

Lincoln Public Schools Winter Literacy and Math Data Roll-Up

February 2023

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Introduction

Included in this report are:

1. Winter data for math and literacy in grades 1-5
2. i-Ready math data for grades K-8

Top Trends in Literacy

- 61% of students meeting or exceeding benchmark expectations (55% on Hancorn campus and 66% on Lincoln campus)
- Across both campuses, differences between male- and female-identifying students smoothed out between the fall and winter
- Disaggregated data by racial groups on each campus show a range of outcomes, with some showing more significant and others showing more moderate gains
- We continue to have a disproportionate amount of students with disabilities not meeting benchmark expectations

Top Trends in Math

- Overall, trends were positive across a number of fronts:
 - increased percentages of students performing at or above grade level and smaller percentages of students performing below grade level
 - Positive trends (to varying degrees) for each disaggregated racial group
 - Significant increases for EL students
- Students who are 2-3 grade levels below are disproportionately Black and Latinx compared to other racial groups and a majority of them are students in special education
- Median growth varied widely across grade levels and campuses
 - Students in grades 6-8 showed very high levels of growth
 - Growth data showed “book-ends” in which a large number of students already met their typical growth goal mid-year and another large group of students showed no growth, with smaller groups making varying levels of growth in between.
 - Students who made no growth scored in each overall relative placement; their racial, residency, gender, EL- and Special Education-status does not differ significantly from the rest of students

Note: In this first year of using i-Ready, we are interested in analyzing and reporting data after each diagnostic at the district and campus level to a deeper extent than we plan to in subsequent years, when we expect to pivot our attention to focus much more heavily on supporting individual teachers and teams of teachers in triangulating and using data to plan for instruction.

Literacy Winter Data in Literacy Grades K-5

Background information on the assessment tools we utilize in K-5 literacy can be found in the fall Data Roll-Up from earlier this year. This winter report is based on DIBELS, the Fountas and Pinnell Benchmark Assessment System (BAS), on-demand writing tasks about their reading and about other topics, ongoing snap/trick word assessments, sentence dictation, running records, and conferences and teacher's observations of students in literacy work throughout the beginning of winter, as well as deeper dive data for students who flag. Kindergarten students are also assessed using Early Bird, a digital tool with 12 subtests across critical foundational skill areas to predict reading ability.

Literacy specialists and teachers work together to determine an overall level for each student. We are using the same terms that MCAS uses, though we recognize that this is more an exercise in finding approximate synonyms than in precision and exact translation.

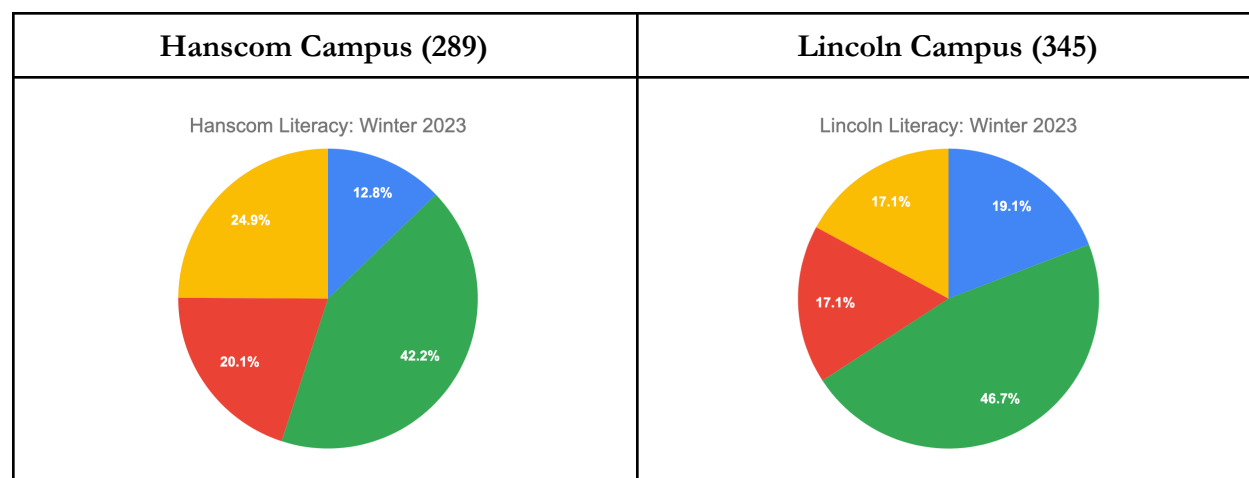
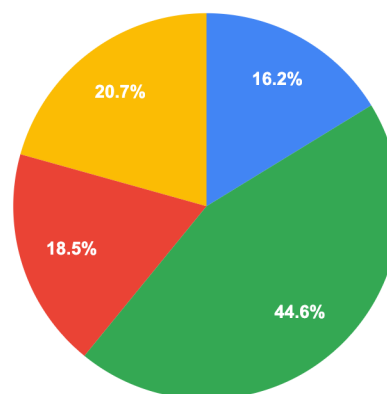


Overall across the district

Throughout January data meetings, we found that nearly 61% of the 634 students in grades K-5 met or exceeded benchmark expectations. Of the remaining 40% of students across the district, about half of those were slightly below benchmark and the other half more significantly below benchmark. These numbers are similar to our fall data set, though they include all kindergarteners, who were not included in the fall.

The charts below illustrate the percentage of students in each of these four levels, disaggregated by campus. 66% of students on the Lincoln campus met or exceeded benchmark expectations and 55% of students on the Hanscom campus did the same.

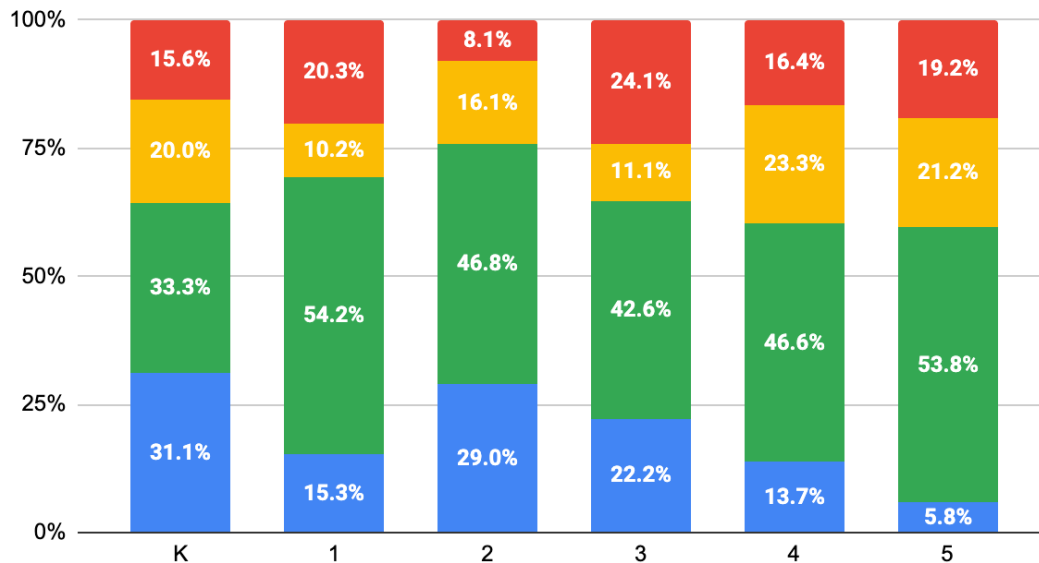
Literacy: Winter 2023



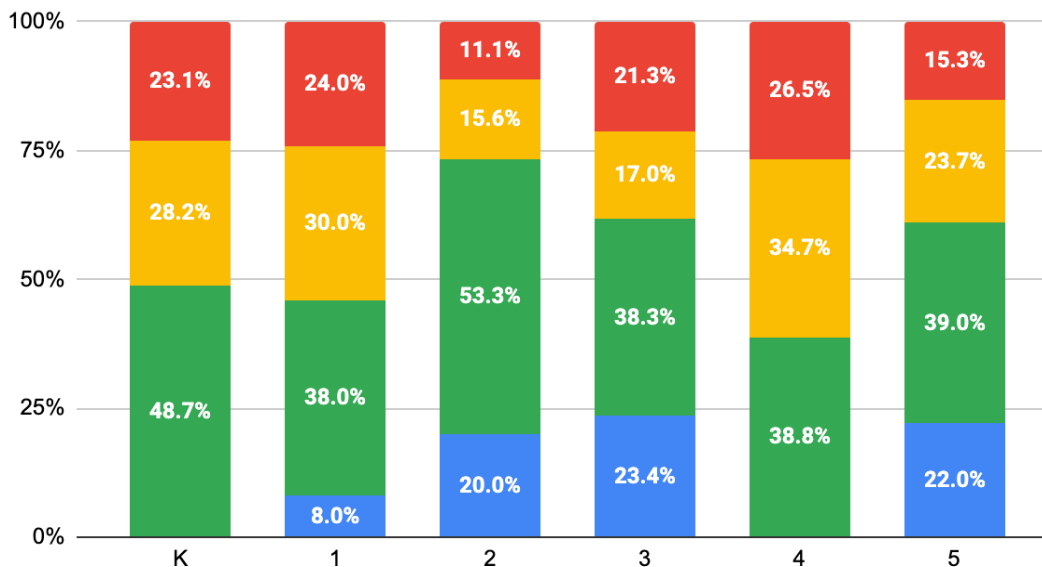
Distribution Across Grades

The charts below show the distribution of overall levels across grades on each campus. We notice variation across grades, but are holding this data set lightly as we had significantly truncated meetings compared to the fall based on scheduling issues with Responsive Classroom trainings. Due to this, methodology for categorizing student performance was not uniform. Ultimately, we will benefit more from comparing fall to spring data.

Literacy by Grade on Lincoln Campus: Winter 2023



Literacy by Grade on Hanscom Campus: Winter 2023

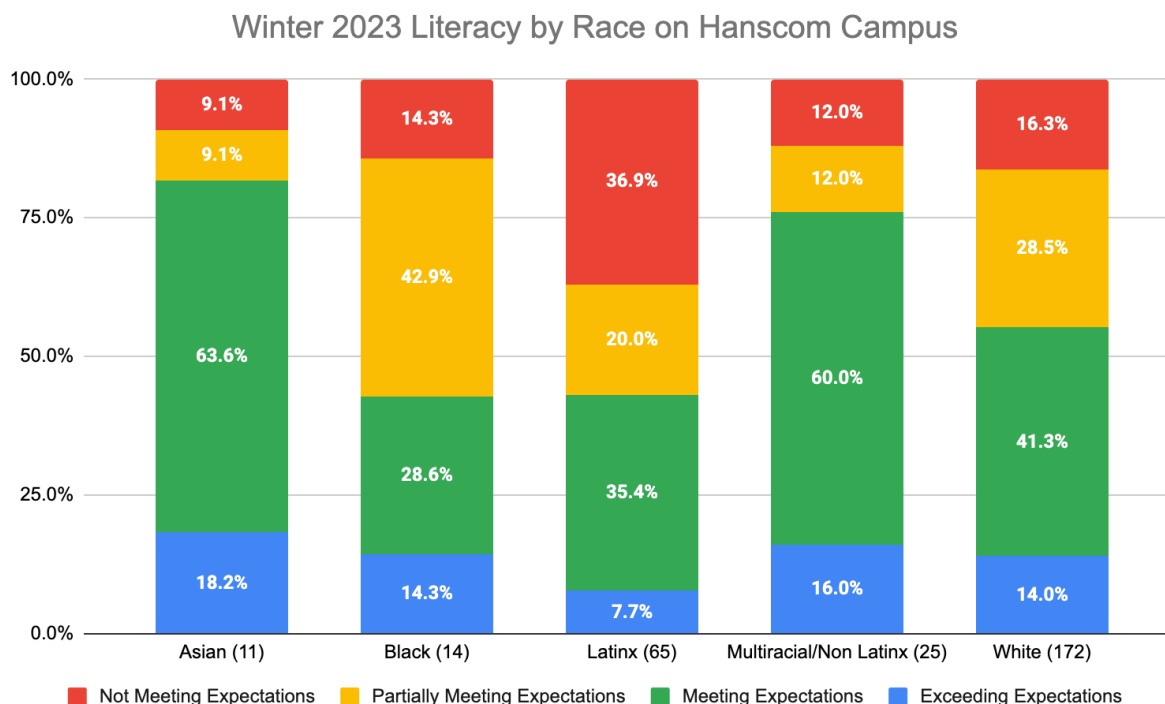


Hanscom Campus

Differences Across Racial Identities

When we disaggregate our diagnostic data in literacy by racial identities at Hanscom, we can see differences across groups, just like many of our other data sources, including MCAS and annual surveys. Note that data was suppressed for racial groups whose n-size was below 5 and thus individually identifiable.

It is challenging to draw significant meaning when n-sizes are small since the data is statistically less reliable. For example, for Asian and Black students in grades 1-5 at Hanscom, a single student represents 7-9 percentage points and can significantly impact the overall trend. With higher numbers of Latinx, Multiracial/Non-Latinx, and White students, the results are more reliable. Ultimately, the trends look similar in the winter compared to the fall, with the exception of more Black, Latinx, Multiracial, and White students exceeding expectations in January. Note that kindergarten students were not included in the fall but are included in the data behind the chart below.

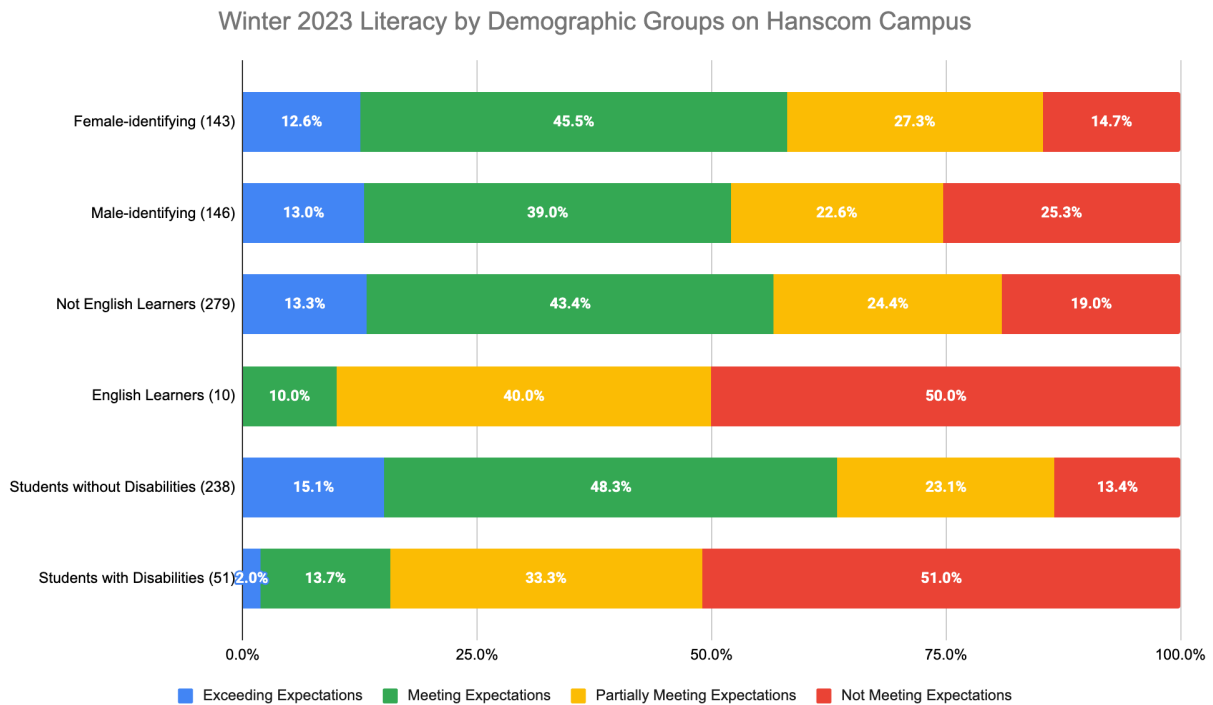


	Observations in winter data as compared to fall diagnostics
Asian	<ul style="list-style-type: none"> • Same percentage of students exceeding expectations and partially meeting expectations • Higher percentage of students meeting (+14) and lower percentage of students not meeting benchmark expectations (-11) but with an n-size of 11 students, this equates to just one student assessing differently or one student moving out and another moving in
Black	<ul style="list-style-type: none"> • Slightly lower percentage of students not meeting (-4) and meeting (-7) expectations • Slightly higher percentages of students partially meeting (+7) and exceeding expectations (+5) • Ultimately, approximately the same percentage of students meeting and exceeding than in the fall when combined • With an n-size of 14 students, just one student assessing differently or one student moving out and another moving in has a high impact
Latinx	<ul style="list-style-type: none"> • Very similar percentages in all four categories
Multiracial / Non Latinx	<ul style="list-style-type: none"> • Very similar percentages in all categories, with more students scoring in exceeding expectations compared to fall
White	<ul style="list-style-type: none"> • Very similar percentages in all four categories, with 5% fewer students not meeting expectations and 5% more partially meeting expectations

Differences Across Other Demographics

We also disaggregated by gender, English learner (EL) status, and special education status.

Note that data was suppressed for demographic groups whose n-size was below 5 and thus individually identifiable. Overall data trends look similar in the winter compared to the fall with small exceptions.

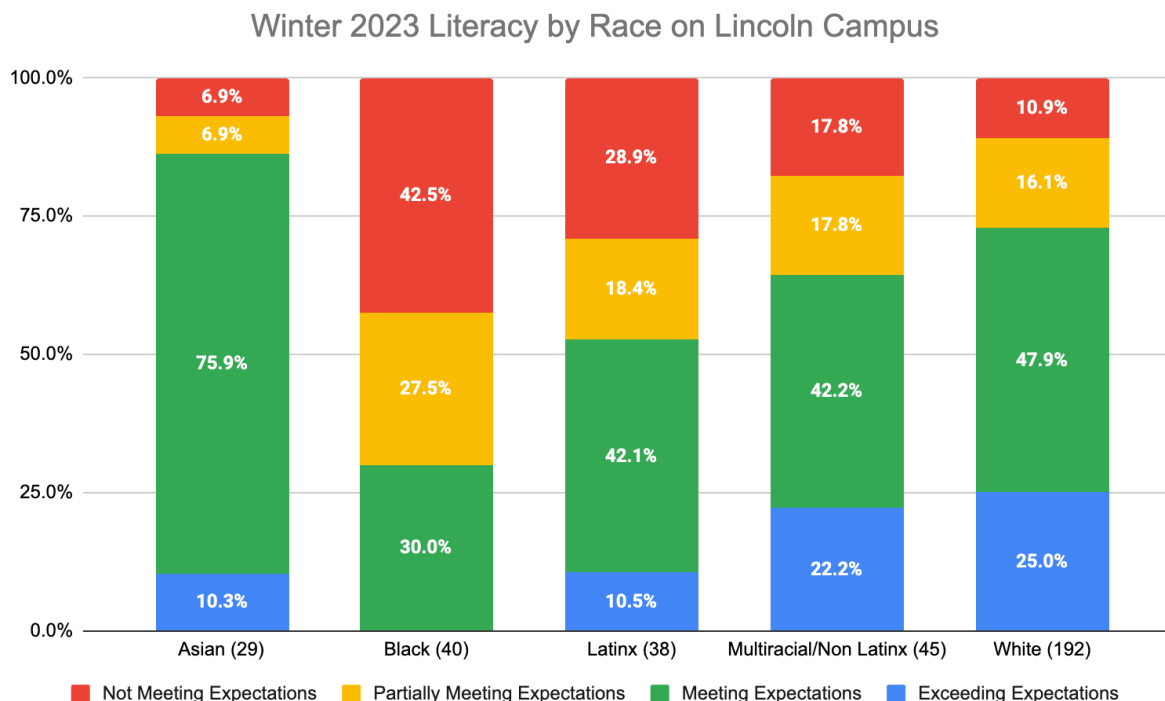


Differences between male- and female-identifying students smoothed out between the fall and winter. It is important to highlight the n-size for ELs at Hanscom: this group only includes 10 students, so each student constitutes 10% of the total group, making this data potentially subject to big swings. The data for our students with disabilities continues to stand out. In January this included 51 students K-5, compared to the fall, which included 38 students in grades 1-5. So, while the make-up of the group is not an apples-to-apples comparison, the trend remains consistent. This group includes students with a wide range of disabilities, some related to language and literacy and others for different diagnoses. We would expect that students with some disabilities, particularly around language, processing, or executive functioning would flag on a timed screener like the ones we use. In some ways, this data is confirmation that we have the right students on our radar.

Lincoln Campus

Differences Across Racial Identities

Compared to the Hanscom campus, the total number of students in each racial group are more similar, which makes the data more reliable and easier to compare across groups. Note that data was suppressed for racial groups whose n-size was below 5 and thus individually identifiable.



Data from each racial group has some differences compared to the fall. The chart below highlights these changes:

	Observations in winter data as compared to fall diagnostics
Asian	<ul style="list-style-type: none"> Higher percentages of students meeting (+9) and exceeding (+3) benchmark expectations Lower percentages partially (-12) or not meeting (-1) benchmark expectations
Black	<ul style="list-style-type: none"> Lower percentages of students meeting (-9) and exceeding (-5) benchmark expectations Higher percentages partially (+8) or not meeting (+6) benchmark expectations
Latinx	<ul style="list-style-type: none"> Higher percentages of students meeting (+5) and exceeding (+5) benchmark expectations

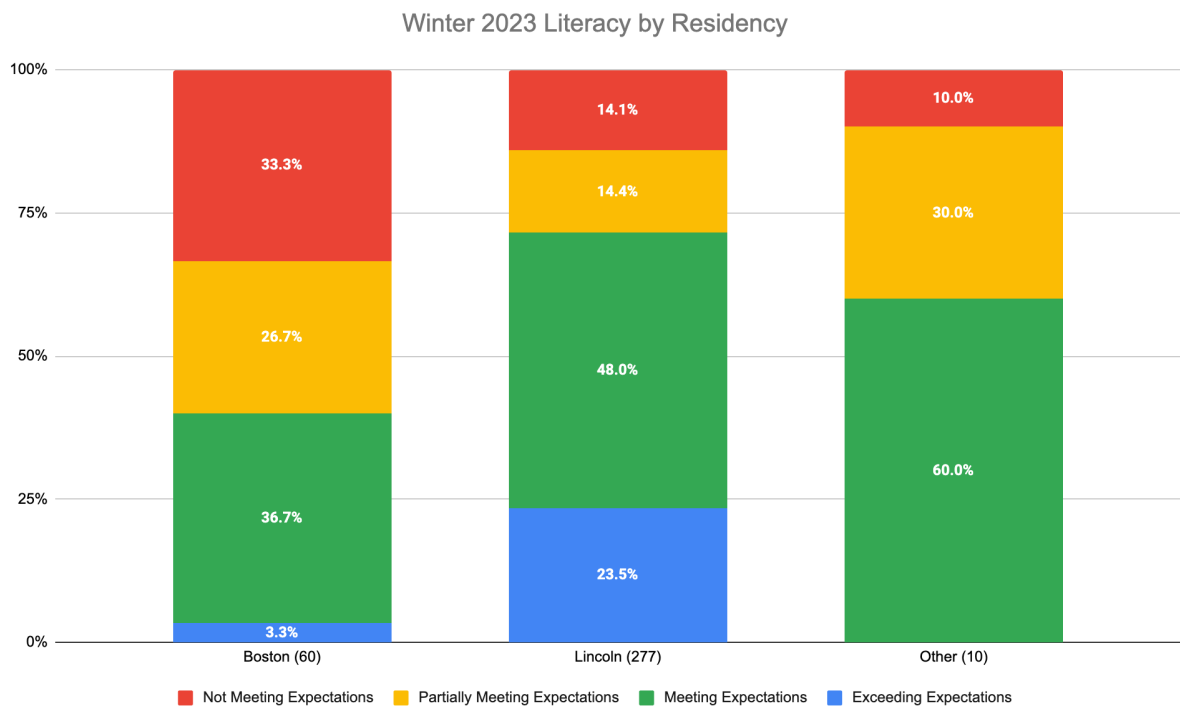
	<ul style="list-style-type: none"> • Lower percentage partially meeting expectations (-13) • Similar percentage not meeting expectations (+2)
Multiracial / Non Latinx	<ul style="list-style-type: none"> • Double the percentage of students exceeding expectations (+11) • Lower percentage of students meeting expectations (-16) • Higher percentage of students partially meeting expectations (+8.5) • Slightly lower percentage (-3) of students not meeting expectations
White	<ul style="list-style-type: none"> • Higher percentage of students exceeding benchmark (+10) • Lower percentages of students meeting (-4.5), partially meeting (-2), or not meeting (-3) expectations

In general, we want higher percentages of students meeting or exceeding expectations and lower percentages only partially or not meeting expectations at each diagnostic. Because of this, two trends stick out:

1. The percentage of Multiracial/Non Latinx students exceeding benchmark significantly increased but with the simultaneous increase of students partially meeting expectations, the end results that fewer students in this racial group overall are meeting or exceeding benchmarks compared to the fall.
2. The most concerning trend amongst this data set is that the percentage of Black students meeting or exceeding expectations has decreased while the percentages of students partially or not meeting expectations has increased. This will need to be an area for quick response from now until the spring.

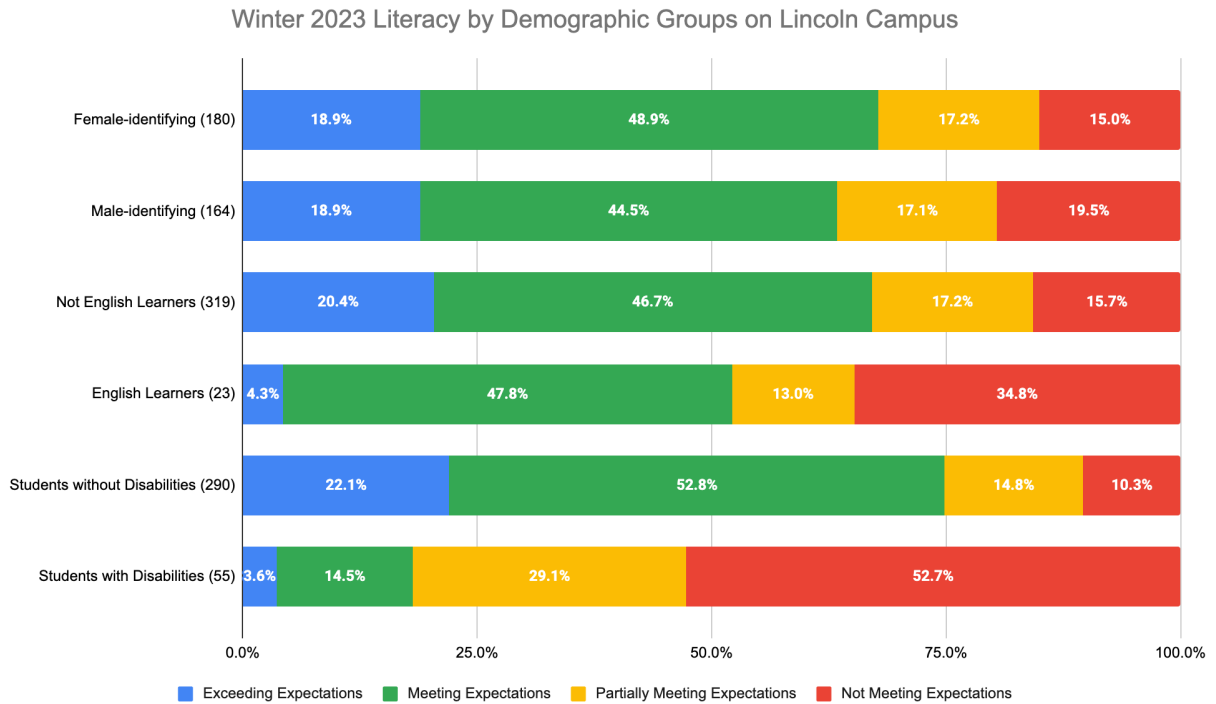
Differences Across Other Demographics

While all the students at Hanscom live on the Base, our students in Lincoln come from three different sets of communities including Boston, Lincoln, and the various towns or cities that staff children reside, each of which has diversity across various spectrums within themselves. The size of the staff children group in grades 1-5 is very small, so the data is significantly less reliable. But, when we compare Boston-resident students to Lincoln-resident students we notice a sizable difference particularly in the percentage of students who are not meeting benchmark expectations or exceeding them.



Compared to the fall, the percentage of Boston-resident students not meeting or exceeding expectations has remained highly consistent. About 5% fewer Boston-resident students met expectations and 5% more Boston-resident students partially met expectations in January compared to the fall. There are different outcomes for Lincoln-resident students and those living in other districts; the percentage of students not meeting or partially meeting expectations remained consistent but the percentage of students exceeding expectations grew by 10%. While there was an increase of students meeting expectations by 17%, with only 10 students being included, this equates to just two students scoring differently.

Similar to the Hanscom campus, the differences between female- and male-identifying students smoothed out between the fall and winter. 52% of EL students met or exceeded expectations compared to 40% in the fall. Trends for students in special education remained similar, though with 7% more students partially meeting rather than meeting or exceeding expectations.



i-Ready Grades K-8

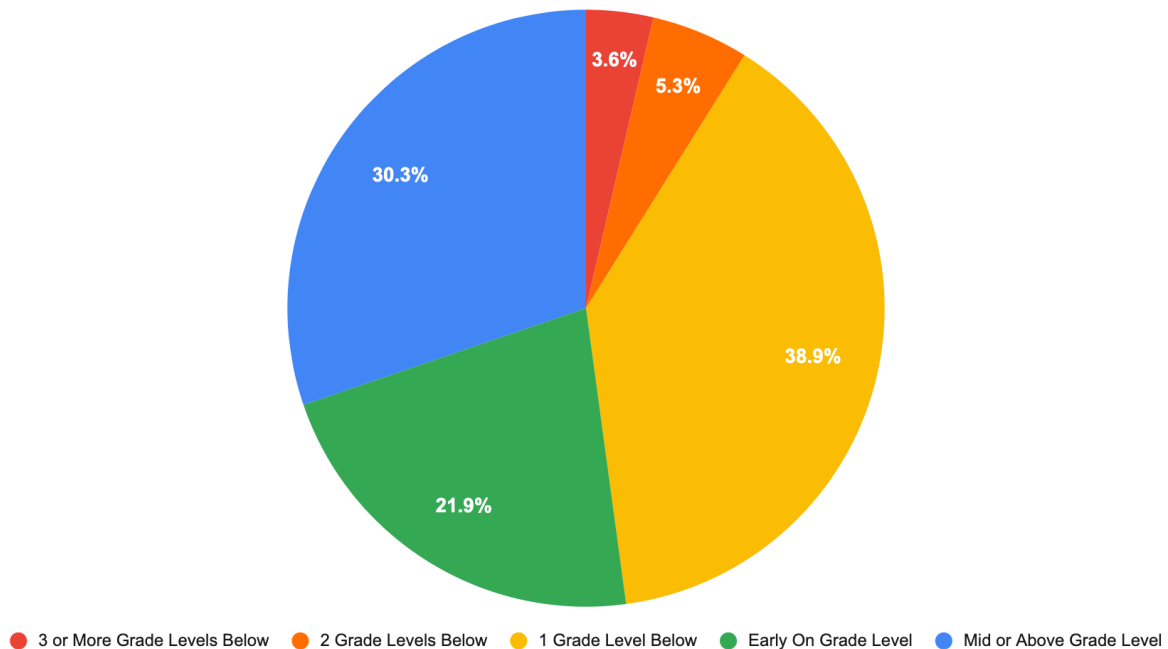
This fall, we adopted the i-Ready math diagnostic assessment for all students in kindergarten through eighth grade and students took the diagnostic assessment for a second time in January. We continue to learn how best to administer the assessment and how to interpret results. Two critical points to underscore:

1. In this first year of using i-Ready, we are interested in analyzing and reporting data after each diagnostic at the district and campus level to a deeper extent than we plan to in subsequent years, when we expect to pivot our attention to focus much more heavily on supporting individual teachers and teams of teachers in triangulating and using data to plan for instruction.
2. i-Ready data comes from a single, mostly multiple-choice online assessment, given three times a year. The data it provides is helpful for what it specifically was designed to illustrate. Our district's Portrait of a Learner and our goals and philosophy in math instruction aim for a significantly broader and deeper understanding and application of mathematical thinking. Thus, i-Ready data should be combined with other data sources to develop a full picture of what our students know and can do.

Overall across the district

The chart below illustrates the relative overall placement for K-8 students across the district:

Winter 2023 i-Ready Relative Overall Placement Across District

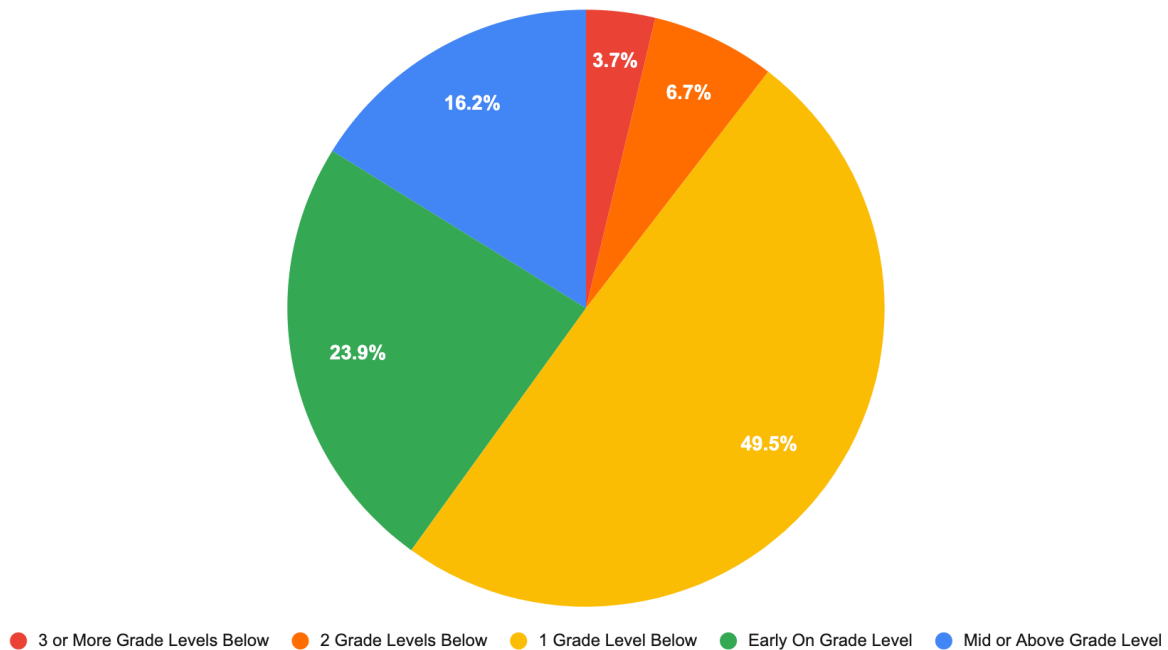


Of note is that across the district the percentage of students performing below grade level decreased from the fall to the winter and the percentage of students early on grade level or above increased, which is exactly what we want to see. The table below highlights these changes:

Relative Overall Placement	Fall	Winter	Change
Mid or Above Grade Level	18	30	+12
Early On Grade Level	21	22	+1
1 Grade Level Below	48	39	-9
2 Grade Levels Below	9	5	-4
3 or More Grade Levels Below	5	4	-1

The breakdown of relative overall placements differs between the two campuses. While the percentages of students scoring 2-3 grade levels below are not significantly different, the percentages of those 1 grade level below, early on grade level, and those mid or above grade level are quite different across campuses, with far more students on the Lincoln campus assessing at higher levels. Similar to district-wide trends, more students at Hanscom placed early on, mid, or above grade level and less students placed below grade level than in the fall.

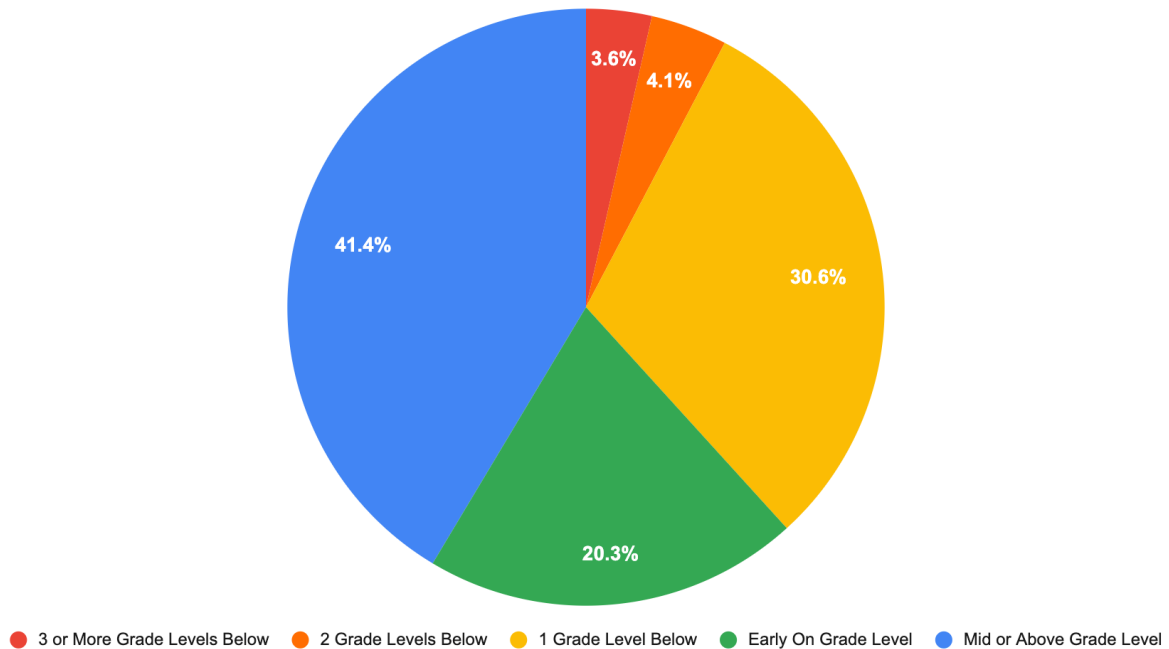
Winter 2023 i-Ready Relative Overall Placement on Hanscom Campus



Relative Overall Placement	Fall	Winter	Change
Mid or Above Grade Level	9	16	+7
Early On Grade Level	15	24	+9
1 Grade Level Below	60	50	-10
2 Grade Levels Below	10	7	-3
3 or More Grade Levels Below	6	4	-2

On the Lincoln campus, less students were below grade level in January compared to the fall and a significantly higher percentage of students placed mid or above grade level.

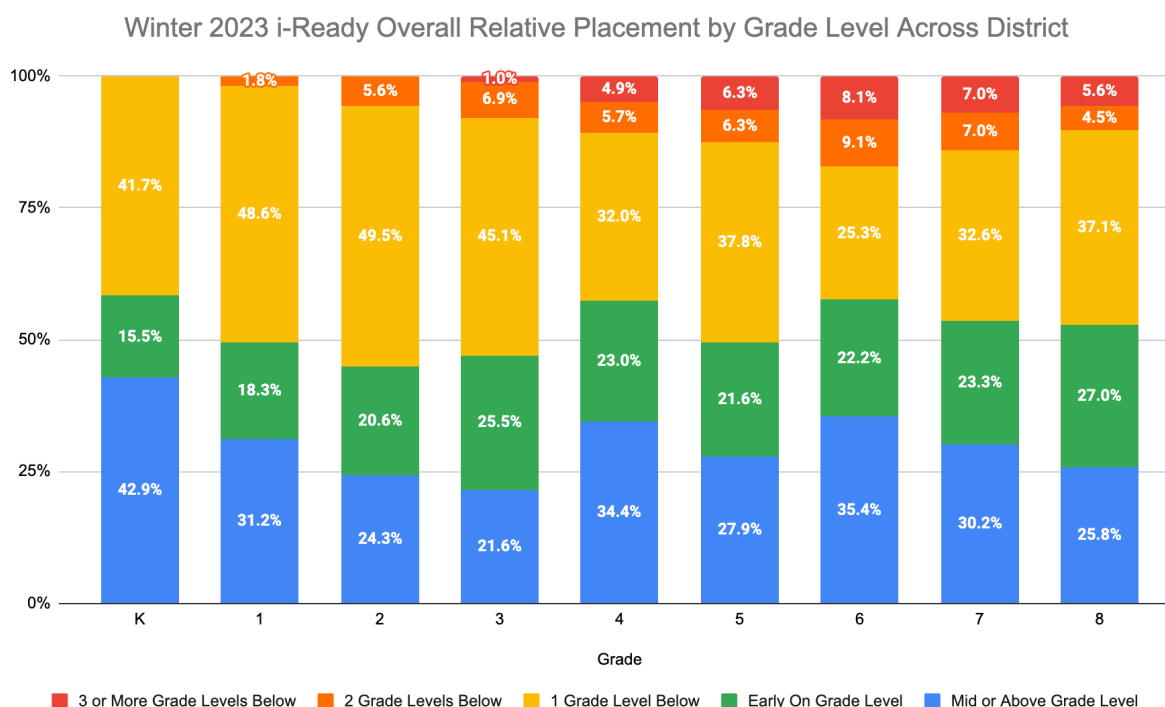
Winter 2023 i-Ready Relative Overall Placement on Lincoln Campus



Relative Overall Placement	Fall	Winter	Change
Mid or Above Grade Level	25	41	+16
Early On Grade Level	25	20	-5
1 Grade Level Below	39	31	-8
2 Grade Levels Below	7	4	-3
3 or More Grade Levels Below	4	4	0

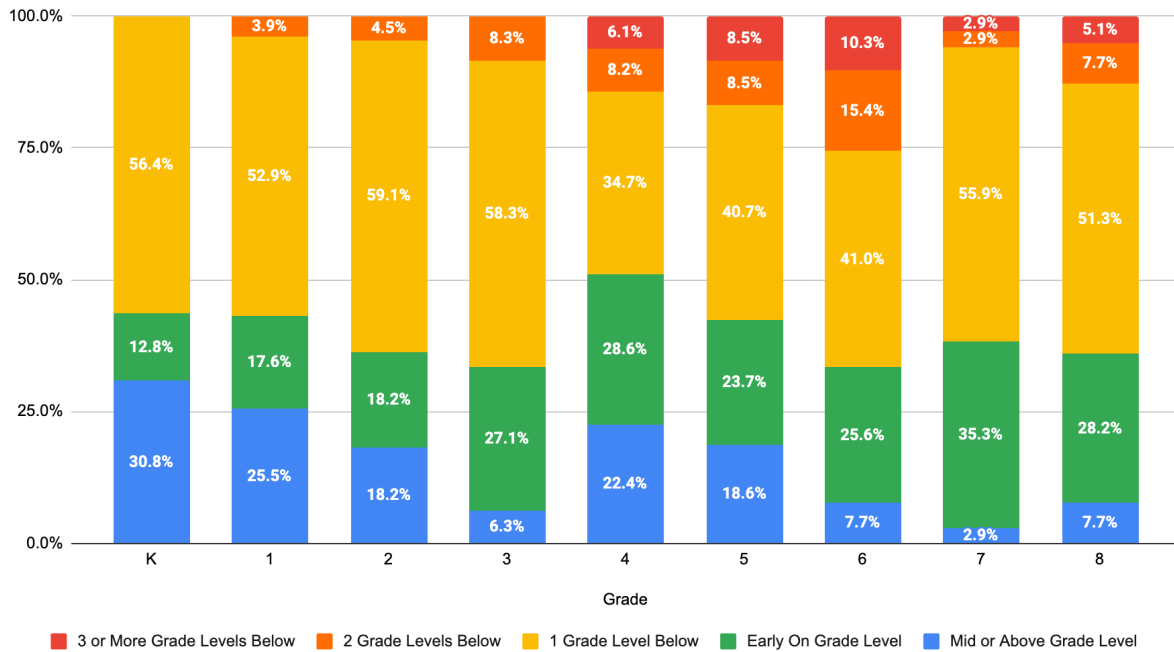
Distribution Across Grades

We examined the scores of students across grade levels. In the fall, we noticed that students in the upper grades 4-8 scored Early On Grade Level and Mid or Above Grade Level at higher rates than students in grades 1-3; this seems to have smoothed out. Students in Kindergarten can only be considered one grade level below if they are not early on grade level. Similarly, students in first grade can only be one or two grade levels below if they are not early on grade level.

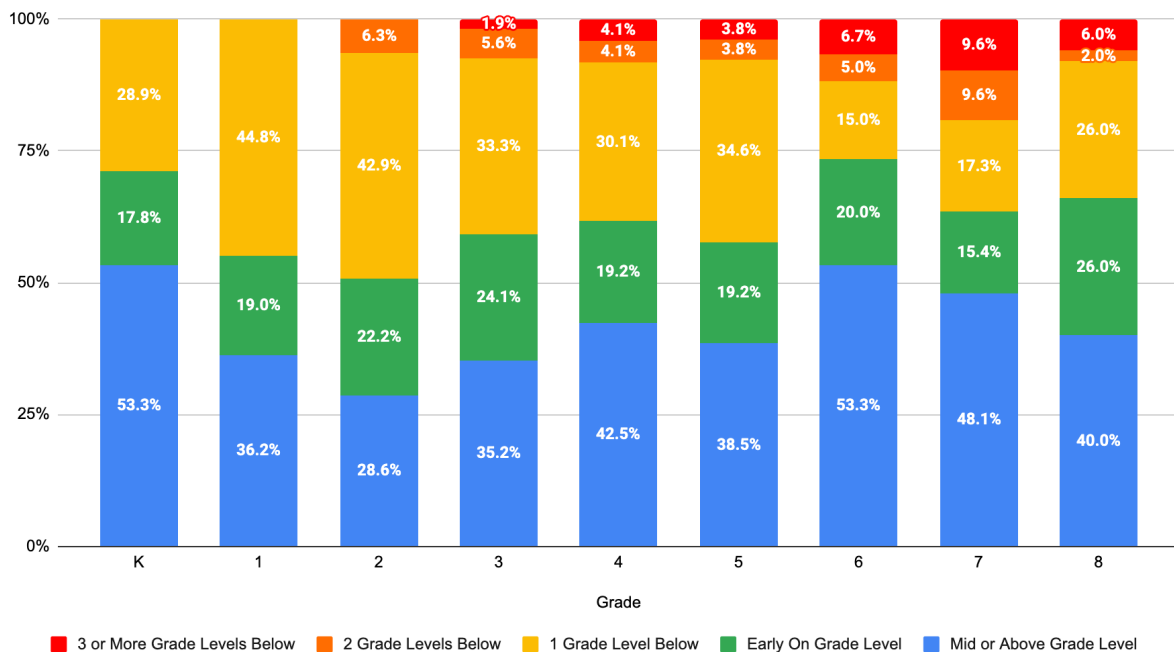


Just like with our overall results, differences by grade level between campuses can be seen, with students at Lincoln performing early on grade level or above at significantly higher percentages and those performing one or more grade levels below far less than their Hanscom peers. We can also see more variation between grade levels when we look at individual campus data.

Winter 2023 i-Ready Overall Relative Placement by Grade Level on Hanscom Campus



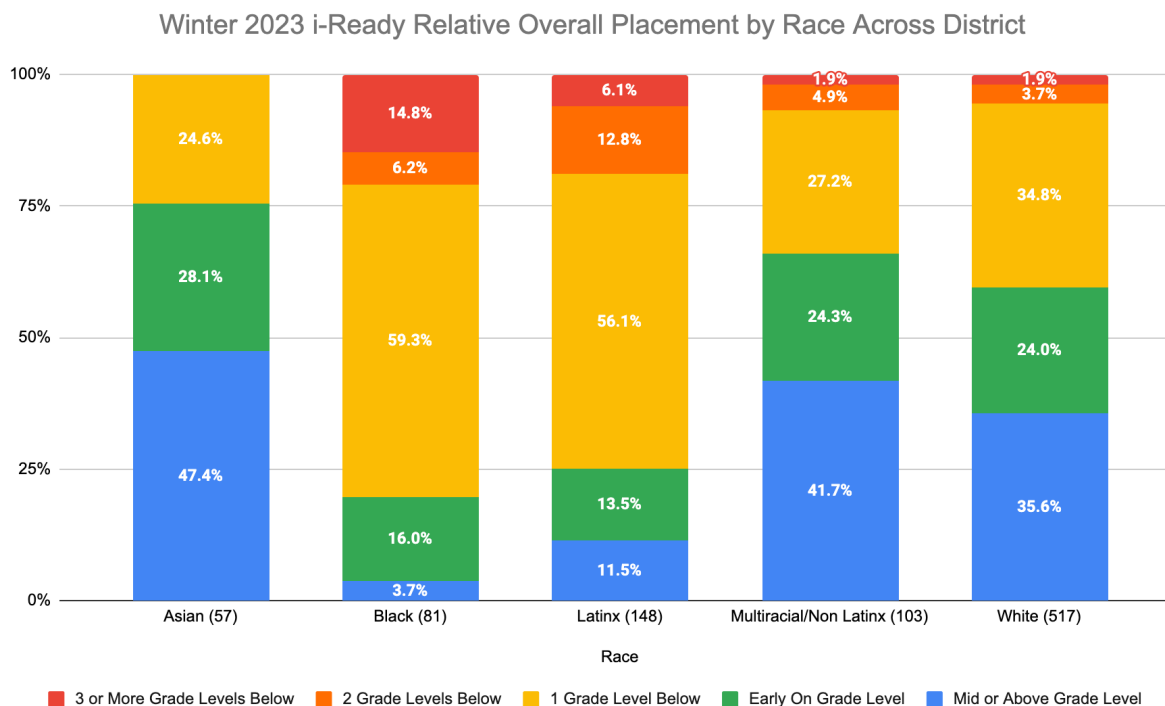
Winter 2023 i-Ready Overall Relative Placement by Grade Level on Lincoln Campus



Differences Across Demographic Groups

District Level

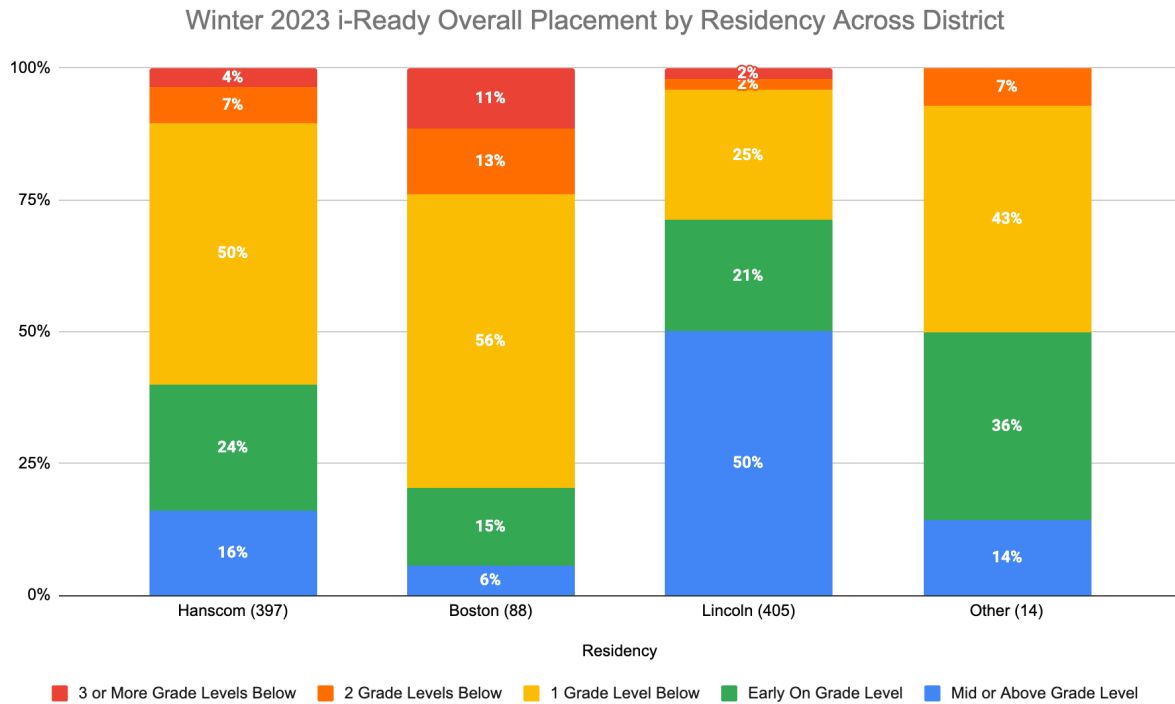
At the district level we see gaps by racial groups and other demographic groups, similar to other assessments and data sources.



In all racial groups, higher percentages of students performed early, mid or above and fewer percentages of students performed below grade level. Some racial groups showed higher levels of change compared to others. Multiracial/Non Latinx students had the biggest change from the fall to the winter, and Latinx students had the least amount of change.

	Differences from Fall to Winter				
	3 or More Grade Levels Below	2 Grade Levels Below	1 Grade Level Below	Early On Grade Level	Mid or Above Grade Level
Asian	0	-11	-6	+10	+7
Black	-1	-15	+3	+10	+1
Latinx	-1	-5	-2	+4	+4
Multiracial / Non Latinx	-2	-1	-18	-4	+21
White	-2	0	-12	-1	+16

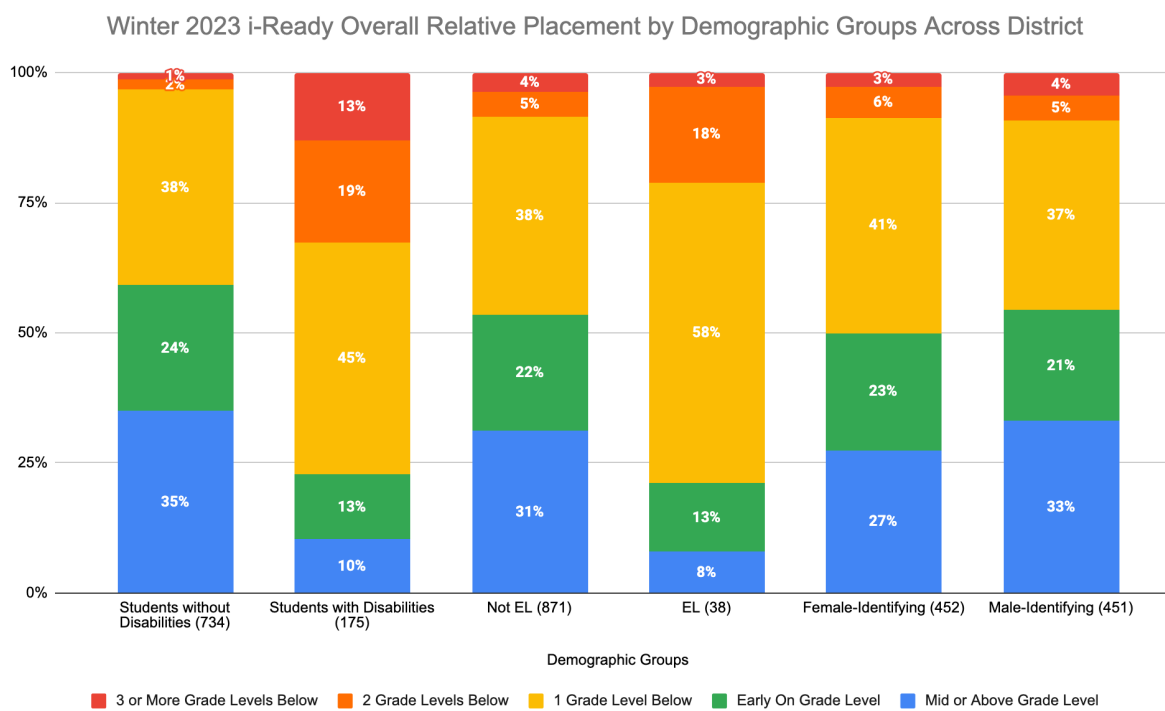
It is important for us to know that students from all four of our communities are experiencing positive and equitable outcomes. There is currently a marked difference in this area.



In looking from the fall to the winter diagnostics, each residency group has less students performing below grade level and more students early, mid, or above.

	Differences from Fall to Winter				
	3 or More Grade Levels Below	2 Grade Levels Below	1 Grade Level Below	Early On Grade Level	Mid or Above Grade Level
Hanscom	-2	-3	-10	+9	+7
Boston	+3	-10	-1	+7	+2
Lincoln	0	-2	-9	-8	+20
Other	-	-1	-34	+21	+14

Based on data from the last five years, we always look for comparative outcomes in the following three ways: (1) disability-status; (2) EL-status; and (3) gender.

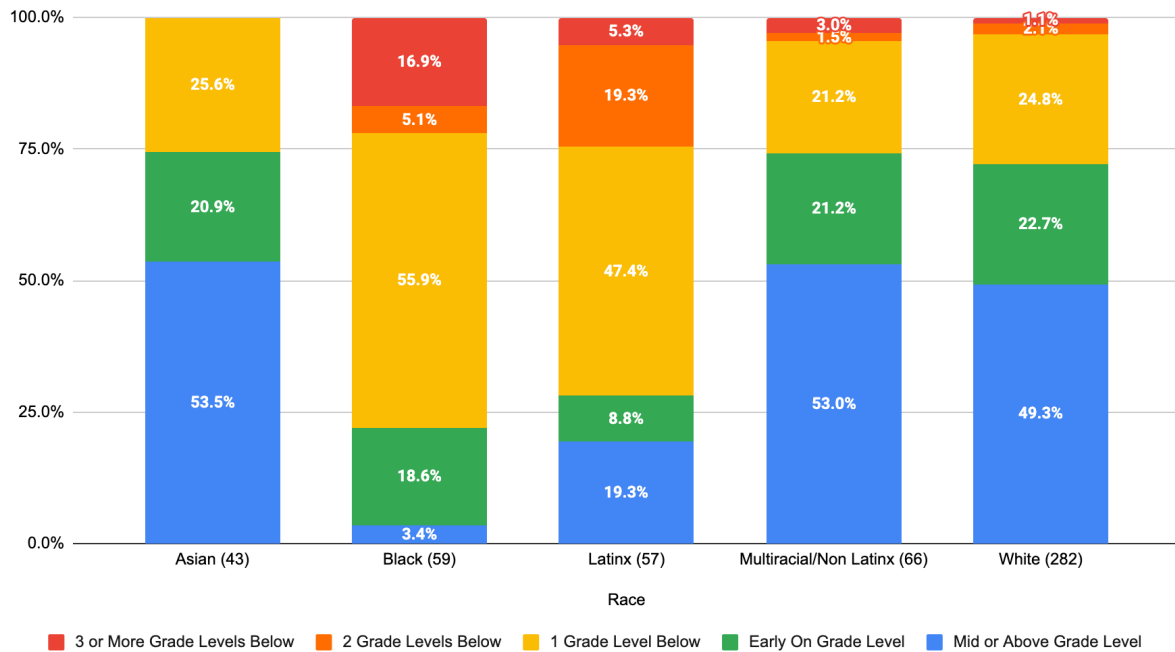


We see positive trends for all of these groups, with significant positive increases for our EL students.

	Differences from Fall to Winter				
	3 or More Grade Levels Below	2 Grade Levels Below	1 Grade Level Below	Early On Grade Level	Mid or Above Grade Level
Students without disabilities	-1	-4	-11	+2	+14
Students with disabilities	-6	-2	0	+1	+7
Not EL	0	-2	-11	+1	+12
EL	-8	-20	+17	+5	+5
Female-identifying	0	-5	-10	+3	+12
Male-identifying	-3	-2	-9	0	+13

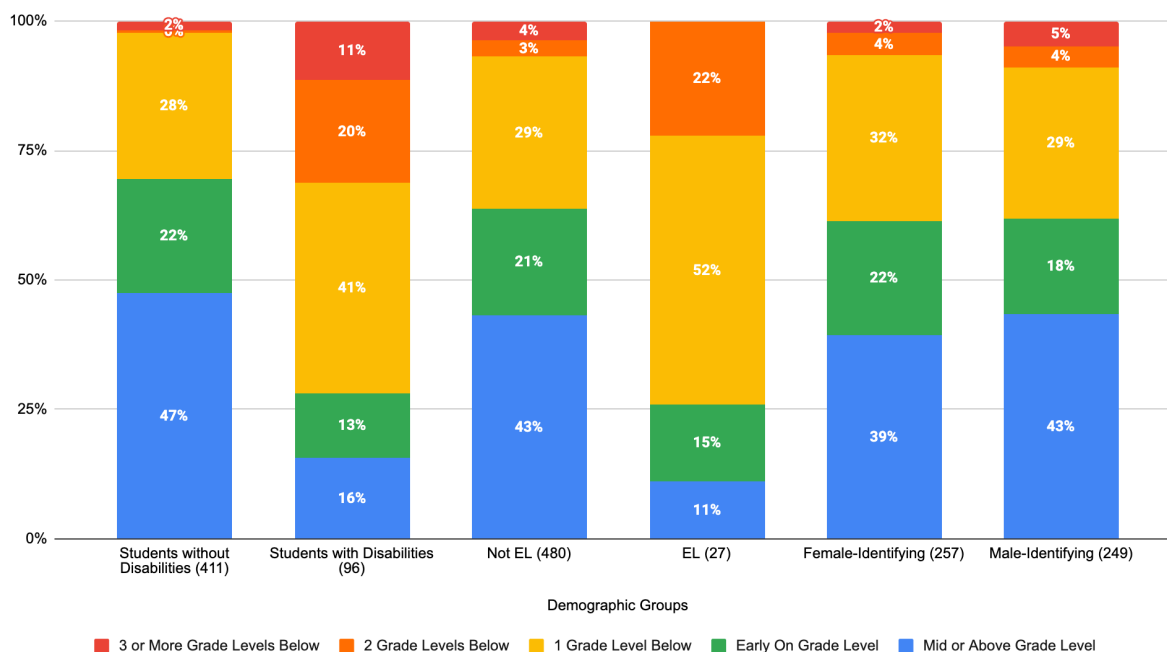
Lincoln Campus

Winter 2023 i-Ready Relative Overall Placement by Race on Lincoln Campus



	Differences from Fall to Winter				
	3 or More Grade Levels Below	2 Grade Levels Below	1 Grade Level Below	Early On Grade Level	Mid or Above Grade Level
Asian	-	-9	-7	+7	+10
Black	+3	-16	0	+14	0
Latinx	0	+3	-12	+3	+10
Multiracial / Non Latinx	+3	-2	-15	-13	+28
White	-1	-1	-8	-9	+19

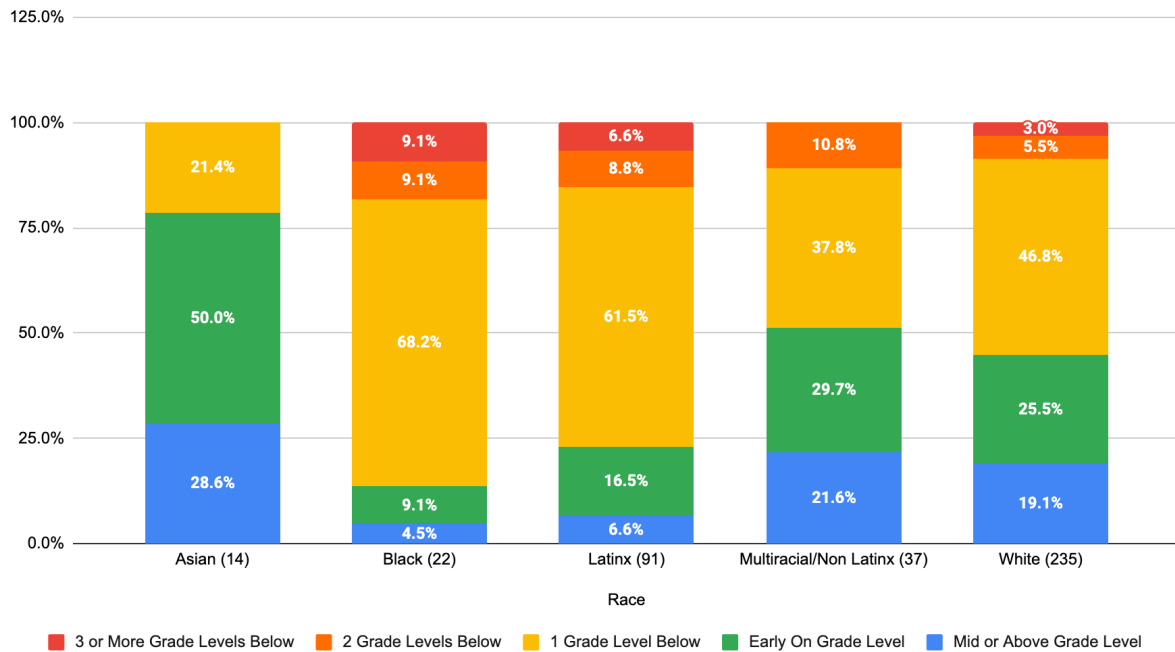
Winter 2023 i-Ready Overall Relative Placement by Demographic Groups on Lincoln Campus



	Differences from Fall to Winter				
	3 or More Grade Levels Below	2 Grade Levels Below	1 Grade Level Below	Early On Grade Level	Mid or Above Grade Level
Students without disabilities	+1	-4	-11	-5	+18
Students with disabilities	-4	-4	+1	-2	+10
Not EL	+1	-3	-10	-5	+17
EL	-11	-11	+8	+8	+7
Female-identifying	0	-5	-9	-5	+17
Male-identifying	-1	-2	-8	-5	+15

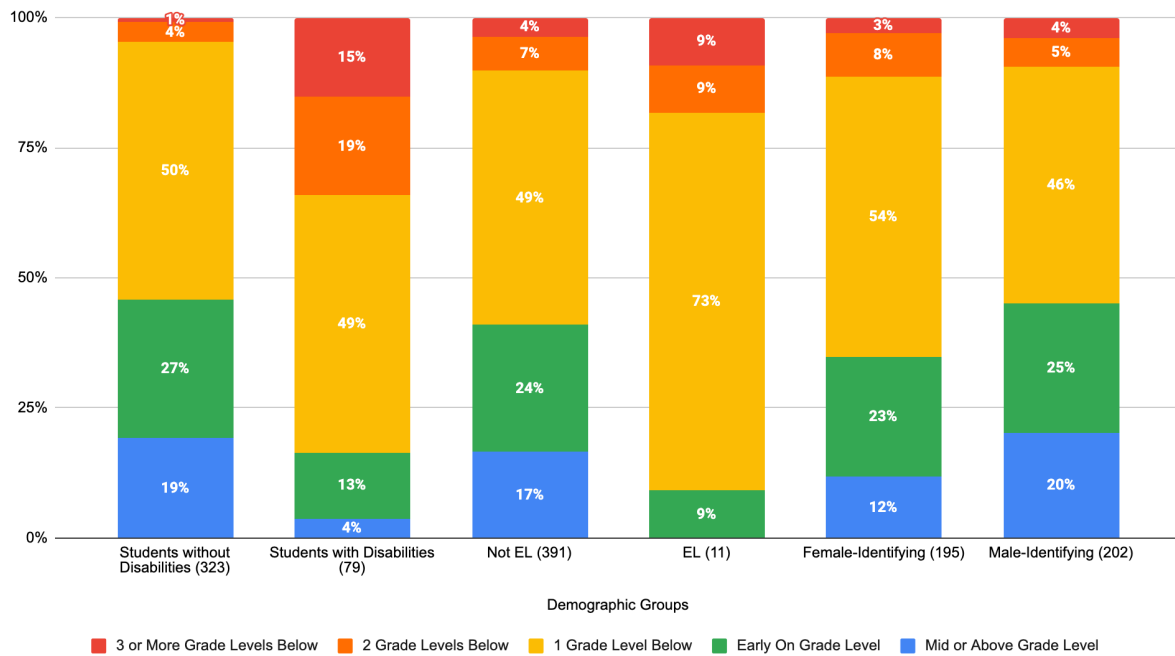
Hanscom Campus

Winter 2023 i-Ready Relative Overall Placement by Race on Hanscom Campus



	Differences from Fall to Winter				
	3 or More Grade Levels Below	2 Grade Levels Below	1 Grade Level Below	Early On Grade Level	Mid or Above Grade Level
Asian	-	-17	-3	+17	+4
Black	-5	-10	+11	0	+5
Latinx	-2	-10	+4	+9	0
Multiracial / Non Latinx	-	+2	-22	+13	+8
White	-2	0	-16	+9	+10

Winter 2023 i-Ready Overall Relative Placement by Demographic Groups on Hanscom Campus



	Differences from Fall to Winter				
	3 or More Grade Levels Below	2 Grade Levels Below	1 Grade Level Below	Early On Grade Level	Mid or Above Grade Level
Students without disabilities	-2	-5	-12	+6	+8
Students with disabilities	-8	-1	-3	+5	+4
Not EL	-2	-2	-12	+9	+8
EL	-1	-39	+43	-1	-
Female-identifying	-1	-6	-11	+12	+6
Male-identifying	-4	-2	-9	+6	+9

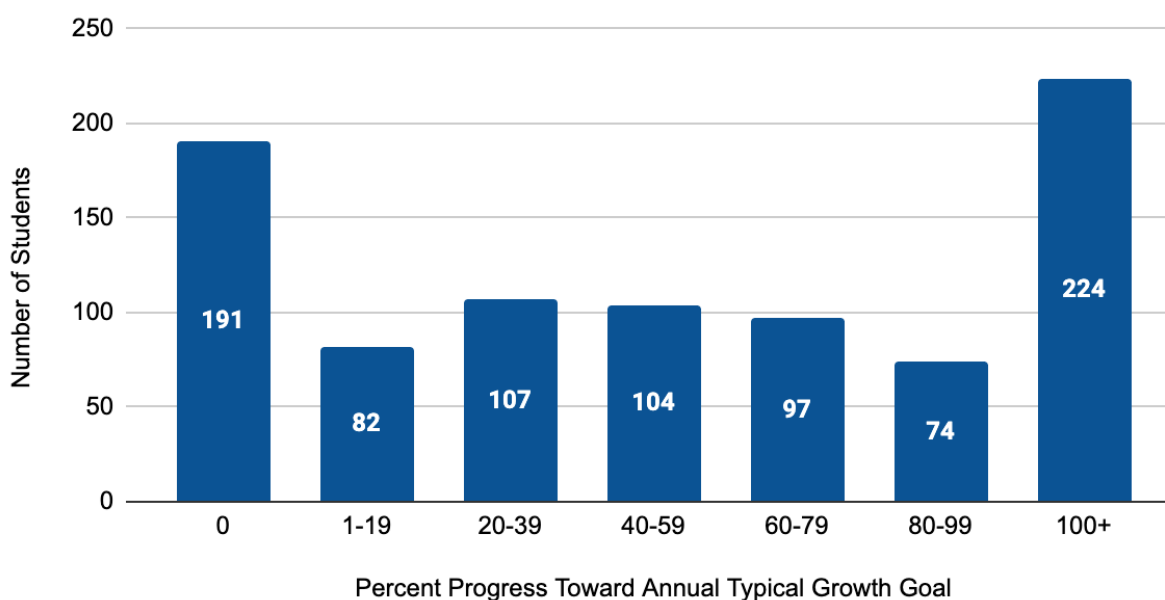
Growth

Growth Distribution Across District

The recent winter diagnostic was the first time we were able to see growth. 6-8 students took their first i-Ready diagnostic in September; we hoped to see the majority of 6-8 students making at least 50 % progress toward their annual typical growth goal. Our K-5 students did not take i-Ready until October, and had at least one month less instruction between their fall and winter assessment. Due to this we set our internal bar at 40% growth toward annual typical growth goals, knowing students would have more time between now and the end of the year to demonstrate growth compared to the three months between October and January.

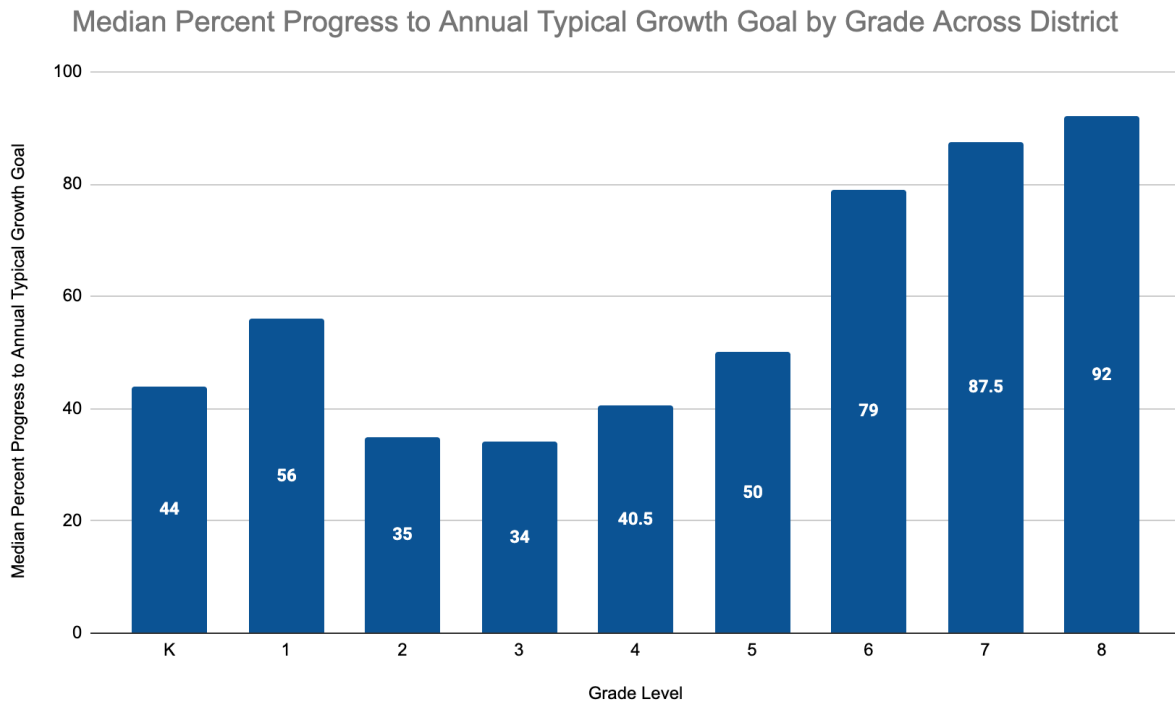
We notice a trend we're calling "book-ends" in which a large number of students already met their typical growth goal mid-year and are on towards meeting their stretch growth goal, and another large group of students showed no growth with smaller groups making growth in between. In conversations with teachers about students who showed no growth, a significant amount had shown progress and strength in end-of unit assessments and classwork. This leaves us with questions to explore as we get to know i-Ready better.

Distribution of Percent Progress Toward Annual Typical Growth Goals Across the District

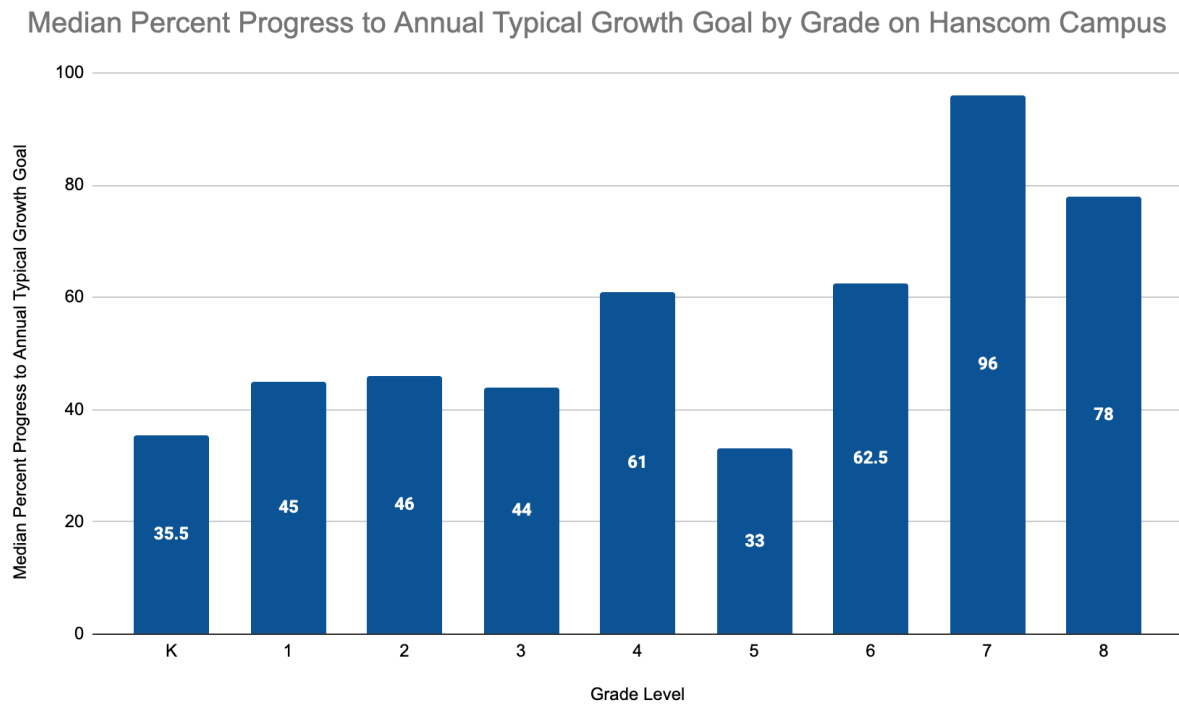
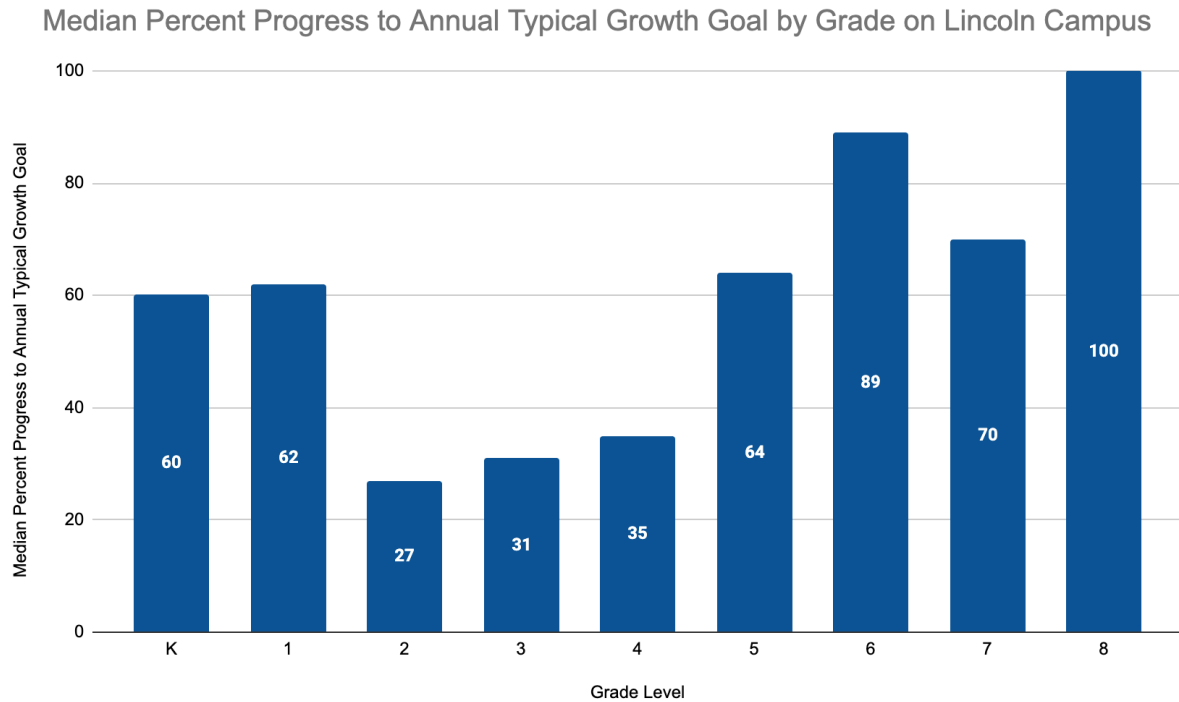


Growth by Grade Level

We saw significant differences between grade levels, with 6-8th grade students showing much higher levels of growth compared to those in K-5.



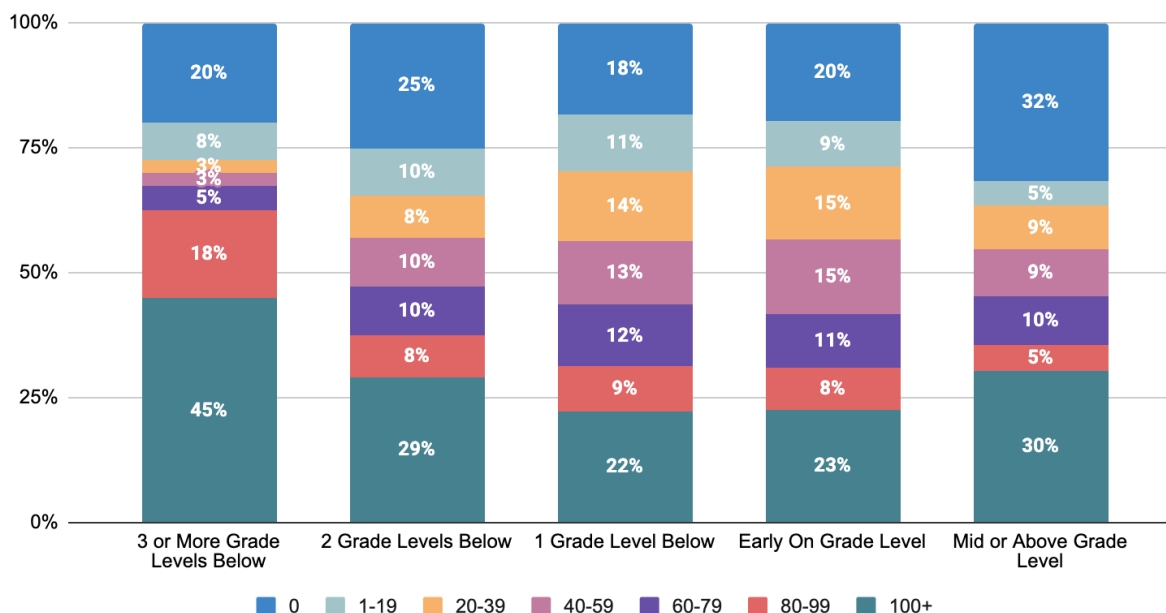
Below are campus-based growth levels, disaggregated by grade level:



Growth by Overall Placement Level

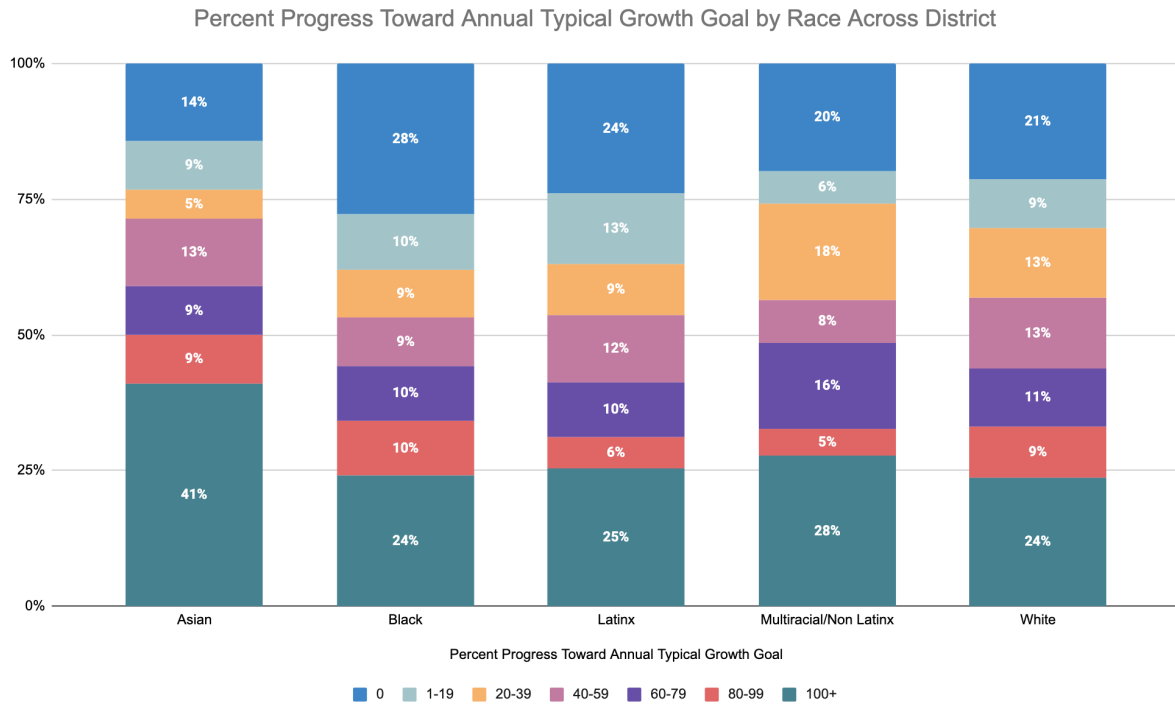
We were curious if students in certain overall placement levels grew more than others. We want all students to grow at rates that ensure they meet their typical growth goal each year and we especially want our students who are below grade level to reach their stretch growth goals so that each year we narrow and eventually close these gaps. Interestingly, students from all placement levels grew at all rates. A higher percentage of students 3 or more grade levels below made at least 100% progress toward their annual typical growth goal by mid-year, which is excellent.

Percent Progress Toward Annual Typical Growth Goal by Overall Placement Level Across the District

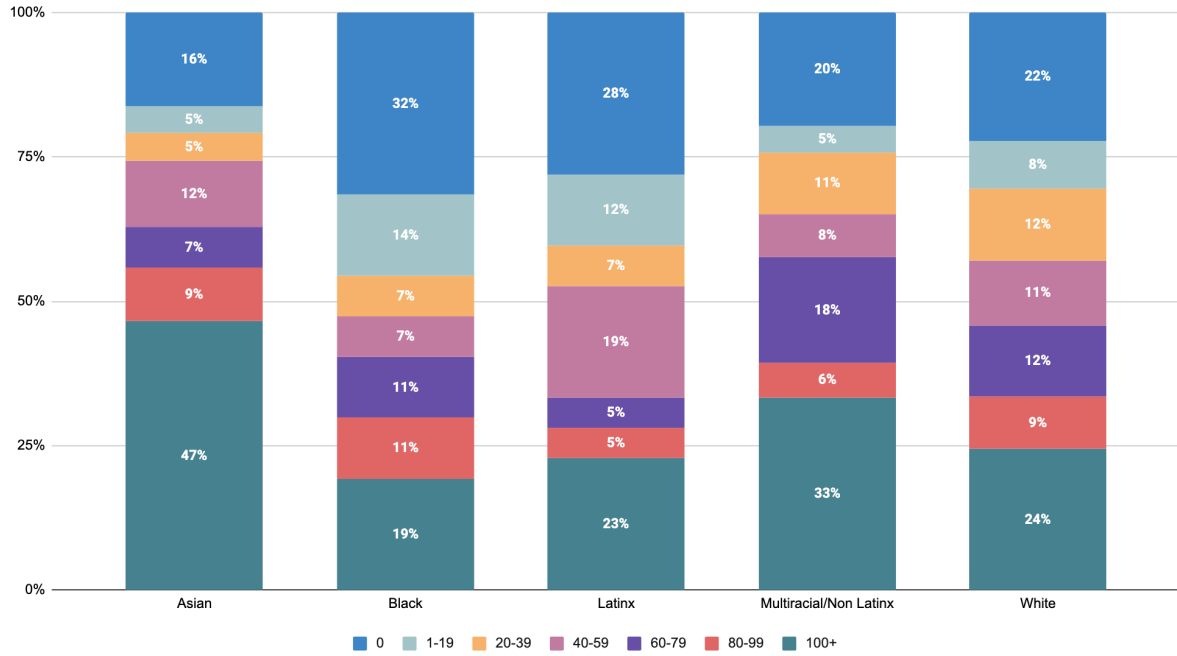


Growth by Racial Groups

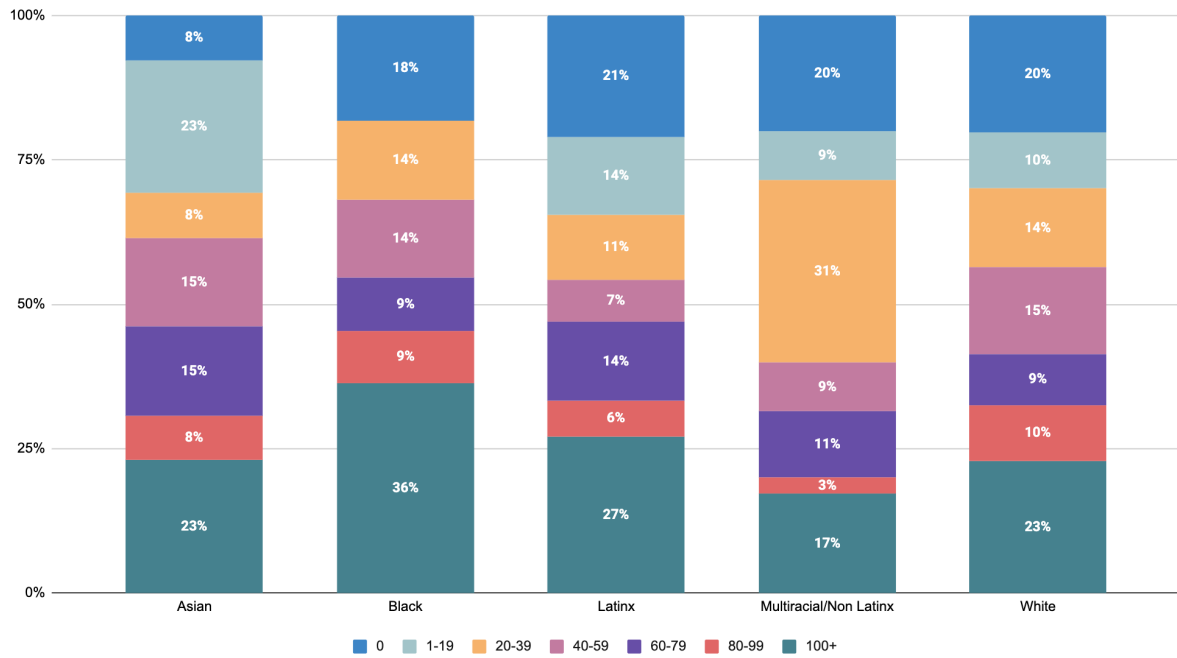
Similarly, we wanted to see if students across racial groups were making similar levels of progress.



Percent Progress Toward Annual Typical Growth Goal by Race on Lincoln Campus



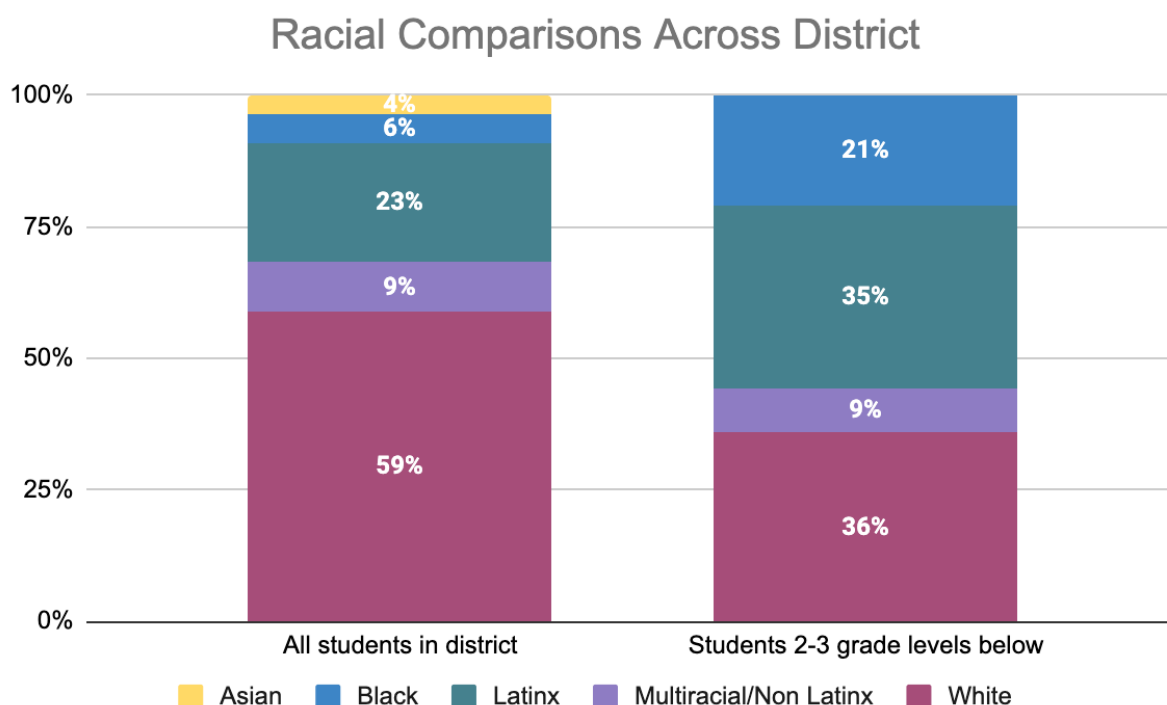
Percent Progress Toward Annual Typical Growth Goal by Race on Hanscom Campus



Supporting Students

We examined slices of the data to understand how to support students who are behind grade level, as well as students who did not make growth on i-Ready from the fall to winter.

Our students who are 2-3 grade levels below are disproportionately Black and Latinx compared to other racial groups and a majority of them are students in special education.

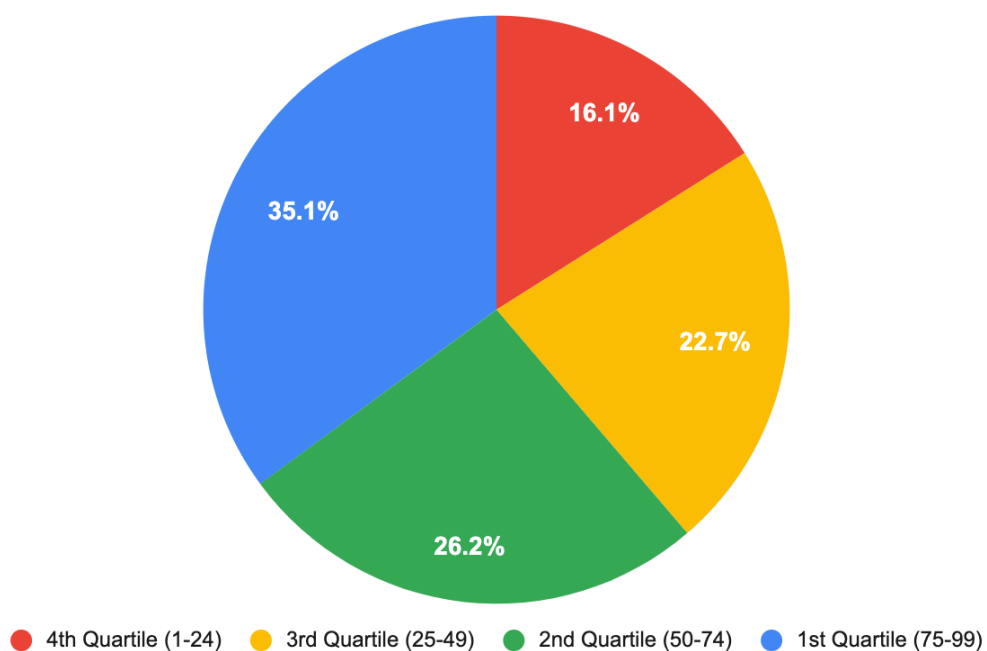


When we examine students who made no growth, no matter their overall relative placement, we find that their racial, residency, gender, EL- and Special Education-status does not differ significantly from the rest of students. While there are some clusters of students in certain grade levels who did not make growth, these exist in each of our schools equally. Further conversations and action-planning will need to occur in order to support these students between now and the end of spring.

Comparing our Data to National Norm Percentiles

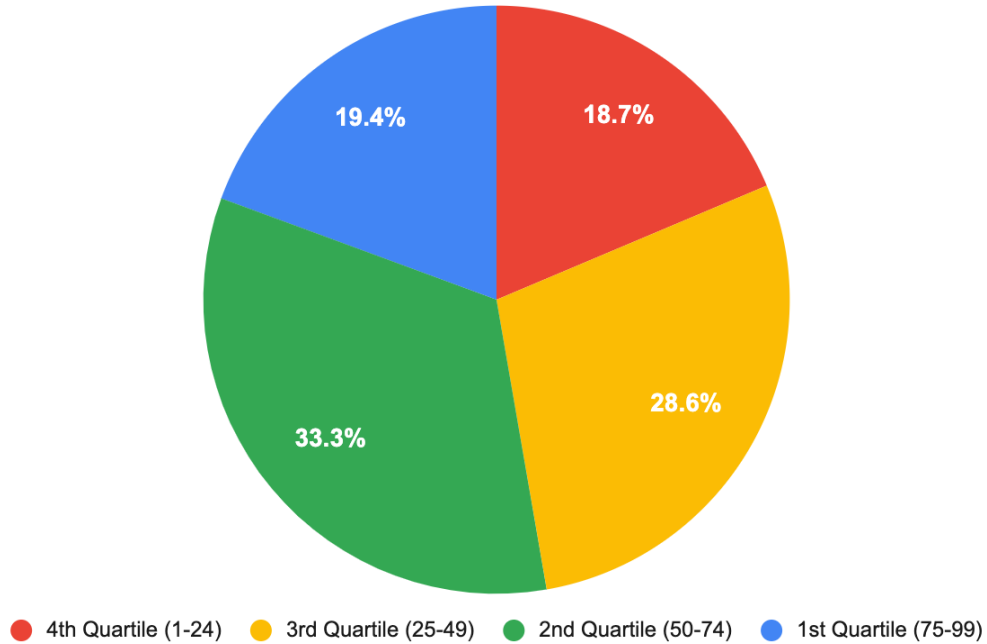
Somewhere around 10 million students use i-Ready across the country. The charts below illustrate how our students rank when compared to all students who take i-Ready. Across the district, about 10% fewer students are in the bottom quartile and about 10% more are in the top quartile compared nationally.

LPS Students Across District Compared to National Norm Percentiles



On the Hanscom campus a few more percentage points of students are in the middle two quartiles compared to the 1st and 4th.

Hanscom Campus Compared to National Norm Percentiles



On the Lincoln campus nearly half of our students are in the top quartile.

Lincoln Campus Compared to National Norm Percentiles

