



What We've Learned about Unfinished Learning

Insights from Midyear Diagnostic Assessments

Curriculum Associates Research Brief | March 2021

Executive Summary

In marking one year of interrupted schooling due to the COVID-19 pandemic, educators, community members, and policymakers across the country are continuing to ask questions about student learning while reflecting on what teachers and students have achieved under unprecedented circumstances. Questions about mitigating the lost time for teaching and learning and addressing student academic needs highlight the role of language we use and its implications. We recognize that the interruption in schooling happened due to circumstances outside of the school and the classroom, and teaching and learning remains unfinished rather than lost. To reflect that, when we describe where students are not yet prepared for grade-level work, we will use the term *unfinished teaching and learning* or *unfinished learning* instead of learning loss. When we describe where students are on grade level, we will use the terms *ready for grade-level work* or *not ready for grade-level work* instead of performing on grade level or not performing on grade level. For more thoughts on asset-based language, please see *The Language We Use to Describe Learning* on page IV.

Using the *i-Ready Diagnostic's* criterion-referenced grade-level placement data from more than nine million students, we compared student achievement during winter 2020–2021 to what we would expect during a typical school year. The *i-Ready Diagnostic* assessment asks students to indicate whether they are taking the test in school or out of school, which allows us to look at data trends by testing location. After initially looking at student assessment data from tests taken in school and those tests taken out of school, we came to the conclusion that examining assessment data taken exclusively in school is the closest to a “true” comparison to prior-year achievement. As such, this report discusses findings from in-school testing only.

Our findings shed light on the severity of unfinished learning in 2021. The winter assessment data indicates there are fewer students ready to access grade-level work and more students underprepared to access grade-level work, compared with historical benchmarks—validating educators’ concerns about unfinished learning. The unfinished learning is greater for students in schools serving a majority of Black and Latino students, compared to a majority of White students, and unfinished learning is most stark for students underprepared to access grade-level work. Students attending schools in lower-income zip codes are also experiencing greater unfinished learning than students attending schools in higher-income zip codes. The challenge ahead is a great one, but our hope is that data from interim assessments can help educators, district and school leaders, and policymakers understand the landscape of unfinished learning and endeavor to address it together.

Key Findings

- Unfinished learning is greater this winter compared to prior school years.
- Unfinished learning in reading is greater for students in Grades 1–7, particularly in early elementary grades.
- Unfinished learning in mathematics is greater for students in all grades, particularly elementary grades.
- Unfinished learning is greater for students in schools serving majority Black and Latino students.
- Unfinished learning is greater for students in schools located in lower-income zip codes.
- It is too early to tell if students are catching up from starting behind in the fall.

Contents

Executive Summary	ii
Key Findings	ii
The Language We Use to Describe Learning	iv
Introduction	1
Methodology	2
Research Questions	2
Sample Description	2
Results	3
Addressing Unfinished Learning	18
Limitations	20
Conclusion	20
Appendix	21
Methodology and Sample Description	21
How Was Student Testing Location Determined?	21
Sample Inclusion Criteria	22
School-Level Demographic Groups	22
Additional Sample Description Data	23
Additional Results	25
Additional Results for Students with Fall and Winter Data	27
About the <i>i-Ready Diagnostic</i>	29
References	30

The Language We Use to Describe Learning

At Curriculum Associates, we are committed to becoming a fully inclusive, anti-racist, multicultural organization. We recognize that systemic bias and racism negatively impact students and educators of color and that common terms and characterizations of student achievement data have been and continue to be problematic. In particular, we are cognizant of how bias is embedded in the language we use to describe what students know and are able to do. For example, deficit-based labels such as *underperforming* unfairly place blame on students who in truth have been underprepared by our society. We know that while teachers and school and district leaders deeply invest in these learners, the cumulative and compounding effects of an array of societal factors have systematically disadvantaged people of color.

We take our role in changing that system very seriously. One of our goals, as a curriculum and assessment provider, is to objectively measure learning to inform instruction, reveal inequities, and contribute to the field of education research. We believe that the deficit-based labels that have long been used to describe student learning have nothing to do with their intellectual capacity, effort, or aptitude. Instead, we choose to honor the potential of students and decouple the words we use to describe student achievement from unfair assumptions and habits. This will take some time, but our work has already begun. As our learning journey continues, we will keep reflecting on the impact of our words and strive to use asset-based language that is empowering for all students, teachers, and educators.

Introduction

In March 2020, schools closed their doors due to the COVID-19 global health crisis. Millions of students faced an interruption to learning unknown to generations before them. Several studies released shortly after the initial shutdowns predicted significant academic consequences due to these school closures. Early prediction models estimated that students would return to school in fall 2020 with only 70% of the learning gains in reading and 50% of the learning gains in mathematics relative to a normal school year (Kuhfeld & Tarasawa, 2020). A similar study estimated that the number of days of instruction “lost” due to the spring closures alone could be up to one year in reading and more than a year in mathematics (Center for Research on Education Outcomes, 2020). This early research largely shaped the national narrative.

Curriculum Associates and others set out to research the impact of school closures on student achievement when the school year began in fall 2020. The resulting body of research on unfinished learning from academia and education testing companies largely agrees that while students are behind this year, they did not experience the anticipated precipitous drop in achievement that was initially predicted, and unfinished learning in mathematics is greater than in reading. Additionally, the research tends to agree that school closures have impacted some students more than others and have exacerbated existing inequalities for students of color and historically underserved communities (Dorn et al., 2020; Kogan & Lavertu, 2021; Catalano, 2020).

More than nine million students who are enrolled in public, private, and charter schools nationwide have taken the *i-Ready Diagnostic* this school year. The findings drawn from the Diagnostic assessment represent approximately 25% of the K–8 public school population and paint a picture of student achievement a year after schools closed their doors. Building on what we learned from fall assessment data, we examined the winter data, first by testing location (in school or out of school), and came to the same conclusion: data from assessments taken exclusively in school, as reported by students during their testing experience, is the closest to a “true” comparison to prior-year performance than data from assessments taken at home. Due to concerns over the comparability of out-of-school testing data, we are reporting out results for in-school assessment data only.

This analysis, shared below, finds that after 12 months of school interruptions due to the pandemic, there are fewer students ready to access grade-level work compared to prior years at this point in the school year, which means there is a greater amount of unfinished learning to address compared to a typical school year. The midyear results suggest some of our youngest students, and those historically underserved, have been impacted the most. After looking at a subset of student assessment data from fall to winter, we have come to the preliminary conclusion that it is too early to tell if students are catching up from starting behind in the fall.

As in any school year, educators face the challenge of supporting students in 2020–2021, and the data from interim assessments helps educators understand individual student needs and plan for resources and instruction. Unlike previous school years, the number of students who need additional supports has increased across grade levels in two critical subject areas: reading and mathematics. There are many research-based recommendations to support teaching and learning. This report suggests how some of those research-based recommendations may help to address unfinished learning.

Why Focus on In-School Assessment Data?

This analysis focused on assessment data from in-school testing locations because it is:

- More consistent with historical testing conditions
- Less variable from student to student, and, therefore:
- A more valid comparison to historical performance

Methodology

Research Questions

The primary research questions addressed in this research paper are as follows:

1. How does unfinished learning during winter 2020–2021 compare to what we have seen historically?
2. How does unfinished learning vary by subject and grade level?
3. How does unfinished learning vary by the racial or ethnic makeup of schools?
4. How does unfinished learning vary by the median household income of schools' locations?
5. How has unfinished learning changed for each grade (1–8) since the fall? Have differences in unfinished learning increased or decreased relative to what we would expect based on a historical average?

Sample Description

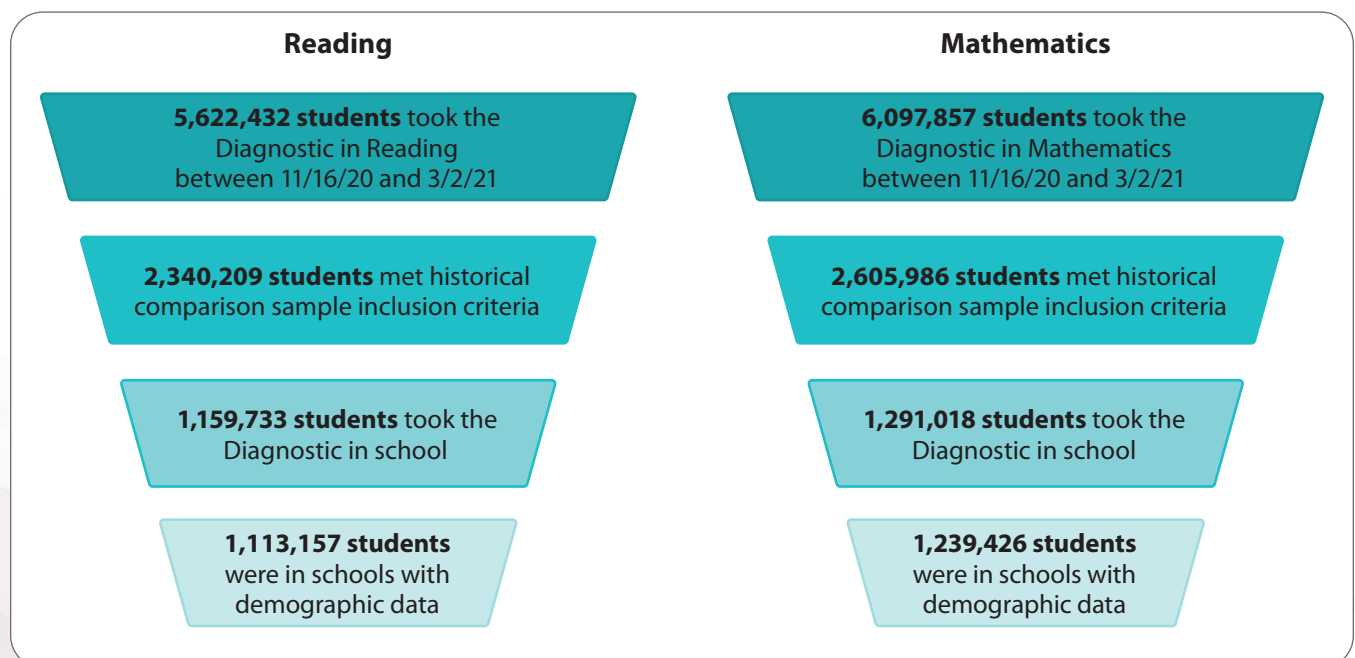
For this study, we examined grade-level placement results from students in winter 2020–2021 compared to prior school years. We constructed a historical average to represent typical performance for students in Grades 1–8 across the three most recent school years: 2017–2018, 2018–2019, and 2019–2020. Student-level data was matched at the school level so the current and historical samples consist of students in the same schools.

In order to have what we considered to be a fair basis of comparison for this analysis, we only included students who tested in school during winter 2020–2021, between November 16, 2020 and March 2, 2021. With these criteria in place, the final analytic sample consisted of 1,159,733 students in Grades 1–8 in the Diagnostic for Reading analysis and 1,291,018 students in Grades 1–8 in the Diagnostic for Mathematics analysis. School-level demographic data was sourced from the National Center for Education Statistics (NCES) Common Core of Data.

This analysis represents students from 49 states, plus the District of Columbia. The number of students per state varied by subject and is not statistically representative of each state.

See Appendix A for more details on the methodology and sample description.

Figure 1: How Was the Winter Assessment Sample Selected?



Results

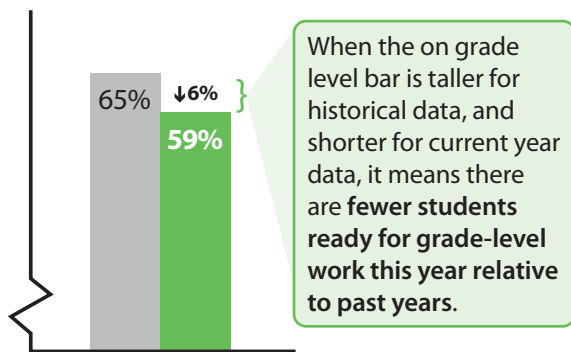
Overview

The following section reports the findings from student assessment data for students who took the Diagnostic in Reading and Mathematics in school. We will begin by sharing the high-level findings across grade levels for each subject this school year relative to the historical average and then discuss the findings for demographic groups by race and ethnicity and income level. We will also look at a subset of students who tested in school during both the fall and winter and look at how their performance levels changed from fall to winter as well as relative to the historical average performance for each testing window.

In this paper, students who placed Early On Grade Level or higher were considered **on grade level** and students who placed Two or More Grade Levels Below were considered **below grade level**. Students who are Early On Grade Level have partially met grade-level college and career readiness standards and students who are Mid or Above Grade Level have met grade-level college and career readiness standards. Students who are Two or More Grade Levels Below are not yet close to meeting grade-level college and career readiness standards and may need additional instruction to fill in gaps in foundational concepts and knowledge. In this paper, we will discuss the national trends we see in the percentage of students who are on grade level and below grade level. We observed somewhat different patterns within each focus area when examining the demographic data in particular that we want the reader to note.

Understanding Grade-Level Placements in This Paper

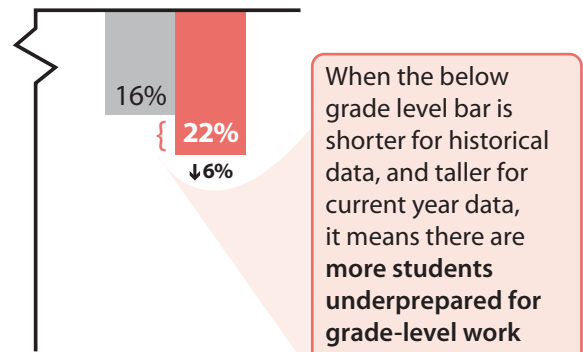
Data Focus:  ← This graph is showing **on grade level** data.



Grade 3

 Historical  Current

Data Focus:  ← This graph is showing **below grade level** data.



Grade 3

 Historical  Current

What Are Grade-Level Placements?

When students take the *i-Ready Diagnostic*, they are given a placement level relative to their chronological grade level that designates the student performance as being on grade, below grade, or above grade. For example, a fifth grader can place below grade at the fourth grade level (One Grade Level Below), at the third grade level (Two Grade Levels Below), and at the second grade, first grade, or kindergarten level (Three or More Grade Levels Below); on grade level (Early On Grade Level, Mid On Grade Level, Late On Grade Level); above grade level as a sixth grader (Above Grade Level), as a seventh grader (Above Grade Level), and at the eighth grade level (Above Grade Level). See Appendix for *i-Ready* placement level descriptors.

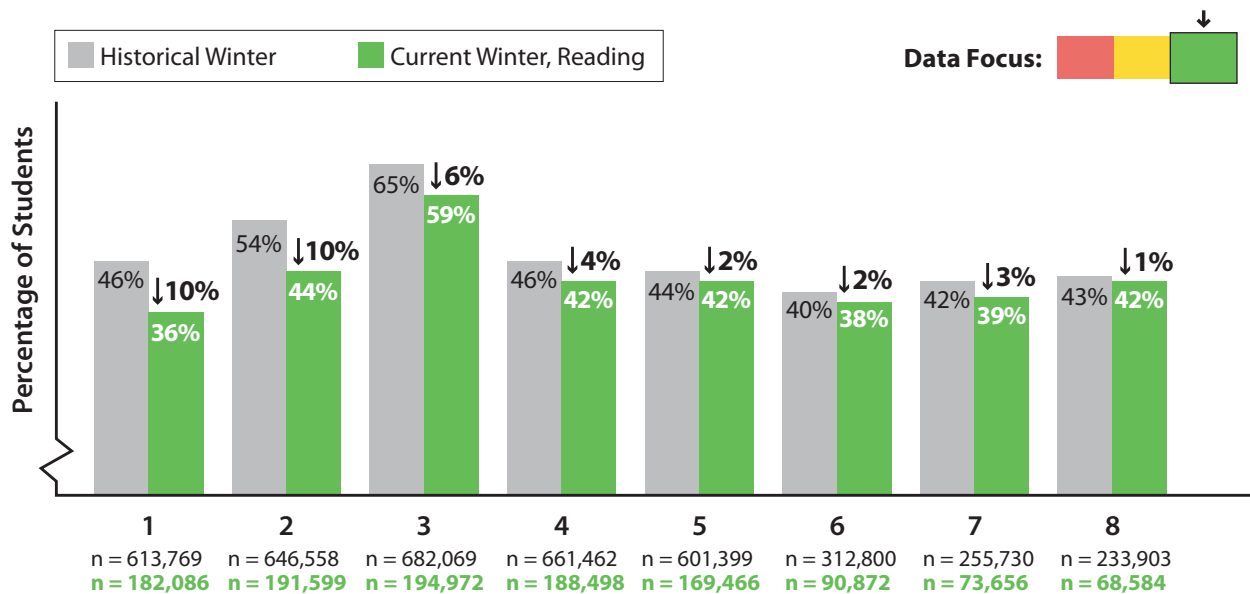
Finding 1

Unfinished Learning in Reading Is Greater This Winter Compared to Historical Averages

Reading

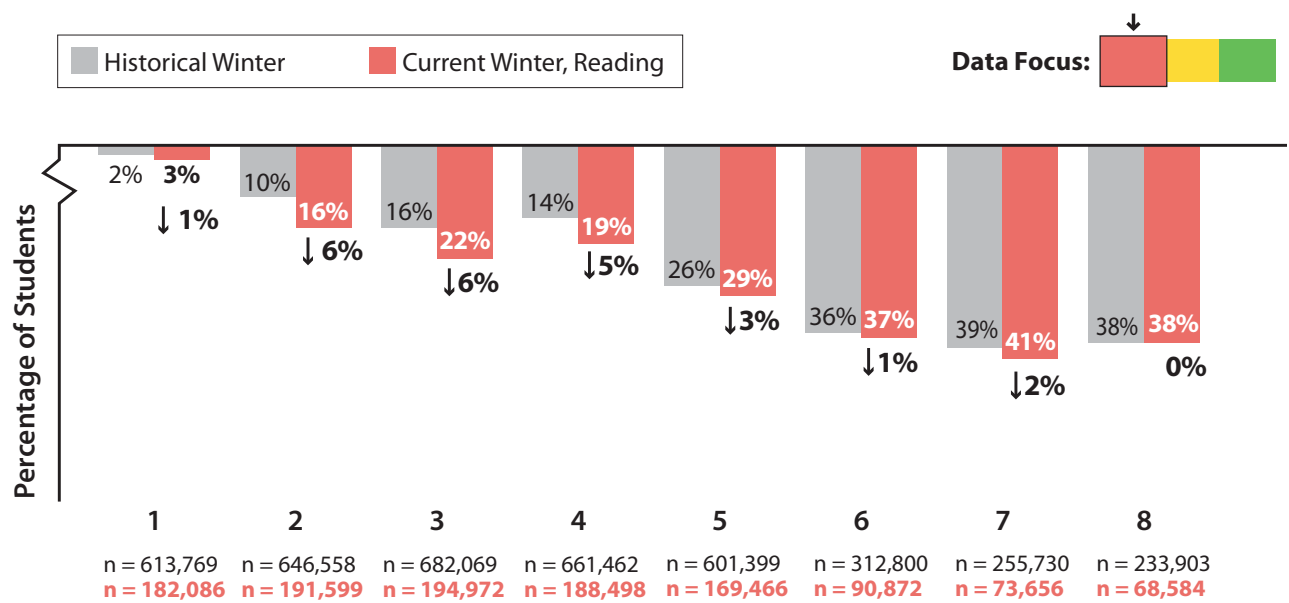
In reading, there is a greater amount of unfinished learning at each grade level, particularly in Grades 1, 2, and 3. The percentage of students who are ready for grade-level work (Early On Grade Level or above) has decreased during the 2020–2021 school year relative to the historical average across all grades.

Graph 1.1: On Grade Level, Reading



Within the same sample, we also looked at the percentage of students who are underprepared for grade-level work (Two or More Grade Levels below). In reading, the percentage of students who are underprepared for grade-level work has increased during the 2020–2021 school year relative to the historical average for students in Grades 1–7, while Grade 8 remains flat.

Graph 1.2: Below Grade Level, Reading



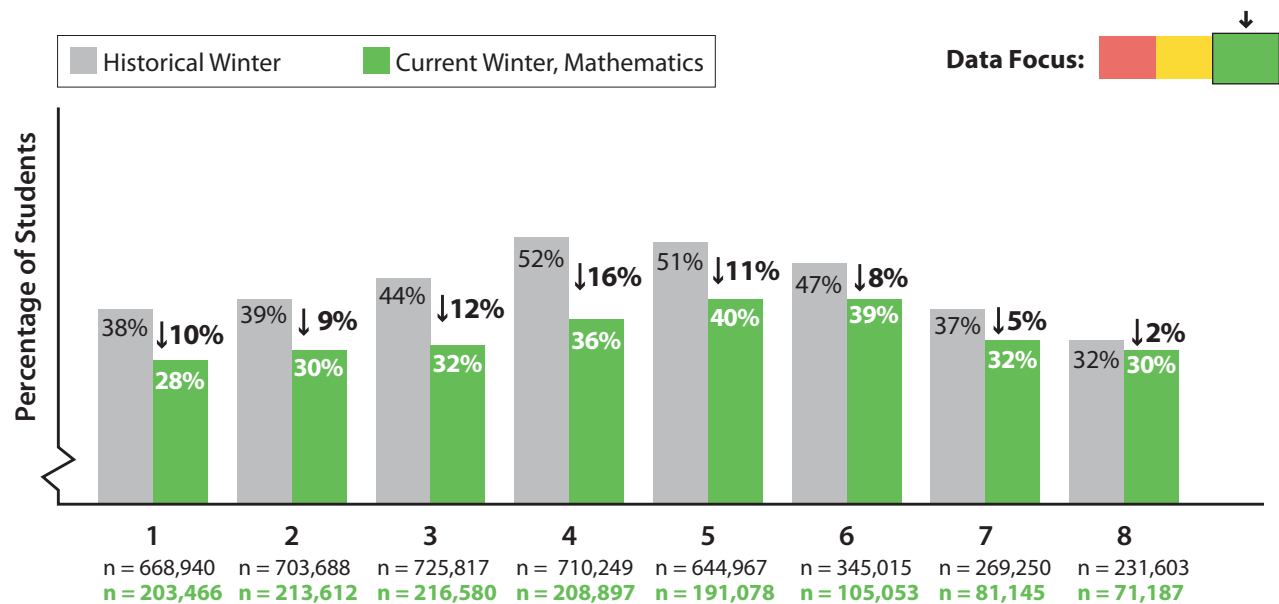
Finding 1

Unfinished Learning in Mathematics Is Greater This Winter Compared to Historical Averages

Mathematics

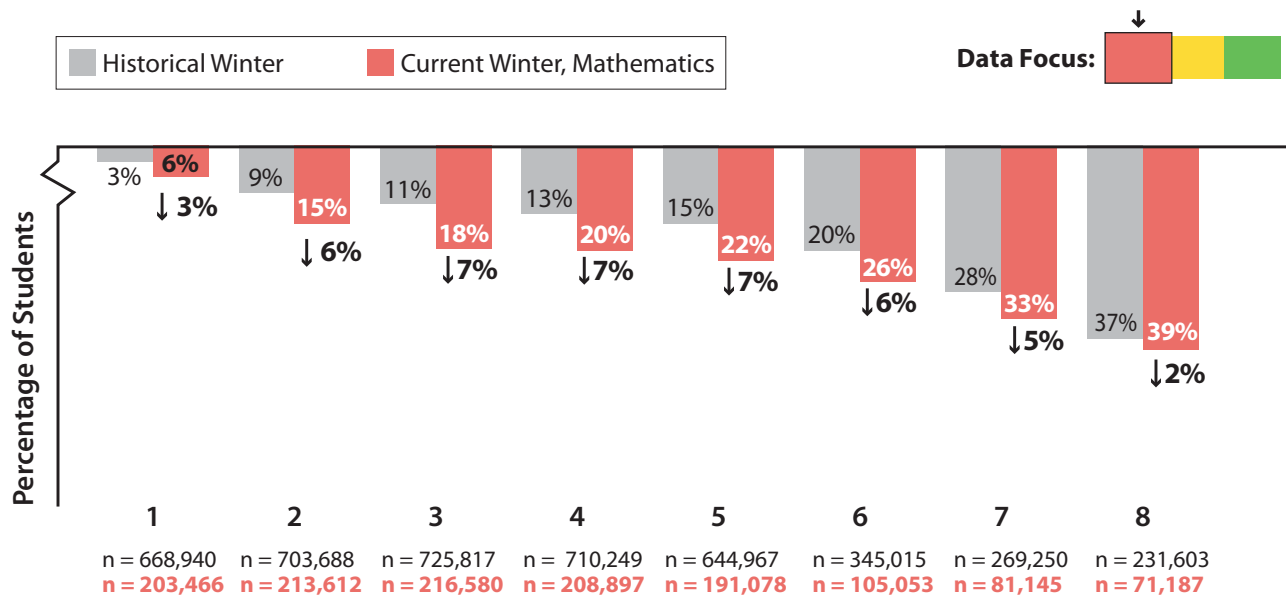
In mathematics, there is a greater amount of unfinished learning across all grades. The percentage of students who are ready for grade-level work (Early On Grade Level or above) has decreased during the 2020–2021 school year relative to the historical average across all grades. Elementary Grades 1–5 and early middle school, Grade 6, show the greatest amount of unfinished learning.

Graph 1.3: On Grade Level, Mathematics



Within the same sample, we also looked at the percentage of students who are underprepared for grade-level work (Two or More Grade Levels Below). In mathematics, the percentage of students who are underprepared for grade-level work has increased during the 2020–20201 school year relative to the historical average for students across all grades. Grades 2–6 show the greatest increases in unfinished learning.

Graph 1.4: Below Grade Level, Mathematics



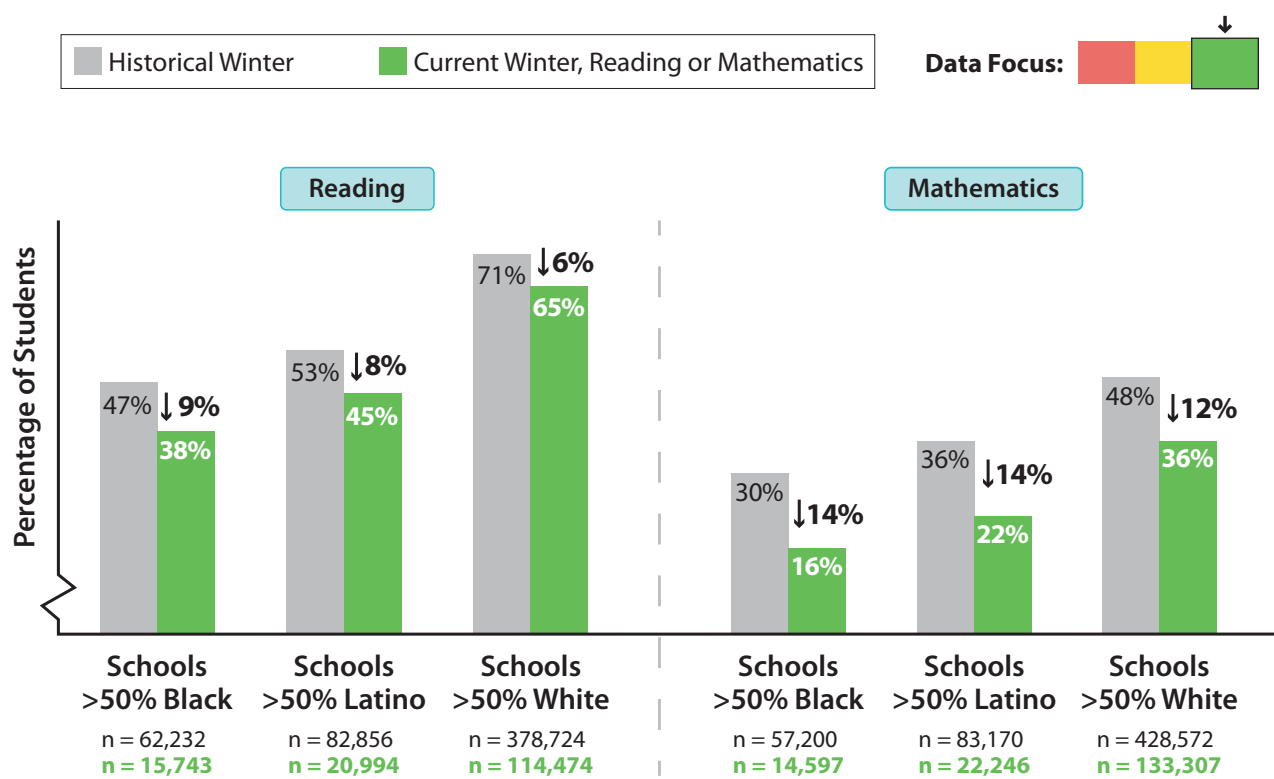
Finding 2

Unfinished Learning Is Greater for Students in Schools Serving a Majority of Black or Latino Students

In this section, we examine the data disaggregated by school-level demographic information in order to look at schools that serve a majority of Black, Latino, and White students. While the majority of Black, Latino, and White schools may contain varying levels of diversity, we chose to group schools this way in order to ensure we had a sufficient sample size for each school-level demographic group.

To illustrate this finding, we are highlighting the results for Grade 3. In reading and mathematics, the percentage of Grade 3 students who are ready for grade-level work has decreased relative to the historical average for students in schools serving a majority of Black, Latino, and White students. The decreases are similar across these three groups within each subject and the historical averages reveal inequities that predate the pandemic.

Graph 2.1: On Grade Level by Demographic Group: Grade 3 Reading and Mathematics

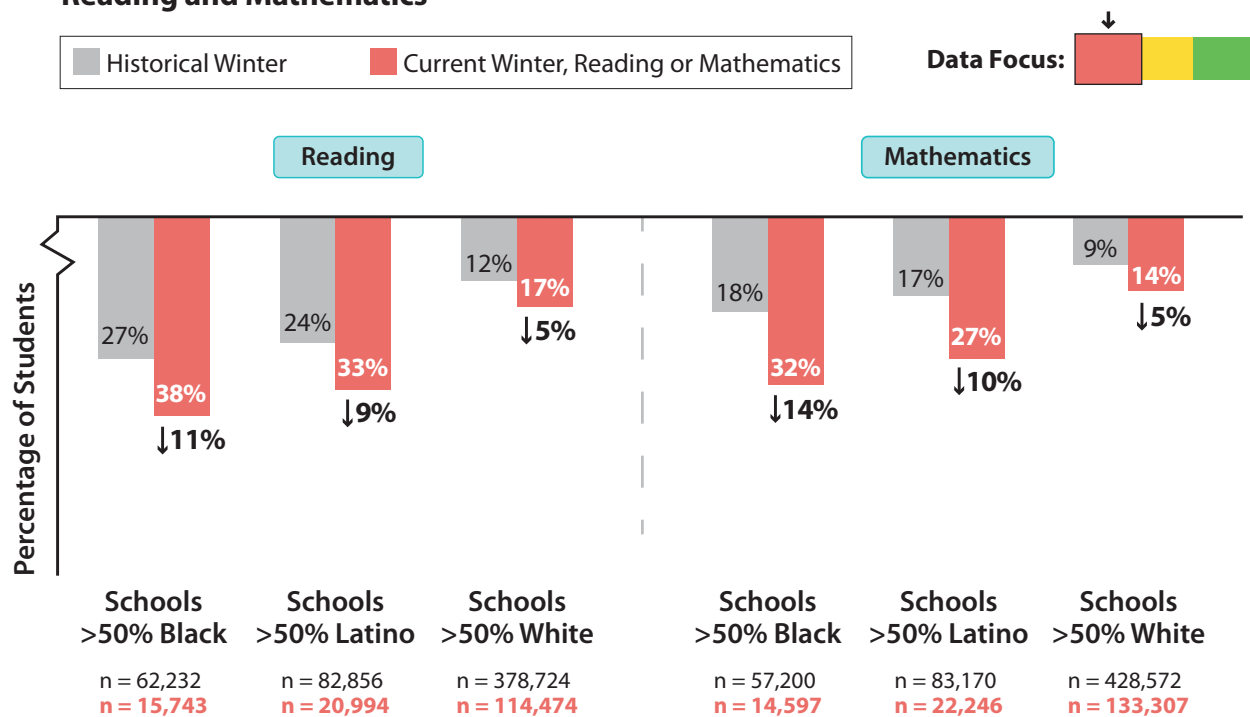


Why Focus on Grade 3?

Throughout this paper, results for Grade 3 students will be illustrated as Grade 3 is a pivotal year for student learning, and research shows performance in Grade 3 is predictive of high school outcomes (Hernandez, 2011).

When looking within the same sample at the percentage of Grade 3 students who are underprepared for grade-level work, however, we can see a larger increase in unfinished learning in Reading for students in schools serving a majority of Black students (11 percentage points) and Latino students (9 percentage points) compared to students in schools serving a majority of White students (5 percentage points). This is also true for schools serving a majority of Black (14 percentage points) and Latino students (10 percentage points) than White students (5 percentage points). The historical averages reveal inequities that predate the pandemic.

Graph 2.2: Below Grade Level by Demographic Group: Grade 3 Reading and Mathematics



Across all grades, the percentage of students who are ready for grade-level work has decreased across schools that serve majority Black, Latino, and White students in reading and mathematics. The following tables present the percentage of students by placement level, subject, and grade for each of the three demographic groups represented on the graphs on the previous page. The results for students in schools serving less than 25% Black, Latino, and White students, as well as students in schools serving between 25% and 50% Black, Latino, and White students, are included in the Appendix.

Table 1: Percentage of Students On Grade Level by Demographic Group, Winter Testing Window; Reading and Mathematics, Grades 1–8

Percentage On Grade Level							
Grade	>50% Black		>50% Latino		>50% White		
	Historical Winter	Current Winter	Historical Winter	Current Winter	Historical Winter	Current Winter	
Reading	1	33%	22%	38%	29%	50%	39%
	2	36%	26%	44%	33%	59%	49%
	3	47%	38%	53%	45%	71%	65%
	4	27%	22%	37%	32%	53%	49%
	5	24%	22%	34%	31%	49%	47%
	6	24%	22%	33%	32%	44%	42%
	7	25%	22%	36%	34%	46%	42%
	8	27%	24%	39%	40%	47%	45%
Grade	>50% Black		>50% Latino		>50% White		
	Historical Winter	Current Winter	Historical Winter	Current Winter	Historical Winter	Current Winter	
Mathematics	1	24%	14%	30%	20%	43%	32%
	2	24%	14%	30%	20%	44%	34%
	3	30%	16%	36%	22%	48%	36%
	4	39%	20%	46%	28%	56%	40%
	5	33%	21%	42%	29%	56%	44%
	6	32%	24%	42%	35%	50%	42%
	7	25%	20%	29%	28%	42%	35%
	8	22%	18%	20%	29%	36%	32%

Table 2: Percentage of Students Below Grade Level by Demographic Group, Winter Testing Window; Reading and Mathematics, Grades 1–8

Percentage Below Grade Level						
Grade	>50% Black		>50% Latino		>50% White	
	Historical Winter	Current Winter	Historical Winter	Current Winter	Historical Winter	Current Winter
1	4%	6%	4%	6%	1%	2%
2	18%	28%	16%	25%	7%	12%
3	27%	38%	24%	33%	12%	17%
4	24%	35%	19%	28%	11%	14%
5	44%	48%	34%	38%	21%	24%
6	52%	55%	43%	44%	31%	33%
7	57%	61%	46%	46%	35%	37%
8	56%	58%	44%	40%	34%	34%

Grade	>50% Black		>50% Latino		>50% White	
	Historical Winter	Current Winter	Historical Winter	Current Winter	Historical Winter	Current Winter
1	6%	11%	5%	10%	2%	5%
2	16%	27%	14%	24%	7%	12%
3	18%	32%	17%	27%	9%	14%
4	21%	35%	17%	29%	10%	16%
5	26%	37%	21%	30%	13%	18%
6	31%	40%	25%	31%	17%	23%
7	40%	48%	36%	40%	24%	30%
8	49%	57%	50%	43%	32%	36%

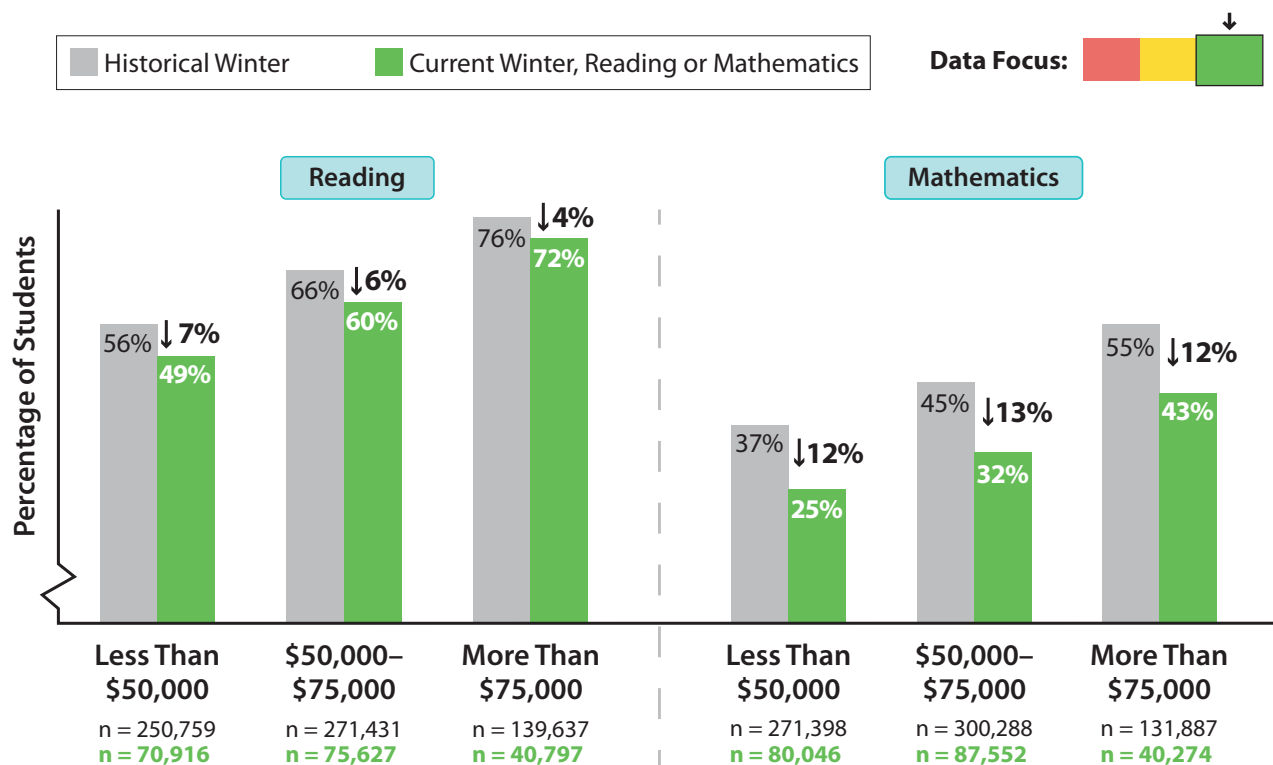
Finding 3

Unfinished Learning Is Greater for Students in Schools Located in Lower-Income Zip Codes

In this section, we examine the data disaggregated by the median annual household income associated with a school’s zip code. Across grade levels and subjects, the percentage of students who are ready for grade-level work has decreased this winter relative to the historical average for students, regardless of income bracket.

To illustrate this finding, we are highlighting the results for Grade 3. In reading, the Grade 3 decline relative to the historical average is a little lower for students in schools where the income is greater than \$75,000 (4 percentage points) than the decline for students in schools where the income is less than \$50,000 (7 percentage points) or \$50,000 to \$75,000 (6 percentage points). The declines are relatively stable for mathematics across all three income groups.

Graph 3.1: On Grade Level by Income: Grade 3, Reading and Mathematics



As shown below, the percentage of Grade 3 students who are underprepared for grade level work increased for students across schools regardless of income bracket. In reading, the Grade 3 declines relative to the historical average are steeper for students in schools in zip codes where the median household income is below \$50,000 annually (8 percentage points) compared with students in schools in zip codes where the median household income is between \$50,000 to \$75,000 (6 percentage points) and students in schools in zip codes where the median household income is greater than \$75,000 (3 percentage points). This is also true for Grade 3 mathematics (8, 6 and 4 percentage points, respectively).

Graph 3.2: Below Grade Level by Income: Grade 3, Reading and Mathematics

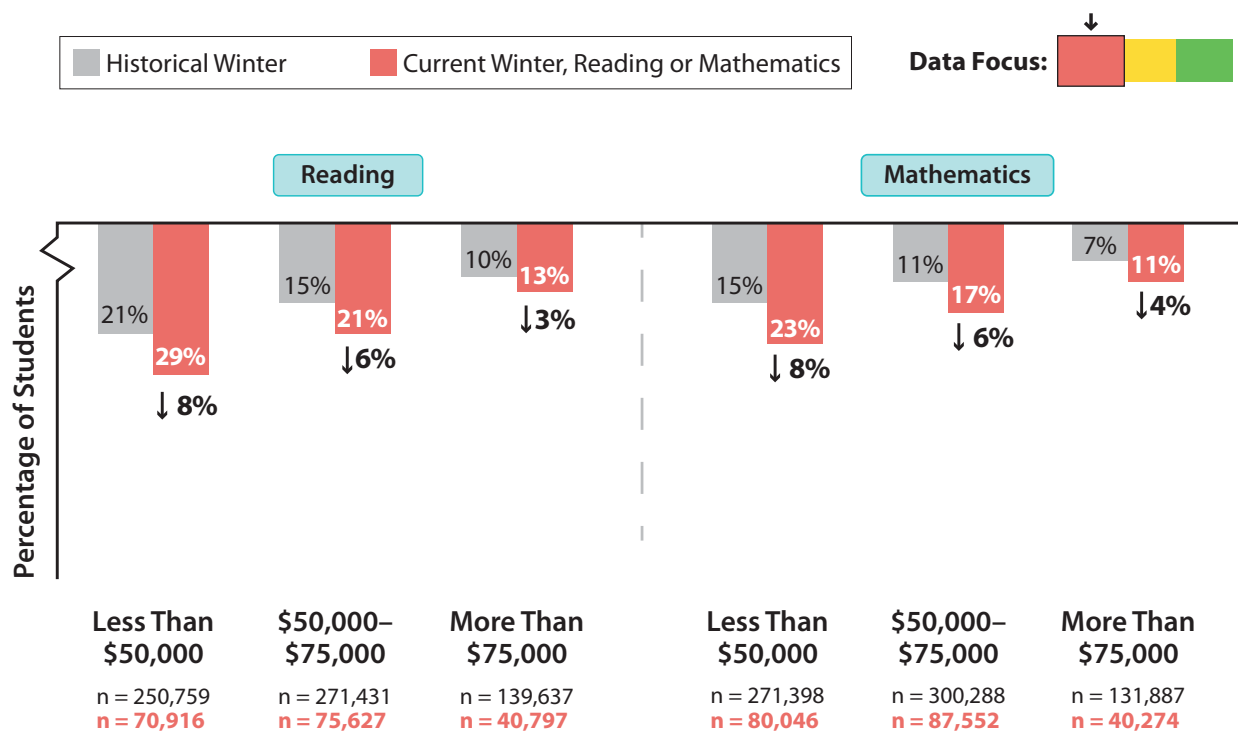


Table 3 presents the percentage of students by placement level, subject, and grade for each of the three income groups.

Table 3: Percentage of Students On Grade and Below Grade Level by Subject and Grade by Income Group, Winter Testing Window; Reading and Mathematics, Grades 1–8

Percentage On Grade Level							
Grade	<\$50,000		\$50,000–\$75,000		>\$75,000		
	Historical	Current	Historical	Current	Historical	Current	
Reading	1	38%	28%	47%	36%	56%	48%
	2	45%	34%	55%	44%	65%	57%
	3	56%	49%	66%	60%	76%	72%
	4	37%	33%	48%	44%	60%	57%
	5	34%	33%	45%	43%	57%	55%
	6	33%	31%	42%	41%	52%	50%
	7	35%	33%	44%	41%	56%	53%
	8	35%	35%	46%	44%	57%	55%
Mathematics	1	31%	21%	39%	29%	50%	40%
	2	32%	22%	40%	31%	51%	42%
	3	37%	25%	45%	32%	55%	43%
	4	46%	29%	53%	37%	63%	48%
	5	43%	32%	53%	41%	63%	52%
	6	40%	32%	49%	41%	61%	51%
	7	31%	26%	40%	35%	51%	44%
	8	27%	24%	34%	31%	45%	42%

Percentage Below Grade Level							
Grade	<\$50,000		\$50,000–\$75,000		>\$75,000		
	Historical	Current	Historical	Current	Historical	Current	
Reading	1	3%	5%	2%	3%	2%	2%
	2	14%	21%	10%	15%	6%	9%
	3	21%	29%	15%	21%	10%	13%
	4	18%	26%	13%	18%	8%	11%
	5	33%	37%	25%	28%	16%	18%
	6	42%	44%	33%	34%	24%	25%
	7	46%	48%	37%	39%	26%	27%
	8	46%	45%	35%	36%	26%	25%
Mathematics	1	4%	8%	3%	6%	2%	4%
	2	12%	20%	9%	14%	5%	9%
	3	15%	23%	11%	17%	7%	11%
	4	17%	26%	12%	19%	8%	12%
	5	20%	28%	14%	20%	9%	14%
	6	24%	31%	18%	24%	11%	17%
	7	33%	39%	26%	31%	18%	22%
	8	42%	45%	35%	37%	24%	26%

Finding 4

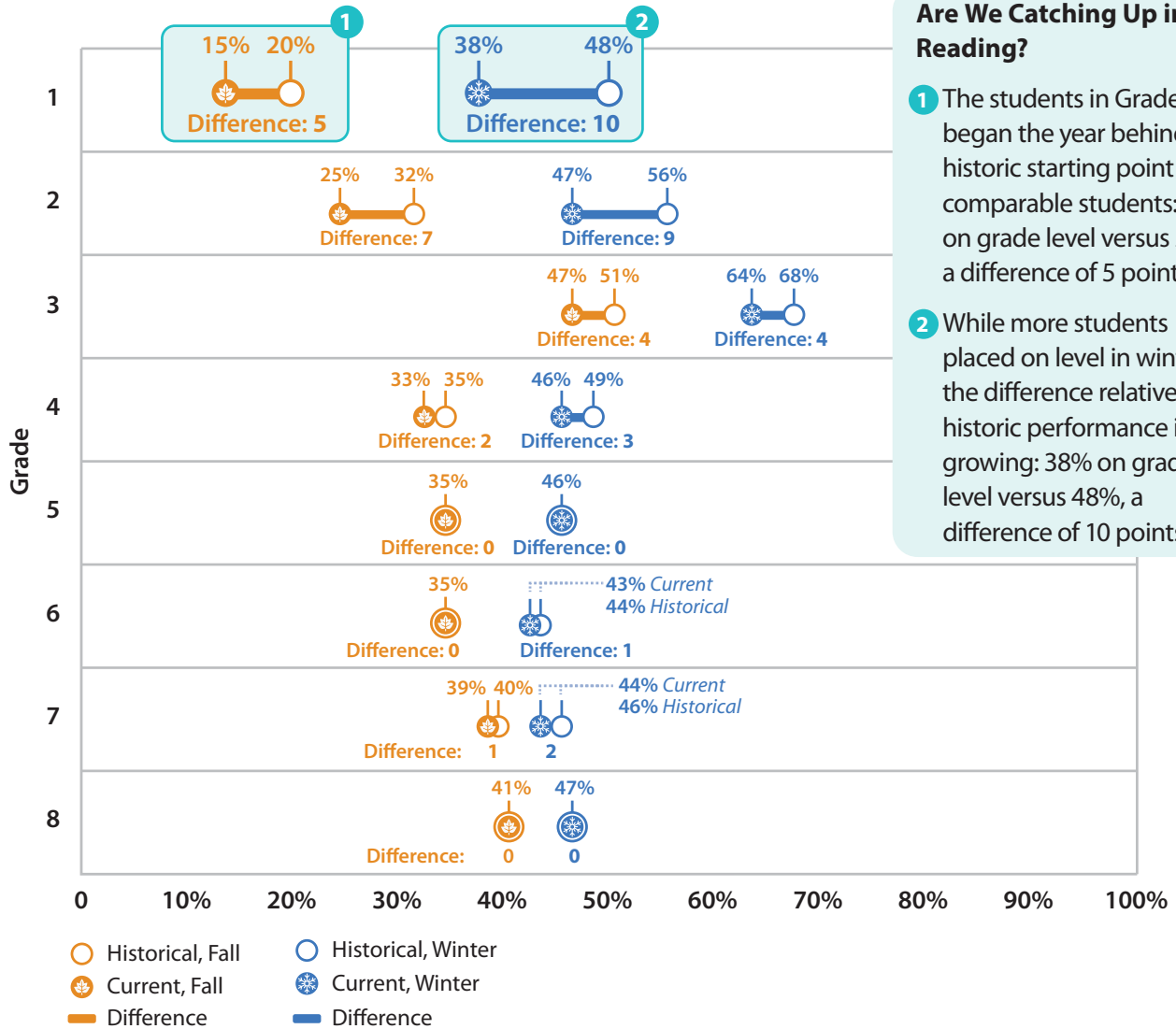
It Is Too Early to Tell If Students Are Catching Up from Starting behind in the Fall

In this section, we examine the change in grade-level placements for a subset of students who indicated they took the Diagnostic in school during both the fall and the winter assessment windows. First, we looked at the percentage of students who were ready for grade-level work and whether, in each season, we saw unfinished learning relative to the historical average. Next, we compared the difference in percentage points between the historical average and the current school year at fall and at winter.

Our visual analysis of data across two time points (fall and winter) shows that there is variability across subjects and grade levels. In some subject and grade levels, the difference between the current school year and the historical average increased from fall to winter and in some subjects and grade levels the difference decreased. When looking at the percentage of students who were ready for grade-level work, a decrease in the differences indicates that students are catching up from where they started behind in the fall, and an increase in the differences indicates that students are not catching up from where they started behind in the fall. Given the variability we saw across subjects and grade levels, the midyear results are inconclusive.

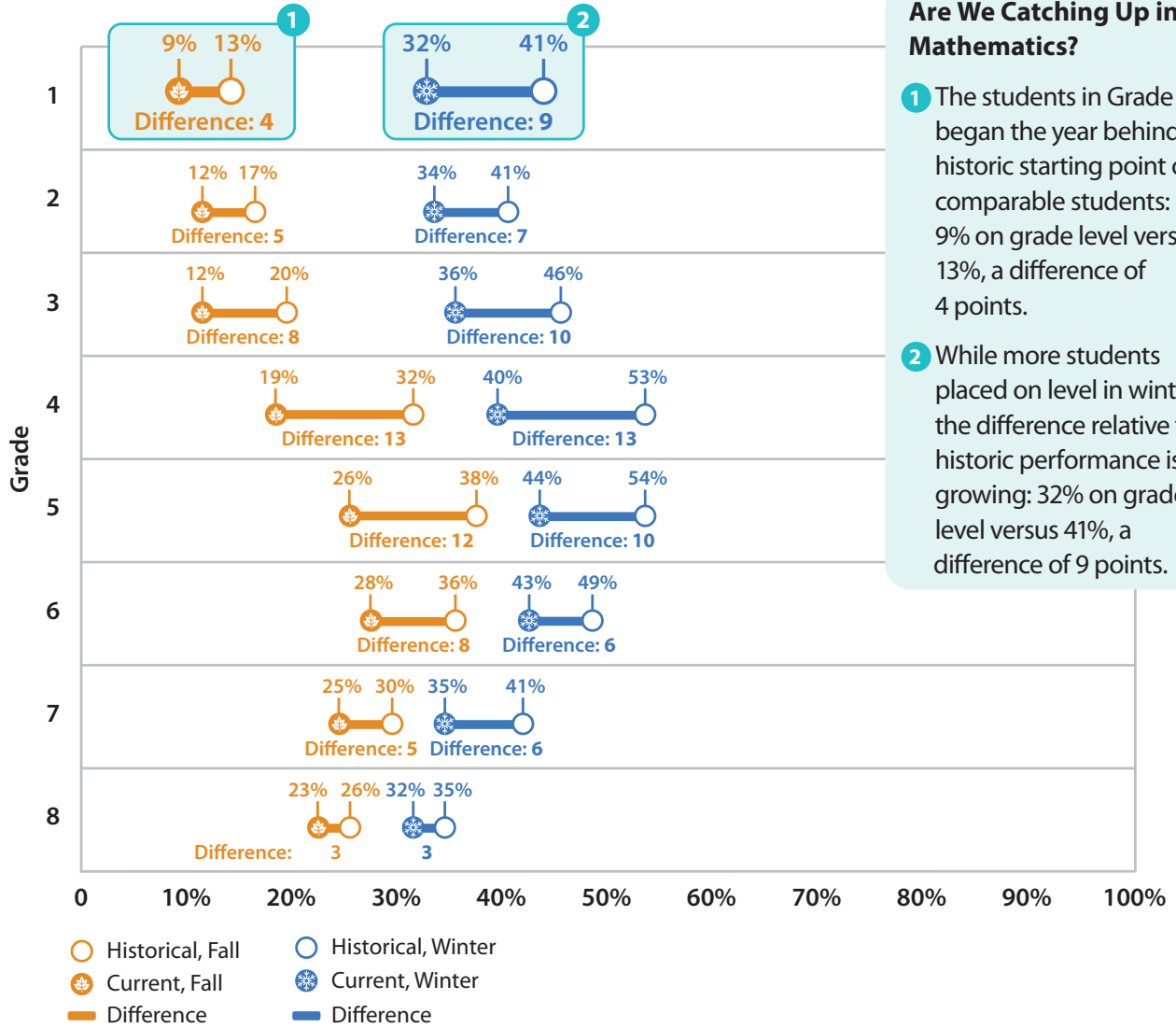
Graphs 4.1 and 4.2 display the differences from fall to winter for the percentage of students who were ready for grade-level work for reading and mathematics, respectively. We recommend interpreting with caution, as the results are limited in generalizability due to the sample constraints. Specifically, the number of students in this subsample who had both a fall and winter Diagnostic taken in school is just under half of the total number of students whose findings are reported in the other sections of this report.

Graph 4.1: Difference between Percentage of Students On Grade Level in Fall and Winter Compared to Historical in Reading



See Appendix Table 6 for the differences and difference in differences.

Graph 4.2: Difference between Percentage of Students On Grade Level in Fall and Winter Compared to Historical in Mathematics



See Appendix Table 6 for the differences and difference in differences.

Addressing Unfinished Learning

The results from the winter *i-Ready Diagnostic* assessments in reading and mathematics suggest the challenges of addressing unfinished learning will be persistent and significant. Educators play a unique and critical role in helping mitigate the effects of months of interrupted learning, and their understanding of student needs will inform the best tactics to employ. Below are several actions educators can take, drawn from the priorities we hear from our partners, insights from recent research, and the expertise of national organizations, including the Council of Chief State School Officers (CCSSO) and the Council of the Great City Schools (CGCS).

Ensure assessments deliver clear and actionable data. An assessment serves student learning only when it provides a clear view of student needs and related instructional supports. Conflicting reports on the state of unfinished learning underscore how critical it is that assessments accurately account for missing students, report on sociodemographic implications, and capture whether students test in or out of school since this impacts the fidelity of assessment. With instructional time more precious than ever, educators must be able to quickly and deeply understand how best to help each learner find success at grade level (CCSSO and CGCS, 2014). An effective, informative assessment should be criterion-referenced against benchmarks and identify prerequisite skills needed to reach the ultimate goals of grade-level proficiency and college and career readiness. Tools should also make it simple for teachers to regularly monitor student performance to ensure the most vulnerable students who may potentially be falling further behind get the support they need. This may be especially important given the urgency that the US Department of Education has placed on understanding the pandemic's impact on learning and uncertainty around end-of-year summative testing.

Choose high-quality, rigorous curriculum. To address unfinished learning, the CGCS underscores the importance of focusing not on remediation and reteaching, but rather recommends: "School and district curriculum leaders should keep the focus on grade-level work and rigor, addressing learning gaps as needed within the context of grade level" (CGCS, 2020). In a recent report on leadership recommendations for school reentry, Chiefs for Change and the Johns Hopkins University Institute for Education Policy echo the critical importance of "comprehensively adopting high-quality instructional materials with robust teacher supports." To ensure all students, and particularly those whose learning has been most impacted during the pandemic, have equitable opportunities to reach grade-level proficiency, we must provide them with engaging, high-quality, grade-level work (TNTP, 2018). Teachers need curricular supports designed to uphold instructional content priorities and make teaching to college- and career-readiness standards more efficient (Student Achievement Partners, 2020).

Set ambitious yet attainable goals for all students. Research shows students make greater learning gains when their teachers hold high expectations about their ability to meet grade-level standards (TNTP, 2018). This can change learning trajectories, as the impact of learning from a teacher with rigorous, high standards can improve student performance long after moving to a new class (Gershenson, 2020). To support high expectations, teachers must be confident the resources in their toolkit are the best tools to move all learners toward grade-level performance. In supporting appropriately challenging growth goals, educators need assessments that guide grade-level instructional priorities, clear grade-level benchmarks, and scaffolds to address underlying unfinished learning. With high expectations in place, incremental goal setting and monitoring progress are a natural next step as teachers and students work together toward the ultimate shared goal of attaining grade-level proficiency.

Prioritize coherence. As educators implement new and creative instructional opportunities to address unfinished learning, it is critical to ensure that student assessment data provides a clear, composite view of student learning across settings. Ensuring the data from each learning environment is talking to the others helps save time and avoids redundant activities, providing a comprehensive, accessible picture of progress and needs at any given time. Coherence reduces overlapping assessments, in keeping with the guiding principles for assessment set forth by the CCSSO and the CGCS, which states “Assessments should be administered in only the numbers and duration that will give us the information that is needed and nothing more. Multiple assessments of the same students for similar purposes should be minimized or eliminated” (CCSSO and CGCS, 2014). Coherence looks like after-school learning connected to in-school learning, summer learning naturally picking up where the school year ended, unfinished learning addressed alongside grade-level learning, and IEPs directly informing tutoring. When data reflects the sum of learning activities, it empowers teachers to better serve students and helps students get what they need without added burden as they move between settings.

Engage students. Programs designed to be culturally and linguistically responsive (CLR) invite students to see their personal and cultural experiences reflected in the content and engage more deeply in learning. When students are validated and affirmed, they understand the cultural and linguistic experiences they bring to their learning to be assets, which supports connection to the material. CLR teaching can impact student gains and support grade-level attainment goals. In a large study, students with teachers who identified as “high implementers” of a CLR program scored significantly higher on their spring benchmark test in reading than students with teachers who were “low implementers” of the program (Powell, Cantrell, Malo-Juvera & Correll, 2016).

While the suggestions above are intended to guide decisions about learning tools to support educators, the work of addressing and overcoming unfinished learning will be complex and involve a range of non-academic supports. For many, addressing learning needs must begin with addressing social-emotional wellness, as students need help processing and working through trauma experienced in the past year. For some schools, supporting learning may take the form of partnerships with community organizations, innovative summer programs, or family engagement initiatives. Educators who have done heroics in the past year to support learning must balance the exhaustion they feel with resolve to tackle the challenges ahead, and they deserve the best possible supports to do this critical work.

Limitations

The findings in this paper rely on student self-reported data on the location of where they took the *i-Ready Diagnostic* test. We acknowledge this is an imperfect measure. Over half of students who took the *i-Ready Diagnostic* this winter tested remotely and are not reflected in this report. In addition, we know from comparing the in-school and out-of-school data that students who tested in school were more likely to attend schools serving a majority of White students and are more likely to be in towns and rural areas. Ultimately, we chose to focus our findings on the in-school testing results due to higher data consistency with in-school testing data as compared to out-of-school testing data.

The findings in this paper describe the school-level demographics, which is not the same as relying on student-level demographics. Schools consisting of more than 50% of one racial or ethnic group may still be fairly diverse, and we recognize that using school-level demographics does not capture that diversity nor the variability in unfinished learning within each school demographic group. We do not have visibility into where students spent most of their time learning during the 2020–2021 school year. Where a student took an assessment should not be conflated with where a student is learning (e.g., entirely in a traditional school building, entirely remote in their home or another location outside of their school building, or in multiple locations as part of a hybrid model). In this analysis, student use of *i-Ready Personalized Instruction* was not taken into account.

In order to describe the change in grade-level performance from fall to winter, we limited the analysis to only those students who took an *i-Ready Diagnostic* in school during both the fall and winter assessment window. This group represents approximately 40% of the general analysis population described in this paper and less than 10% of the total *i-Ready Diagnostic* testing population. Given the further constrained sample in combination with the variation in grade- and subject-level results, we do not wish to draw a sweeping conclusion about the grade-level fall-to-winter findings. At the same time, we do want to share what we know with educators and plan to continue to monitor student assessment data for the remainder of the school year.

Conclusion

Our analysis of midyear assessment data shows more students have unfinished learning and fewer students are ready for grade-level work this school year than in prior school years in both reading and mathematics. The students who are most affected are students in elementary school, students attending schools that serve a higher proportion of Black and Latino students, and students attending schools in lower-income zip codes. Our grade-level analysis for the subset of students who took their assessments in school during both testing windows (fall and winter) is inconclusive as to whether students are catching up from where they started behind this fall. We know that educators are always focused on addressing unfinished learning. It is our hope that this report provides a clearer picture of where students are this winter to support educators in their work this spring and summer. We will continue to investigate the impact of the pandemic on student learning and release subsequent research publications and issue briefs as the data becomes available.

Appendix

Methodology and Sample Description

Students who took an *i-Ready Diagnostic* test during fall and/or winter of the 2020–2021 school year were eligible for inclusion in this study. To be considered in school, the student had to both self-report that their test was taken in school and belong to a school where the number of students testing in school this year was comparable to last year.

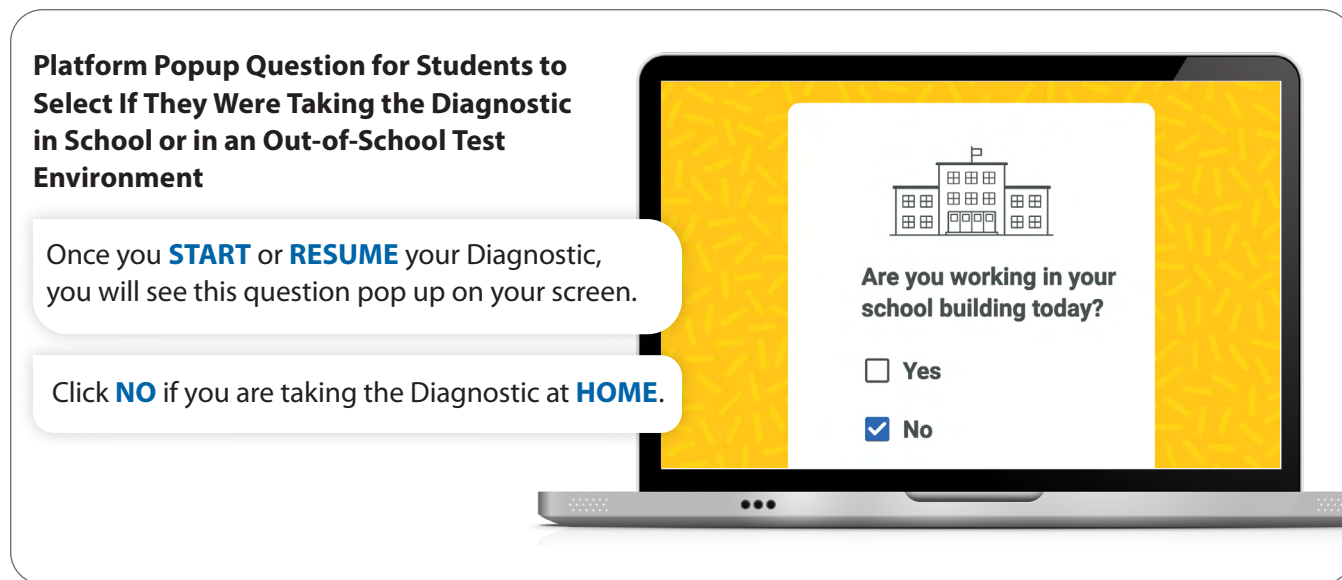
In the historical sample, we kept all students from the selected schools under the assumption that all students tested in school prior to school closures. Because many schools contain a mixture of in-school and remote testers this year, the 2020–2021 student counts will generally appear lower than the average single-year student counts from the historical sample.

All analyses were conducted at the student level. For analyses with school-level demographic variables, the school-level demographic group is treated as a student-level variable. Therefore, the interpretation is, for example, “students in schools located in lower-income zip codes tend to perform lower than students in schools located in higher-income zip codes.”

Out-of-school testing data had more variability in terms of both scores and test administration data, such as test duration, number of testing sessions, and number of devices used. For this reason, we focus most of our findings on the in-school testing population as it is the fairest basis of comparison to a typical school year.

How Was Student Testing Location Determined?

Figure 2. How Was Location Determined?



Sample Inclusion Criteria

Students who met the following criteria were included in the general analysis:

- Enrollment in Grades 1–8
- Self-report that their test was taken in school
- Belong to a school district that had at least one enrolled student in the three most-current school years (2018–2019, 2019–2020, 2020–2021) for their test subject
- Belong to a school that tested students in their subject and grade during the winter of the current (2020–2021) and prior (2019–2020) school years
- Belong to a school where the percentage of students tested in school in 2020–2021 was between 50% to 200% of same testing window in 2019–2020
- Belong to a school where at least five students tested in school for their test subject and grade
- The winter test was not rushed.
- For demographic analyses, school must be included in NCES CCD in 2018–2019

In order to be included in the fall-to-winter change in the grade-level placement sub-analysis, students had to additionally have taken a Diagnostic in school during the fall testing window (August 1, 2020 through November 15, 2020).

School-Level Demographic Groups

In order to answer the research questions pertaining to race and ethnicity and median household income, we developed the following reporting groups based on available school-level demographics for the population of students who tested in school. Students were grouped based on whether their school served:

- Less than 25% Black students, 25% to 50% Black students, or more than 50% Black students
- Less than 25% Latino students, 25% to 50% Latino students, or more than 50% Latino students
- Less than 25% White students, 25% to 50% White students, or more than 50% White students
- Located in zip codes where the median household income is less than \$50,000, ranges from \$50,000 to \$75,000, or is more than \$75,000

While the more than 50% Black, Latino, and White schools may contain varying levels of diversity, we chose to group schools this way in order to ensure that we had a sufficient sample size for each school-level demographic group.

The school-level data on race and ethnicity used in this analysis was sourced from the NCES, which asks students to identify as American Indian or Alaska Native, Asian, Black or African American, Hispanic, Native Hawaiian or Other Pacific Islander, White, or Two or More Races. Throughout this paper, we use the term “Black” to refer to the NCES category of Black or African American and the term “Latino” to refer to the NCES category of Hispanic.

We recognize language changes with time and each demographic group described is not monolithic, nor are all individuals within any designated demographic group in agreement on preferred language. As a company, we will continue to review, reflect on, and evolve the terminology with the goal of using bias-free, inclusive, and sensitive-language labels.

Additional Sample Description Data

Student counts and school-level demographic data are provided for both the in-school testing population (reported) and the out-of-school testing population (not reported).

**Appendix Table 1.1: Number of Students by Subject and Grade
In-School Testing Population, Winter**

In School				
Grade	Reading		Mathematics	
	Historical	Current	Historical	Current
1	613,769	182,086	668,940	203,466
2	646,558	191,599	703,688	213,612
3	682,069	194,972	725,817	216,580
4	661,462	188,498	710,249	208,897
5	601,399	169,466	644,967	191,078
6	312,800	90,872	345,015	105,053
7	255,730	73,656	269,250	81,145
8	233,903	68,584	231,603	71,187

**Appendix Table 1.2: Number of Students by Subject and Grade
Out-of-School Testing Population, Winter**

Out of School				
Grade	Reading		Mathematics	
	Historical	Current	Historical	Current
1	362,355	115,091	403,434	128,032
2	456,555	147,145	500,109	161,032
3	503,083	155,421	544,120	170,650
4	562,089	170,336	614,648	189,753
5	543,857	167,182	607,885	190,966
6	482,282	147,453	509,017	163,005
7	453,033	138,225	498,219	159,900
8	435,363	139,623	449,877	151,630

Note: Diagnostic test results for students who tested out of school are not included in the report findings.

**Appendix Table 2.1: School-Level Demographic Characteristics
In-School and Out-of-School Testing Population, Winter**

	In School			
	Reading		Mathematics	
	Average	Range	Average	Range
% American Indian	0.4%	0–89%	0.4%	0–89%
% Asian	2.5%	0–83%	2.3%	0–83%
% Black	15.8%	0–100%	14.4%	0–100%
% Hawaiian or Pacific Islander	0.3%	0–70%	0.3%	0–70%
% Latino	19.6%	0–100%	18.7%	0–100%
% White	57.0%	0–100%	59.6%	0–100%
Median Annual Household Income	\$59,592	\$10,554 to \$235,714	\$59,357	\$10,554 to \$235,714
Student Enrollment	497	15 to 8,761	490	9 to 3,213

**Appendix Table 2.2: School-Level Demographic Characteristics
In-School and Out-of-School Testing Population, Winter**

	Out of School			
	Reading		Mathematics	
	Average	Range	Average	Range
% American Indian	0.7%	0–95%	0.8%	0–100%
% Asian	9.1%	0–86%	8.7%	0–86%
% Black	20.5%	0–100%	20.9%	0–100%
% Hawaiian or Pacific Islander	1.1%	0–82%	1.1%	0–82%
% Latino	37.5%	0–100%	37.0%	0–100%
% White	26.4%	0–100%	27.1%	0–100%
Median Annual Household Income	\$66,261	\$13,087 to \$235,714	\$65,590	\$13,087 to \$223,434
Student Enrollment	530	4 to 11,173	526	4 to 11,173

Note: Diagnostic test results for students who tested out of school are not included in the report findings.

Additional Results

Appendix Table 3: Percentage of Students On and Below Grade Level in Reading by Demographic Group In-School Testing Population, Winter

Percentage On Grade Level												
Grade	Less Than 25% Black		25% to 50% Black		Less Than 25% Latino		25% to 50% Latino		Less Than 25% White		25% to 50% White	
	Historical	Current	Historical	Current	Historical	Current	Historical	Current	Historical	Current	Historical	Current
1	48%	38%	39%	29%	47%	37%	44%	35%	35%	25%	45%	35%
2	57%	46%	45%	35%	56%	46%	51%	41%	39%	29%	52%	41%
3	68%	62%	55%	49%	67%	62%	62%	54%	48%	40%	63%	55%
4	50%	46%	37%	32%	48%	45%	44%	39%	31%	26%	44%	39%
5	47%	45%	34%	33%	46%	44%	41%	38%	29%	26%	40%	38%
6	42%	40%	32%	31%	41%	39%	33%	31%	26%	24%	32%	31%
7	44%	41%	35%	33%	44%	40%	36%	33%	30%	28%	33%	30%
8	45%	44%	34%	33%	44%	43%	36%	35%	29%	30%	33%	31%

Percentage Below Grade Level												
Grade	Less Than 25% Black		25% to 50% Black		Less Than 25% Latino		25% to 50% Latino		Less Than 25% White		25% to 50% White	
	Historical	Current	Historical	Current	Historical	Current	Historical	Current	Historical	Current	Historical	Current
1	2%	3%	4%	5%	2%	3%	3%	4%	5%	7%	3%	4%
2	9%	14%	14%	21%	9%	14%	12%	18%	18%	28%	11%	17%
3	14%	20%	22%	31%	15%	20%	18%	25%	27%	37%	17%	25%
4	12%	17%	19%	28%	13%	17%	15%	23%	22%	34%	15%	21%
5	23%	26%	34%	38%	24%	27%	28%	33%	39%	44%	29%	33%
6	33%	34%	44%	45%	34%	36%	43%	44%	51%	52%	44%	45%
7	37%	39%	47%	49%	38%	40%	46%	48%	54%	54%	49%	52%
8	35%	36%	48%	47%	37%	37%	45%	45%	54%	51%	49%	50%

Appendix Table 4: Percentage of Students On and Below Grade Level in Mathematics by Demographic Group In-School Testing Population, Winter

Percentage On Grade Level												
Grade	Less Than 25% Black		25% to 50% Black		Less Than 25% Latino		25% to 50% Latino		Less Than 25% White		25% to 50% White	
	Historical	Current	Historical	Current	Historical	Current	Historical	Current	Historical	Current	Historical	Current
1	41%	31%	29%	19%	40%	30%	35%	26%	27%	17%	35%	25%
2	42%	32%	31%	21%	42%	32%	36%	27%	27%	18%	36%	26%
3	46%	34%	37%	24%	46%	34%	42%	28%	32%	19%	41%	28%
4	55%	38%	45%	29%	54%	38%	50%	33%	42%	23%	50%	33%
5	54%	42%	43%	32%	53%	42%	48%	35%	38%	25%	46%	34%
6	49%	41%	40%	33%	49%	41%	38%	31%	35%	27%	41%	33%
7	40%	34%	30%	27%	40%	34%	28%	24%	25%	22%	29%	25%
8	34%	31%	25%	23%	35%	31%	23%	21%	17%	22%	26%	22%

Percentage Below Grade Level												
Grade	Less Than 25% Black		25% to 50% Black		Less Than 25% Latino		25% to 50% Latino		Less Than 25% White		25% to 50% White	
	Historical	Current	Historical	Current	Historical	Current	Historical	Current	Historical	Current	Historical	Current
1	3%	6%	5%	9%	3%	6%	4%	8%	6%	10%	4%	7%
2	8%	13%	13%	21%	8%	13%	11%	18%	15%	26%	11%	18%
3	10%	16%	15%	25%	10%	16%	13%	21%	18%	31%	13%	21%
4	12%	18%	17%	27%	12%	18%	15%	24%	20%	34%	15%	24%
5	14%	20%	20%	28%	14%	20%	17%	25%	24%	34%	18%	26%
6	18%	24%	24%	32%	18%	25%	26%	33%	30%	38%	24%	32%
7	26%	32%	35%	39%	26%	32%	36%	41%	40%	46%	36%	41%
8	34%	37%	47%	47%	34%	38%	47%	49%	54%	52%	45%	49%

Additional Results for Students with Fall and Winter Data

**Appendix Table 5: Number of Students by Subject and Grade Level
In-School Testing Population, Fall and Winter**

Number In School for Current School Year				
Grade	Reading		Mathematics	
	Historical	Current	Historical	Current
1	219,101	72,956	261,650	88,184
2	236,688	80,033	275,686	93,169
3	220,684	72,539	268,005	87,441
4	224,998	71,932	258,867	84,448
5	203,255	64,717	239,188	77,150
6	126,776	40,623	138,912	45,366
7	100,876	31,678	107,186	34,658
8	93,508	30,415	89,913	29,837
All	1,425,886	464,893	1,639,407	540,253

Appendix Table 6: Percentage of Students Placing On Grade Level In-School Testing Population

Percentage Early On Grade Level or Higher							
Grade	Fall			Winter			
	Historical	Current	Difference	Historical	Current	Difference	
Reading	1	20%	15%	5	48%	38%	10
	2	32%	25%	7	56%	47%	9
	3	51%	47%	4	68%	64%	4
	4	35%	33%	2	49%	46%	3
	5	35%	35%	0	46%	46%	0
	6	35%	35%	0	44%	43%	1
	7	40%	39%	1	46%	44%	2
	8	41%	41%	0	47%	47%	0
Percentage Early On Grade Level or Higher							
Grade	Fall			Winter			
	Historical	Current	Difference	Historical	Current	Difference	
Mathematics	1	13%	9%	4	41%	32%	9
	2	17%	12%	5	41%	34%	7
	3	20%	12%	8	46%	36%	10
	4	32%	19%	13	53%	40%	13
	5	38%	26%	12	54%	44%	10
	6	36%	28%	8	49%	43%	6
	7	30%	25%	5	41%	35%	6
	8	26%	23%	3	35%	32%	3

Figure 3: *i-Ready Diagnostic* Placement Level Descriptors

	Three or More Grade Levels Below	Two Grade Levels Below	One Grade Level Below	Early On Grade Level	Mid or Above Grade Level
Placement relative to grade-level college and career-readiness standards		Are not close to meeting		Only partially met	Met
Instructional Recommendations	<p>Likely need intensive intervention of foundational concepts. Students who perform below grade level are not likely to be proficient on their state summative test, though it is possible.</p>	<p>May need intensive intervention of material that is two grade levels below to help fill in gaps in students' foundational knowledge.</p>	<p>May benefit from review or remediation of material that is one grade level below.</p>	<p>Will benefit from on-grade level instruction to help them meet the expectations of college- and career-readiness standards for their grade level.</p>	<p>Mid On Grade Level: Will benefit from instruction in late on-grade level topics.</p> <p>Late On Grade Level: Will benefit from late on-grade level enrichment and will be ready for instruction focused on topics typically covered in the beginning of the subsequent grade level.</p> <p>Above Grade Level: Will benefit from above-grade level instruction.</p>

About the *i-Ready Diagnostic*

The Diagnostic is a computer-adaptive assessment for students in Grades K–12 for Reading and Mathematics that provides valid and reliable criterion-referenced and normative scores. The Diagnostic can be administered, typically, at three time points during the school year: fall, winter, and spring.

In addition to a scale score and a norm-referenced percentile-rank score, the Diagnostic provides five criterion-referenced Grade-Level Placements: Mid or Above Grade Level, Early On Grade Level, One Grade Level Below, Two Grade Levels Below, and Three or More Grade Levels Below. Unlike normative scores, these placement levels articulate the high expectations students must achieve to be considered as having attained grade-level knowledge and skills. These placement levels are designed to help educators understand what level of instruction students are prepared for across the school year.

References

- Catalano, F. (2020). Learning loss is everywhere but how do the results compare? <https://www.edsurge.com/news/2020-12-14-learning-loss-is-everywhere-but-how-do-the-reports-compare>
- Council of Chief State School Officers and Council of the Great City Schools (2014). Commitments from CCSSO and CGCS on high-quality assessments. <https://ccsso.org/sites/default/files/2017-11/CSSO-CGCS-Assessment-Commitments-10152014%20%281%29.pdf>
- Council of the Great City Schools (2020). Addressing unfinished learning after COVID-19 school closures. https://www.cgcs.org/cms/lib/dc00001581/centricity/domain/313/cgcs_unfinished%20learning.pdf
- Curriculum Associates (2020). A window into the digital world. <https://www.curriculumassociates.com/products/i-ready/usage-trends-digital-divide>
- Curriculum Associates (2020). Overcoming the digital divide: Distance learning successes during the pandemic. <https://www.curriculumassociates.com/products/i-ready/overcoming-the-digital-divide>
- Curriculum Associates (2020). Understanding student needs: Early assessment results from fall 2020. <https://www.curriculumassociates.com/fall2020data>
- Dorn, E., Hancock, B., Sarakatsannis, J., & Viruleg, E. (December 2020). COVID-19 and learning loss—disparities grow and students need help. McKinsey & Company. <https://www.mckinsey.com/industries/public-and-social-sector/our-insights/covid-19-and-learning-loss-disparities-grow-and-students-need-help>
- Gershenson, Seth. (February 2020). Great expectations: The impact of rigorous grading practices on student achievement. Washington, DC: Thomas B. Fordham Institute. <https://fordhaminstitute.org/national/research/great-expectations-impact-rigorous-grading-practices-student-achievement>
- Kogan, V., & Lavertu, S. (January 2021). The COVID-19 pandemic and student achievement on Ohio’s third-grade English language arts assessment. http://glenn.osu.edu/educational-governance/reports/reports-attributes/ODE_ThirdGradeELA_KL_1-27-2021.pdf
- Hernandez, D. (2011). Double jeopardy: How third-grade reading skills and poverty influence high school graduation. <https://files.eric.ed.gov/fulltext/ED518818.pdf>
- Kuhfeld & Tarasawa (2020). The COVID-19 slide: What summer learning loss can tell us about the potential impact of school closures on student academic achievement. NWEA Research. https://www.nwea.org/content/uploads/2020/05/Collaborative-Brief_Covid19-Slide-APR20.pdf
- Powell, R., Cantrell, S. C., Malo-Juvera, V., & Correll, P. (2016). Operationalizing culturally responsive instruction: Preliminary findings of CRIOP research. *Teachers College Record*, 118(1), 1–46.
- Student Achievement Partners (2020). 2020–2021: Priority instructional content in English language arts/literacy and mathematics. <https://achievethecore.org/page/3267/2020-21-priority-instructional-content-in-english-language-arts-literacy-and-mathematics>
- The Center for Research on Education Outcomes at Stanford University (2020). Estimates of learning loss in the 2019–2020 school year. https://credo.stanford.edu/sites/g/files/sbiybj6481/f/credo_days_of_learning_description_r5.pdf
- TNTP (2018). The opportunity myth: What students can show us about how school is letting them down—and how to fix it. https://tntp.org/assets/documents/TNTP_The-Opportunity-Myth_Web.pdf
- Will, M. (2020). 6 lessons learned about better teaching during the pandemic. <https://www.edweek.org/technology/6-lessons-learned-about-better-teaching-during-the-pandemic/2020/11>

The mission of Curriculum Associates is to make classrooms better places for teachers and students.



Built to address the rigor of the new standards, *i-Ready* helps students make real gains. *i-Ready* collects a broad spectrum of rich data on student abilities that identifies areas where a student is struggling, measures growth across a student's career, supports teacher-led differentiated instruction, and provides a personalized instructional path within a single online solution.

To learn more about evidence on the impact of *i-Ready*, please visit CurriculumAssociates.com/Research.



@myiready



Curriculum Associates



@CurriculumAssoc



iReady