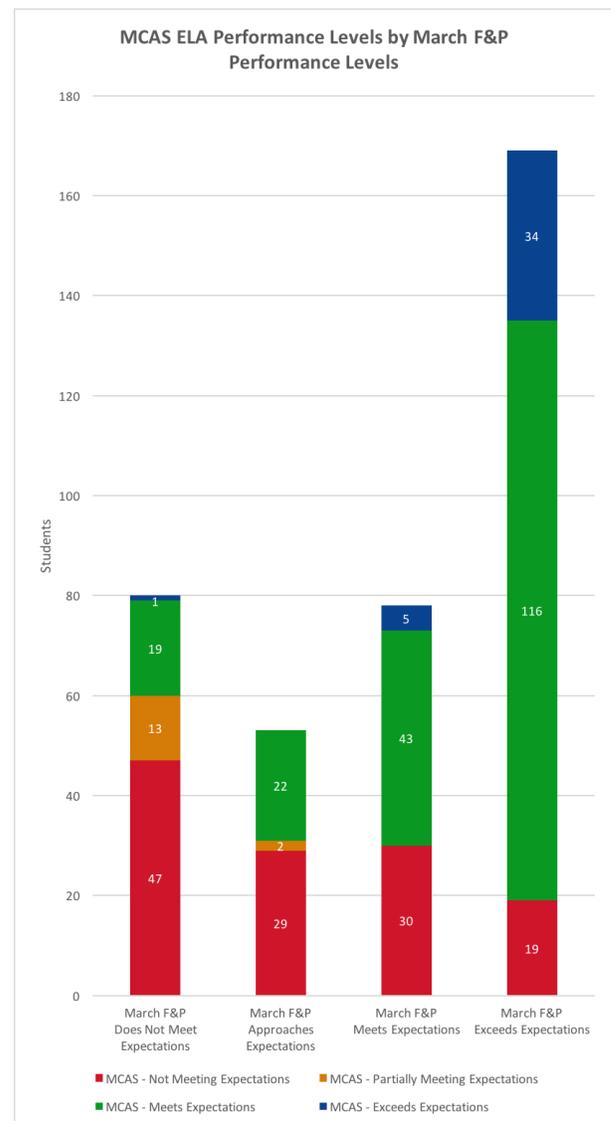
71% of students in grades 1-5 met or exceeded the March grade level benchmark for instructional level on the Fountas & Pinnell Benchmark Assessment System (F&P BAS). The F&P BAS is the district’s primary reading assessment, administered to all students in grades 1-5 in September and March. F&P BAS is an interview-style assessment that measures a child’s accuracy, fluency, and comprehension in texts arranged by increasing complexity along an A-Z continuum. The district has instructional level benchmarks set at intervals throughout the year, and our goal is to move all students towards reaching or moving beyond the grade level benchmarks by the end of the year.

**71%**  
Meeting or Exceeding Expectations Grades 1-5

**% Meeting/Exceeding March Benchmark by Grade**

Grade	Lincoln	Hanscom
1	72%	82%
2	79%	86%
3	70%	63%
4	78%	40%
5	76%	64%

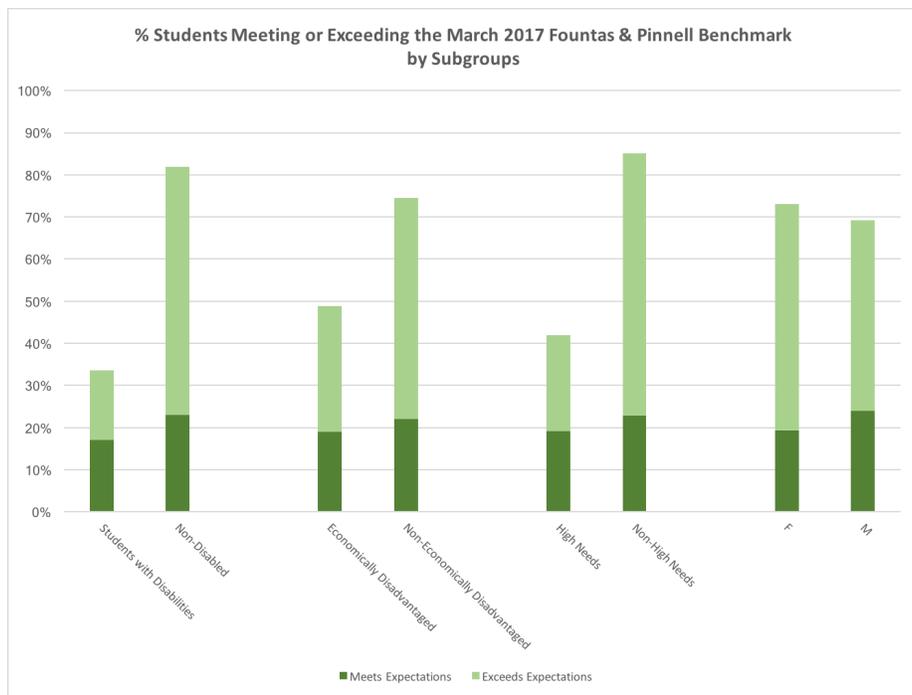
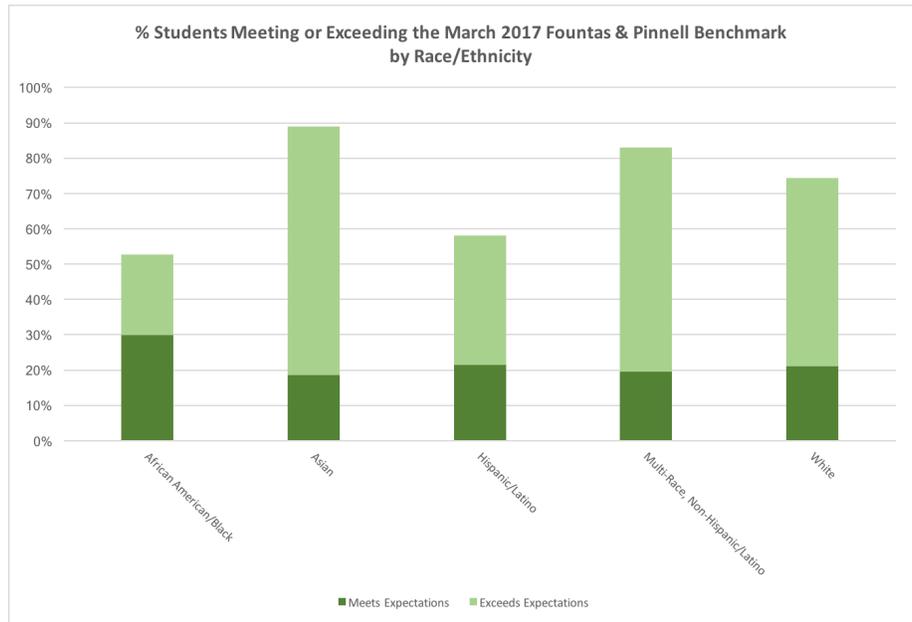
Students’ progress towards grade level benchmarks is a useful indicator of future performance on the grade 3-5 MCAS. 80% of students who met or exceeded expectations on the March F&P BAS went on to meet or exceed expectations on MCAS. Conversely, 67% of students with F&P BAS performance levels of Does Not Meet or Approaching the Benchmark did not meet the MCAS expectations. This suggests that continuing to focus on improving students’ reading, as measured by F&P BAS, will result in improved MCAS performance in the future. It is also worth noting that nearly 50 students met or exceeded the F&P BAS benchmark, yet did not meet MCAS benchmarks. This warrants more investigation and may reflect the portions of MCAS that measure student achievement beyond reading, particularly the increased amount of writing.



As with MCAS, gaps can be found between different subgroups on F&P BAS. The first chart below shows benchmark performance by race/ethnicity, and the second by subgroup. For the purpose of these charts, we used an approximation of “economically disadvantaged” using data reported by the state for grades 3-5, and our internal tracking of free and reduced lunch for grades 1-2. This data was also used to determine the “high needs” group.

The gaps here are similar to those seen on the MCAS ELA assessment, with a significantly higher percentage of students in the White and Multi-Race, Non-Hispanic/Latino groups meeting or exceeding the March F&P BAS benchmark.

Similar gaps are also seen when looking at subgroups. The gap is most significant when looking at the performance of students with disabilities. Only 33% of students in this group met or exceeded the March benchmark, compared to 82% of non-disabled students. This 49-percentage point gap mirrors the 52-percentage point gap seen on MCAS ELA. This again suggests that targeting improving student reading skills may help us close achievement gaps on MCAS. Interestingly, the gap between male and female students on the F&P BAS is not nearly as wide as it is on MCAS.



# School Climate

This year, the Department of Elementary and Secondary Education piloted a School Climate Survey. It was administered to students in grades 5 and 8 after the MCAS Science/Technology & Engineering session. Student responses to questions about Environment, Safety, and Engagement contributed to an overall index score for each grade level. Index scores of 63-69 reflect schools that have a “relatively strong climate;” index scores from 38-62 represent schools with a “positive climate with areas for improvement;” and index scores from 1-37 indicate a “relatively weak climate.”

**63** Grade 5

**51** Grade 8

**DESE School Climate Index Score**

With the caveat that the School Climate Survey is still in pilot form, it is useful as a tool that provides a benchmark for comparison. The results indicate strong climate in grade 5, particularly at the Lincoln School, with more room for growth in grade 8.

School/Grade	School	District	State
HMS Grade 5	60	63	58
Lincoln Grade 5	65	63	58
HMS Grade 8	57	51	58
Lincoln Grade 8	47	51	58

*Highlighted index scores above 62 reflect a relatively strong climate.*

Additional context is provided by examining the results of our annual student survey (administered to students in grades 3-8). This annual survey requests students to anonymously provide feedback to their teachers. Data gleaned is most valuable as feedback for educators to use to reflect upon and consider implications for their practice, but it also can provide useful information in aggregate to help us better understand our students’ experiences in our schools.

The student survey results have consistently shown a similar pattern with students in grades 3-5 providing generally more positive feedback than students in grades 6-8. In the 2016-2017 school year, students in grades 3-5 responded 10 or more percentage points more positively than students in grades 6-8 on the topics of Learning Environment (+11), Student Interest (+10), and Students Working with Students (+21). In the past, it has been hypothesized that these differences might reflect the age and development of students, however the results of the climate survey suggest that this may not be the case and that further study is needed.

# Executive Summary

## *MCAS*

- The next-generation MCAS is a new test and many aspects of it cannot be compared to the previous legacy version. This school year will be the first that all students in grades 3-8 across the district take the MCAS on the computer.
- In the district, more students met or exceeded the expectations and fewer students did not meet expectations compared to the state.
- Growth across grades in the district was variable with 7<sup>th</sup> graders showing considerable growth in both ELA and math.
- Comparatively, students at the Lincoln campus demonstrated higher achievement and students at Hanscom demonstrated higher levels of growth.

## *F&P BAS*

- 71% of students in grades 1-5 met or exceeded benchmark expectations.
- Students' progress towards grade level benchmarks is a useful indicator of future performance on the grade 3-5 MCAS. 80% of students who met or exceeded expectations on the March F&P BAS went on to meet or exceed expectations on MCAS.

## *Gaps Between Subgroups*

- Significant gaps exist between subgroups, particularly between our high needs students, students with disabilities, and our Latino and Black students when compared to our non-high needs students, students without disabilities, and our White and Multi-race students. These gaps exist across MCAS content areas and in F&P BAS.

## *School Climate*

- The newly piloted School Climate Survey indicated a strong culture in the 5<sup>th</sup> grade across the district with more room for growth in the 8<sup>th</sup> grade. These results align with similar patterns from our annual student survey.

## *Key Yearly Measures*

- In an attempt to focus conversation, we opted to present a more limited amount of data than in previous years.
- We are committed to constructing a suite of varied, holistic, meaningful measures that simultaneously inform teachers' practice as well as allow the district to measure progress toward our goals over the coming years.