



Destination 2025 Monthly: March 2019

Prepared by the Department of Research & Performance Management

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Key Findings

- The MAP median growth percentiles showed increases in Reading and Mathematics for almost all grade levels compared to last year.
- In Reading, with the exception of Kindergarten, the growth rate for SCS students was slower than the national average rate of growth. In Mathematics, the growth rate for SCS students in grades K, 1 and 3 all reached the national average rate of growth.
- More SCS students had MAP Reading test scores in the bottom quartile compared to last year. The percentage of SCS students in the bottom quartile in Mathematics was unchanged.
- The percentage of SCS students projected to be On Track or Mastered on TNReady ranges from 22-25% for Reading and from 36-43% for Mathematics for grades 1-3.
- Average student Lexile scores improved for grades K and 3, but remained relatively unchanged for grades 1 and 2. However, the average Lexile scores for students at all grade levels fall well below the college- and career-ready reading range suggested by the Lexile Framework.

Academic Growth in Reading and Mathematics

Median Growth Percentiles

MAP median growth percentiles for Reading and Mathematics for students in Grades K-3 were analyzed to look at academic progress. After each administration of the MAP assessment, students' scores are compared to their scores on the previous test to determine student growth. Student growth is assigned a growth percentile (similar to how a test score is assigned a test percentile) based on the students who participate in MAP nationally. If a student earns a growth score at the 50th percentile, it means that half the students in the national sample demonstrated more growth and half demonstrated less growth between test administrations than that student.

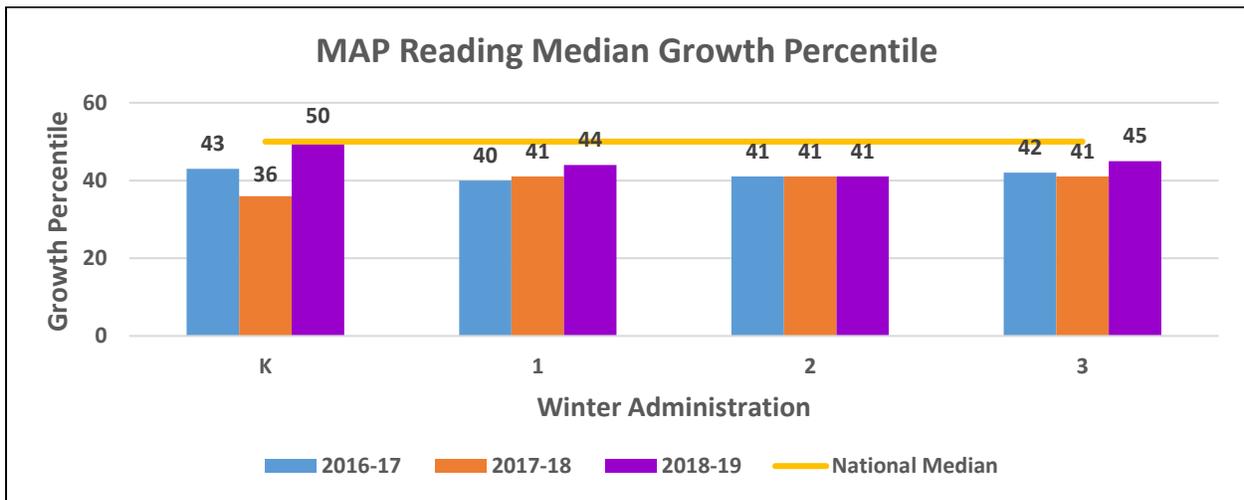
The median growth percentile for each grade level can be used to compare the academic growth for SCS students to the academic growth of students nationally. If students in all SCS grades are demonstrating academic growth comparable to the national growth rate, the median growth percentiles for SCS would all be at the 50th percentile. Growth rates above the 50th percentile would indicate faster growth than the national rate, and those lower would indicate slower growth than the national rate.

Two graphs below show the MAP median growth percentile by grade for Reading and Mathematics. The first graph displays percentiles for Reading. The purple bars represent data from this year. The median growth percentile for Kindergarten reached the 50th percentile, which is comparable to the national growth rate. The median growth percentiles for grades 1-3 were a bit lower, falling in the 40th to 45th percentile range, all indicating growth rates slower than the national rate.

The blue and orange bars represent the Reading median growth percentiles for the past two years. With the exception of second grade, median growth percentiles have generally increased over the past three years.

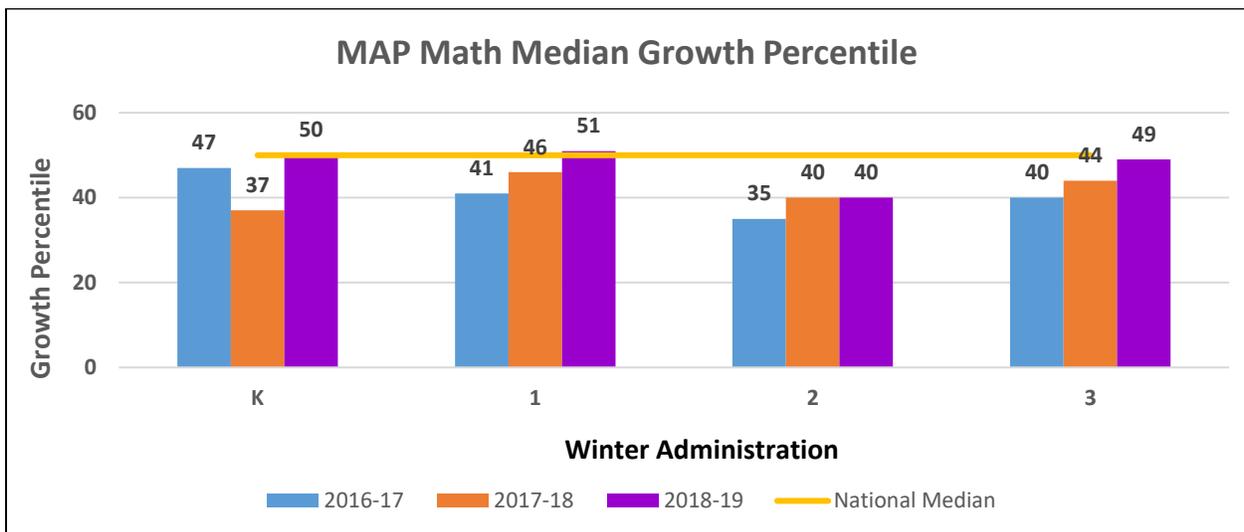


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The next graph displays median growth percentiles for Mathematics. Again, this year's data are depicted by the purple bars. All grades, with the exception of second grade, reached a median growth percentile comparable to the national average growth percentile (Kindergarten: 50th percentile, grade 1: 51st percentile, grade 3: 49th percentile). SCS students in these grades are demonstrating growth in Mathematics at a rate similar to the national rate. However, this year's median growth percentile in Mathematics for 2nd grade was lower, at the 40th percentile, indicating slower growth for grade 2 students compared to the national average growth rate.

The blue and orange bars represent the Mathematics median growth percentiles for the past two years. The data show a general trend of increasing median growth percentiles over the past three years.



Percentage of Students in Bottom Quartile

Another data point that can speak to academic growth is the percentage of students whose test scores are in the bottom quartile (25th percentile or below) on the MAP Reading and Mathematics assessments. Unlike the median growth percentile discussed above, which measures students'

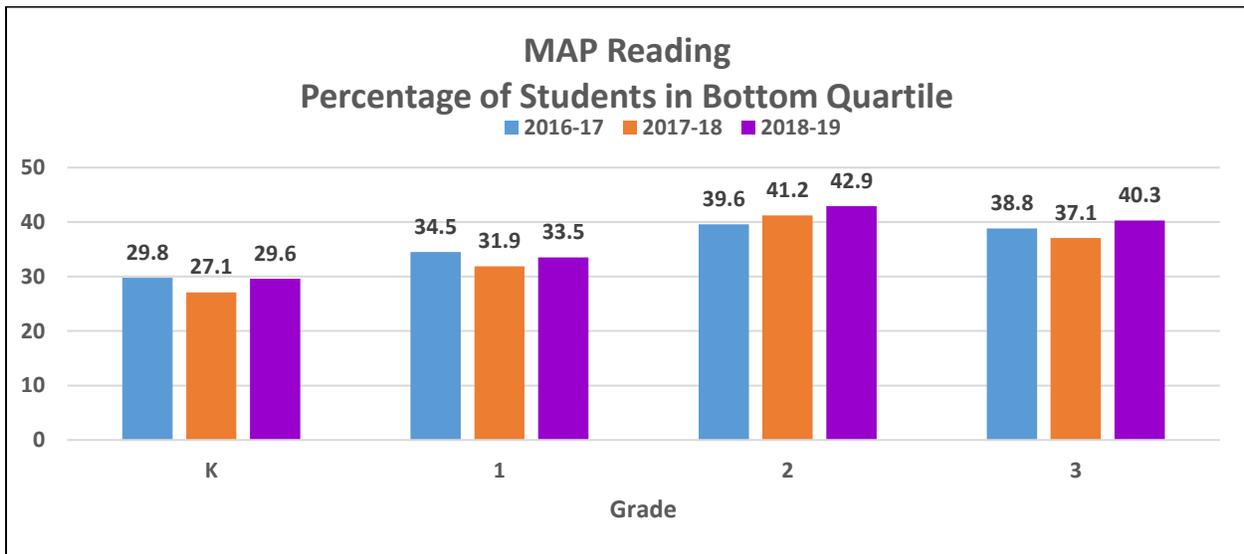


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growth in Reading and Mathematics from fall to winter compared to all test takers nationwide, the percentage of students in the bottom quartile indicates how many students had test scores ranked at or below the 25th percentile on the winter MAP assessment. Ideally, it is best to have as few students as possible in the bottom quartile.

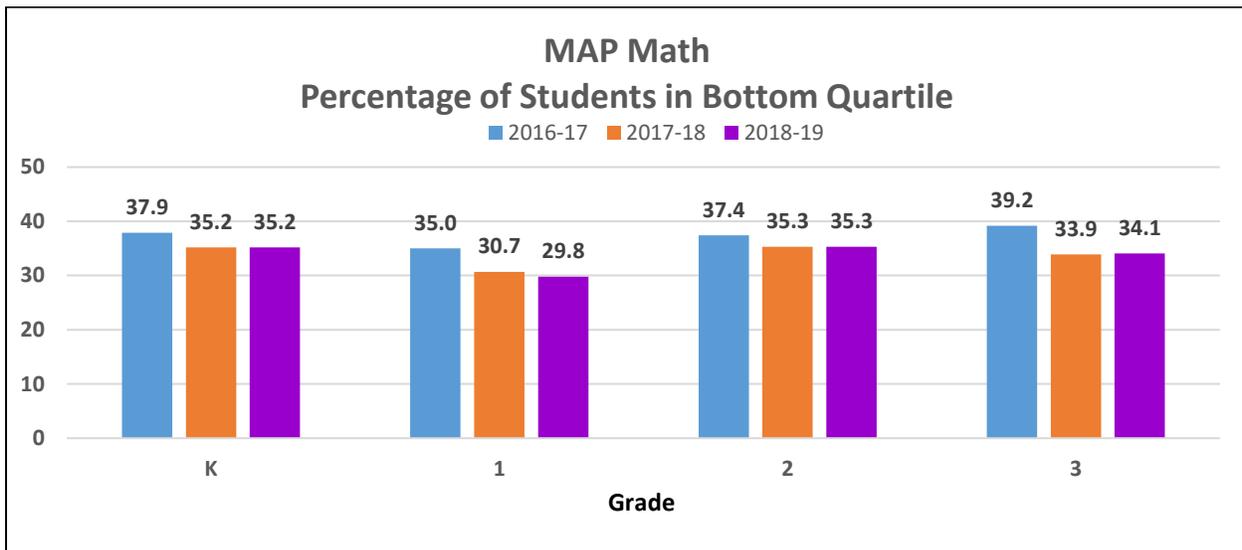
The first graph below presents MAP Reading data by grade over the past three years. The percentage of SCS students with test scores in the bottom quartile increased for all grade levels from last year to this year. For grades K, 1, and 3 this reverses a trend of a slight decline from the year before. Notably, in grades 2 and 3, over 40% of all SCS students had test scores in the bottom quartile, as did one-third of all grade 1 students and almost 30% of Kindergartners. These numbers highlight the challenges faced by the District in teaching young readers.



In Mathematics, the percentage of students with test scores in the bottom quartile remained relatively constant from last year to this year, maintaining a decline observed for all grades the previous year. Although lower than Reading, the data show over one-third of students in grades K, 2, and 3 with scores in the bottom quartile, as well as almost 30% of students in grade 1.



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Taken together, the median growth percentile data and the percentage of students below the 25th percentile show that many SCS students had slower than national average rates of growth and their test scores were below the 25th percentile. For example, approximately 6,800 grade 3 students completed the winter MAP assessment in Reading. The median growth percentile this year for grade 3 was the 45th percentile, which is slower than the national average growth rate (50th percentile). Therefore, approximately 3,400 grade 3 students demonstrated slower than national average growth in Reading from fall to winter. In addition, 40.3% of grade 3 students had test scores in the bottom quartile (at or below the 25th percentile), which is approximately 2,740 students. The students who fall into both these groups (slower than average growth rate and test score in the bottom quartile), would be the students experiencing the most academic difficulties.

MAP Goal Skills

A final set of data that speaks to academic progress is the individual academic skills assessed by MAP in Reading and Mathematics (called Goals in MAP). Students' individual scores for each goal skill are assigned to a quintile from low to high. By looking at all scores for a grade level, it is possible to see how students are performing for individual academic skills. Student scores from the winter 2018 MAP assessment are presented here.

Reading

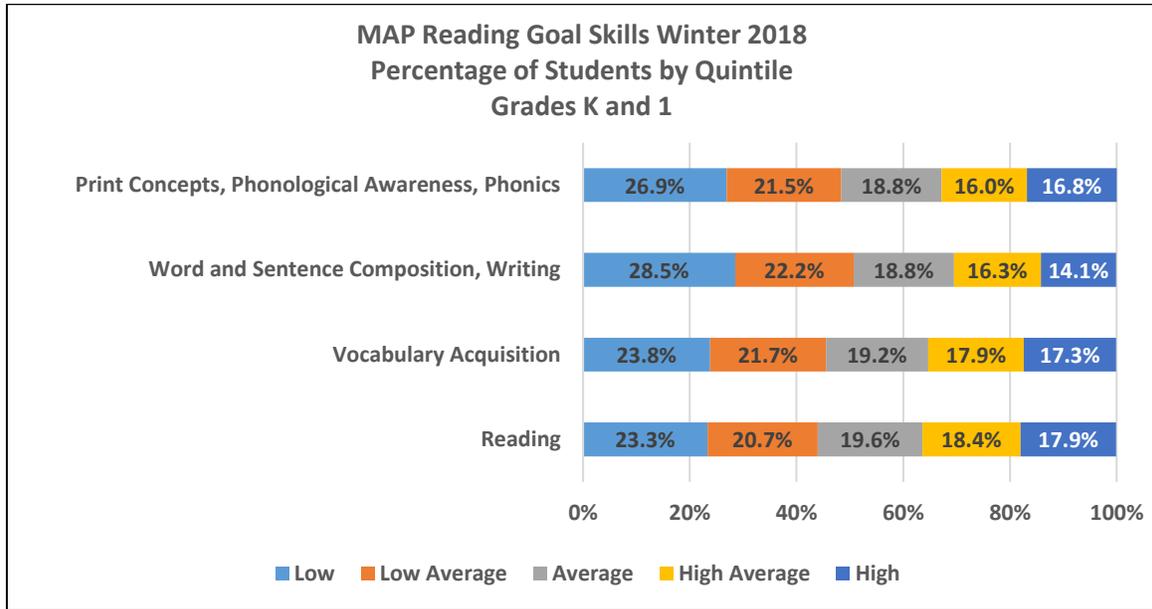
The Reading goal skills assessed for grades K and 1 are different from those assessed for grades 2 and 3, reflecting the shift in the complexity of learning to read as grade level increases. In Kindergarten and grade 1, four goal skills are measured during the MAP assessment that focus on foundational skills, basic composition and writing, vocabulary, and reading. In grades 2 and 3, three goal skills are assessed focusing on literature, informational text, and vocabulary.

The first graph below shows the percentage of SCS students in grades K and 1 in each quintile by reading goal. Approximately 48% of students scored in the Low or Low Average range for the first goal Print Concepts, Phonological Awareness, and Phonics. Approximately half (50%) of SCS grade K and 1 students' scores were Low or Low Average for the second goal Word and Sentence Composition, and Writing.

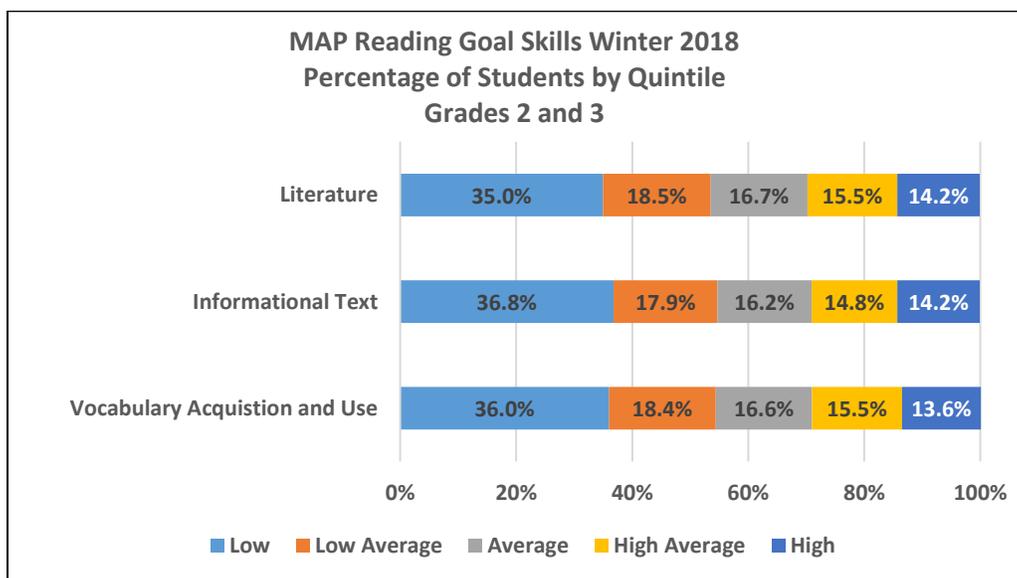


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The final two goals, Vocabulary Acquisition and Reading, have slightly fewer students (46% and 44%, respectively) scoring in the Low and Low Average ranges. The last two goals for grades K and 1 also reflect the goal skills assessed for older students in grades 2 and 3.



The graph below shows the breakdown for the percentage of SCS students in grades 2 and 3 by quintile for each MAP Reading goal skill assessed. For all three goals – Literature, Informational Text, and Vocabulary Acquisition and Use – approximately 54% of students’ scores were in the Low and Low Average categories. This is approximately a ten-point increase in the percentage of students scoring in this range compared to the Vocabulary Acquisition and Reading goals for grades K and 1. While this jump is notable, no single assessed Reading goal stands out as being problematic for students. Instead, it appears that students have equal difficulty with the Reading goals measured.





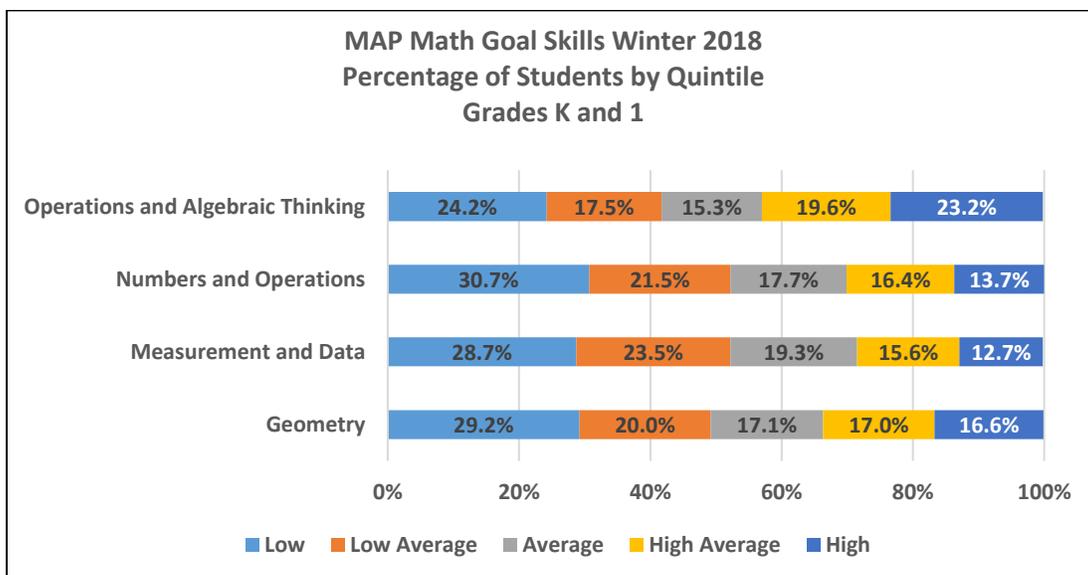
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Mathematics

Unlike Reading which differentiates skills by grade levels, the goals assessed by MAP in Mathematics are the same for grades K through 3. MAP provides quintile information on student scores in the following four areas: Operations and Algebraic Thinking, Numbers and Operations, Measurement and Data, and Geometry. The graphs below provide information on the percentage of students in each quintile for each Mathematics goal.

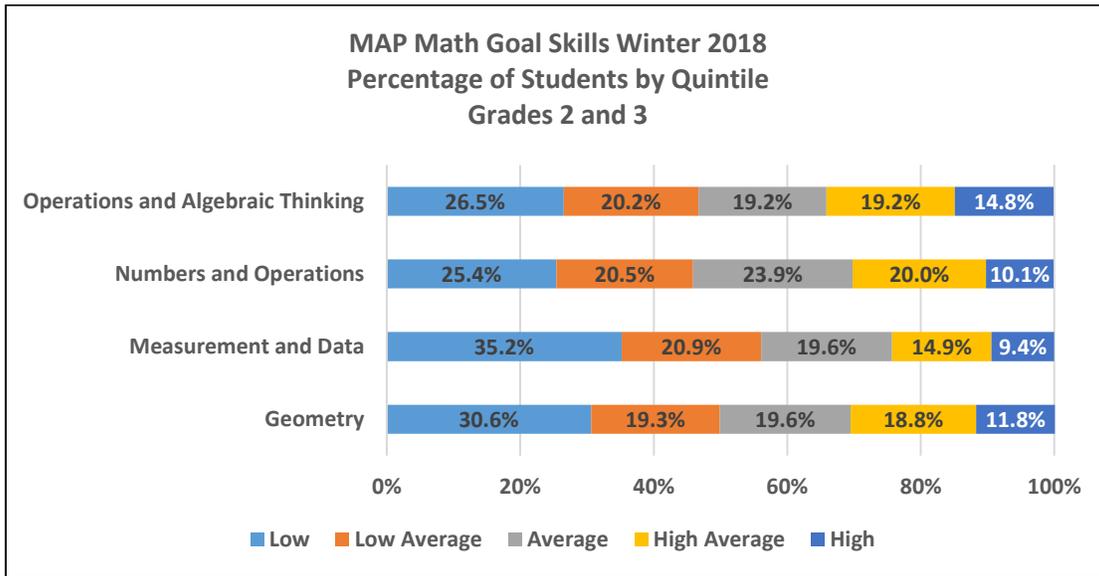
The first graph displays data for grades K and 1. For the first goal, Operations and Algebraic Thinking, SCS students align fairly closely with what would be expected, with approximately 42% scoring in the Low to Low Average range and approximately 43% scoring in the High Average to High range. However, the remaining three goals had more students in the Low and Low Average categories (Numbers and Operations, 52%; Measurement and Data, 52%; and Geometry, 49%).



The next graph contains data for students in grades 2 and 3. A couple of shifts compared to the K-1 data are notable. There were four- to five-point increases in the percentage of students scoring Low and Low Average in both Operations and Algebraic Thinking and Measurement and Data. However, there was a six-point drop in the percentage of students with scores in these categories for the Numbers and Operations goal. Whether these shifts reflect changes in the complexity of the concepts being assessed, or changes in emphasis in the curriculum, or something else, it is not possible to know. Examining the details underlying these shifts may shed more light on academic progress in mathematics.



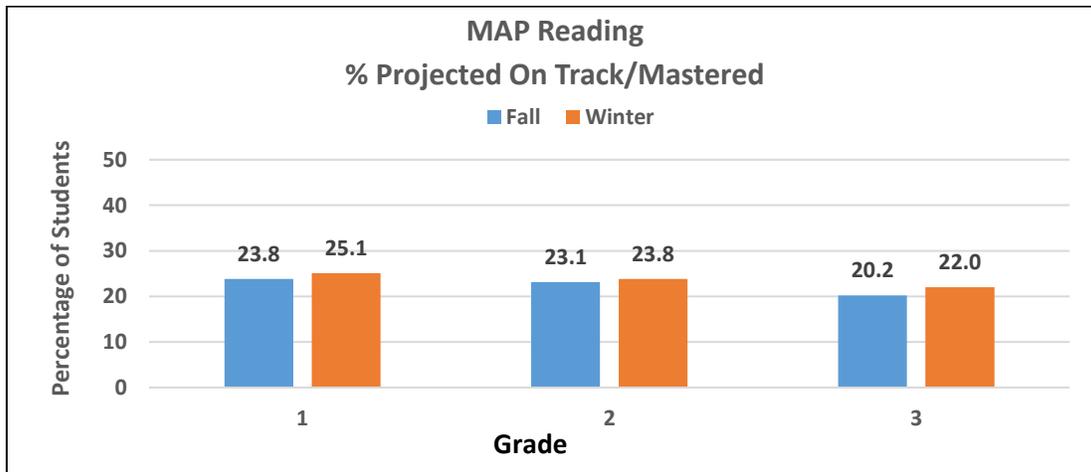
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Predicted Proficiency on TNReady

This past year, NWEA completed a linking study¹ that links student performance on the MAP assessments to a projected level of proficiency on TNReady. In Reading, the classification accuracy rate is between 81 - 85% for grades 1-3. In Mathematics the rate ranges from 75 - 86%. The graphs below show the percentage of students in grades 1-3 who are projected to be On Track or Mastered on TNReady for the fall and winter MAP assessments. The first graph represents MAP Reading and the second graph represents MAP Mathematics data.

The percentage of students expected to be On Track or Mastered in Reading falls in the 20-25% range across grades 1-3, with slight increases between the fall and winter assessments for all grade levels.

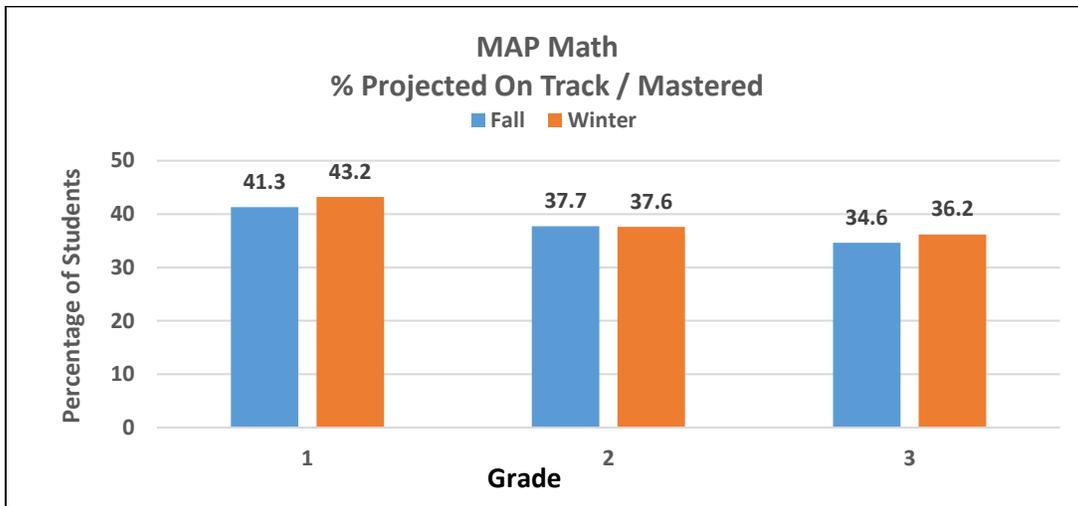


Projected proficiency in Mathematics is higher, with just over 40% of grade 1 students projected to be On Track or Mastered. Projection rates of On Track and Mastered students in grades 2 and 3 fall in the mid-30s. More students were projected to be On Track or Mastered in winter compared to fall



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for grades 1 and 3. The projected proficiency rate for grade 2 students was the same at both assessment times.



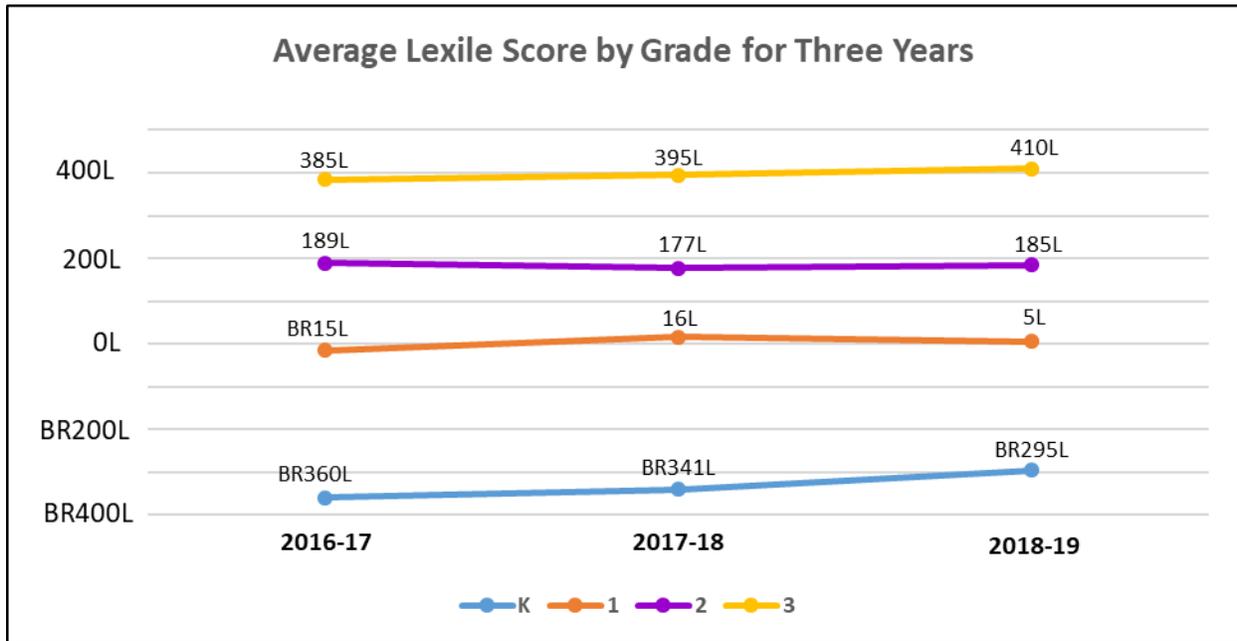
Lexile Scores

Additional information about student reading levels can be obtained from Lexile scores. The Lexile scale provides information about text complexity by reporting scores ranging from the Beginning Reader level up through college level. Lexile scores are reported as a whole number followed by the letter *L* (e.g., 0L, 250L, 1190L). The Lexile scale reports scores lower than 0L, and it is typical for many beginning readers to score in this range. Lexile scores that begin with *BR*, which stands for Beginning Reader, indicate scores below 0L (e.g., BR20L, BR360L). The Lexile scale is like a thermometer in that BR scores with greater numbers indicate that they are further away from 0L compared to BR scores with smaller numbers. Additional information about Lexile scores can be obtained from the Lexile Framework (<https://lexile.com>).

Students' Lexile scores indicate the complexity of text they are capable of reading. Average Lexile scores for SCS students in grades K-3 were calculated using winter MAP Reading data for the past three years and are presented in the graph below. Each line represents a different grade level. As expected, students in higher grades have higher Lexile scores. Over the past three years, average Lexile scores increased by approximately 65 points for Kindergarten students, 25 points for grade 3 students, and 20 points for grade 1 students. Lexile scores for students in grade 2 remained relatively unchanged.



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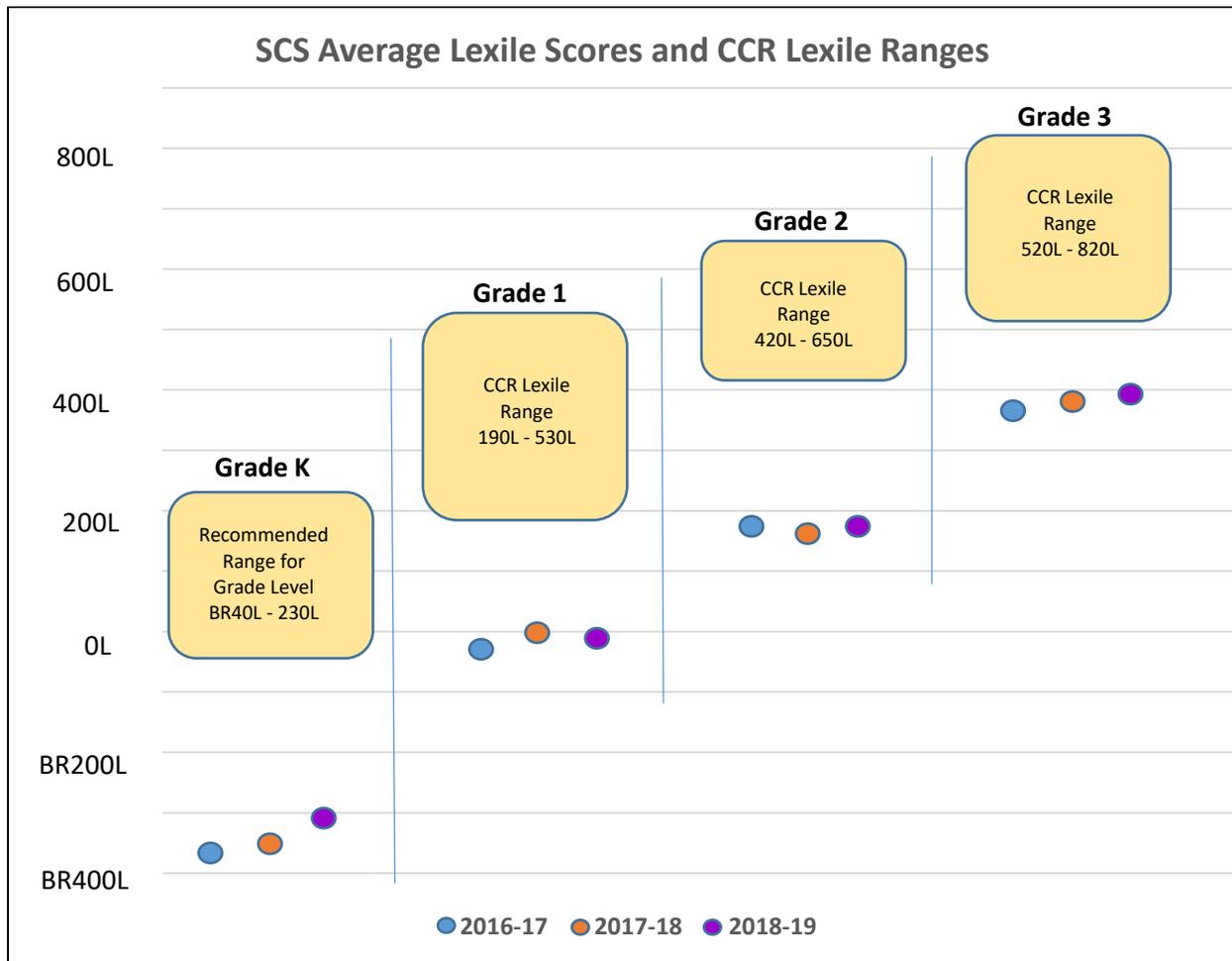


To better understand the reading levels of SCS students, the scores above were compared with additional information provided by the Lexile Framework that is related to college and career readiness. For each grade level from Kindergarten through grade 12, the Lexile Framework provides a Lexile range to describe the complexity of texts students should be reading at each grade level to be college and career ready (CCR) by the end of twelfth grade. The graph below shows where SCS students' Lexile scores from above compare to the recommended Lexile ranges.

The graph is divided into four sections, each representing data for an individual grade. The left-most column contains data for Kindergarten students. The blue, orange, and purple dots show the average Lexile score for SCS Kindergarten students over the past three years. (These data points are also represented by the blue line in the graph above.) The yellow box shows the Lexile range that corresponds to the recommended text complexity Kindergarten students should be reading during the Kindergarten year to be prepared for college and career at the end of grade 12. The CCR Lexile range for Kindergarten is from BR40L to 230L. As can be seen on the graph, the average Lexile scores of SCS Kindergarten students are below the recommended CCR Lexile range. Analyses revealed that this year 10% of District Kindergarten students have Lexile scores that are in or above the Kindergarten CCR Lexile range (i.e., Lexile scores of BR40L or greater).



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The remaining three columns in the graph display the data for grades 1, 2, and 3, respectively. The pattern found in the Kindergarten analysis remains the same. For all grade levels, the average Lexile score for SCS students is below the recommended CCR Lexile range, although the difference is not as great as in Kindergarten. The CCR Lexile range for first grade is from 190L to 530L. District data show that 23% of students in grade 1 had a Lexile score of 190L or higher this year. In second grade, the CCR Lexile range is 420L to 650L. Twenty-seven percent (27%) of SCS students in grade 2 had a Lexile score of 420L or higher. For third grade, the CCR Lexile range is from 520L to 820L; 42% of SCS grade 3 students' Lexile scores were 520L or higher this year.

Overall, Lexile scores are moving in the right direction for K-3 students in the District. In grades 1 and 2, the percentage of students who are reading within the college- and career-ready Lexile range approximates the percentage of students projected to be On Track or Mastered on TNReady (both in the low to mid-20s for both grade levels). However, for grade 3, the difference in these two percentages is much larger. Forty-two percent (42%) of grade 3 students have Lexile scores within the college- and career-ready reading range, but only 22% are projected to be On Track or Mastered on TNReady. Further analysis of the MAP Reading data reveals that the lowest Lexile score for grade 3 students projected to be On Track or Mastered on TNReady is 725L, which is on the upper end of the college- and career-ready range. Thus, there are several SCS grade 3 students who have Lexile



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scores within the college- and career-ready range, but below the minimum threshold for proficiency on TNReady.

District Recommendations

To address some of the challenges SCS students in grades K-3 are facing with early literacy, the Academics Office has implemented a number of measures, most of which focus on foundational skills.ⁱⁱ

- There is an early learning task force team providing professional development to the foundational literacy laureates and K-2 teachers. Academics recommends expanding the task force team to six members to have more capacity to support the District.
- A foundational skills quality reviews process has been developed to observe implementation of foundational skills instruction in K-2 classrooms.
- A foundational skills block framework has been outlined to guide teaching practices. Academics recommends selecting a universal K-3 phonics program to be used by teachers during the foundational skills block.
- Foundational skill videos of successful teachers have been developed and promoted. They are available through District media outlets (e.g., C19TV, Teacher Weekley).
- Foundational skills newsletters have been published that include instructional strategies, support, success stories, and next steps.

ⁱ NWEA Psychometric Solutions (2018). *2018 Linking Study: Predicting Performance on the TNReady Assessments based on MAP Growth Scores*. Retrieved from <https://www.nwea.org/content/uploads/2018/08/TN-MAP-Growth-Linking-Study-2018-05-30.pdf>

ⁱⁱ Burt, A. (January 2019). *Equity in Action*. Presentation to SCS Academic Committee.