

Curriculum Associates RESEARCH

i-Ready Stretch Growth[®] in the Pandemic Context

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Reading and Mathematics
Research Brief, 08.02.2023

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Summary

This study used two years of *i-Ready Diagnostic* data from after the onset of the COVID-19 pandemic to examine the degree to which meeting *i-Ready*'s Stretch Growth targets put students on a path toward proficiency. We used data from more than 3.1 million students and more than 3.8 million students who completed fall and spring *i-Ready Diagnostics* for Reading and for Mathematics, respectively, during the 2021–2022 and 2022–2023 academic years. Our analyses found that more than 25% of students met Stretch Growth in a given academic year and approximately 10% of students met Stretch Growth in both years. When compared with last year's study with pre-pandemic data (Rome & Daisher, 2022), we observed a drop in the percentage of students who met Stretch Growth since the onset of the pandemic. This drop was most noticeable in Grades 1–4 in mathematics, grades highlighted as being heavily impacted by pandemic-related unfinished learning (Curriculum Associates, 2022).

Despite the drop in Stretch Growth attainment, we found that meeting Stretch Growth still put students on a path to grade-level proficiency. Across grade levels in reading and mathematics, approximately 76% of students who met Stretch Growth in both years finished the 2022–2023 academic year at Mid On Grade Level or higher in *i-Ready*, while 93% finished at or above Early On Grade Level. Results of this study are directionally consistent with those from our pre-pandemic study and provide evidence that *i-Ready*'s Stretch Growth targets are both ambitious and attainable and demonstrate how reaching Stretch Growth in two consecutive years puts students on a path toward proficiency.

Introduction

Rome and Daisher (2022) showed how the criterion-referenced *i-Ready* Stretch Growth targets could be used to set an ambitious but attainable path to grade-level proficiency for students, even those starting the academic year below grade level. This work proved timely, following the unprecedented unfinished learning experienced by students as a result of the COVID-19 pandemic (Curriculum Associates, 2021; Lewis & Kuhfeld, 2021). With recent reports of stalled progress in the pandemic recovery (Lewis & Kuhfeld, 2023), we decided to revisit our research on *i-Ready*'s Stretch Growth with the first available two-year sample of *i-Ready Diagnostic* (hereafter referred to as the "Diagnostic") growth data following the initial pandemic school disruptions.

In this paper, we examine students' attainment of *i-Ready*'s Stretch Growth across the 2021–2022 and 2022–2023 academic years. We compare these results to the results of our 2022 study, which used pre-pandemic data (2017–2018 and 2018–2019), to evaluate the change in Stretch Growth attainment since the onset of the pandemic. Finally, as in the previous study, we examine the resulting Diagnostic placement level distribution for students who met Stretch Growth in one or both of the last two academic years. These results are also compared to those from the pre-pandemic data. By examining data from the last two academic years, we extend the validity evidence of *i-Ready*'s Stretch Growth model into the pandemic context and provide a glimpse of the pandemic impact on Stretch Growth attainment.

Research Methodology

Research Questions

This study attempted to address the following two research questions:

1. How frequently do students meet their Stretch Growth targets?
 - a. How do these results compare to those from our pre-pandemic data?
2. How frequently do students who meet their Stretch Growth targets get to proficiency?
 - b. How do these results compare to those from our pre-pandemic data?

Sample

This study used data from more than 3.1 million and more than 3.8 million students who completed Diagnostics for Reading or for Mathematics, respectively, during the 2021–2022 and 2022–2023 academic years. Because *i-Ready* provides growth targets for Grades K–8, we focused on students who were in Grades K–7 during the 2021–2022 academic year and advanced to Grades 1–8 during the 2022–2023 academic year. To qualify for inclusion in the study, each student had to have completed a Diagnostic during both the fall and spring testing windows¹ in both academic years. Table 1 shows the number of students per grade cohort and subject.

¹During the selected academic years, the *i-Ready* testing windows were defined as follows:

Fall: August 1–November 15

Winter: November 16–March 1

Spring: March 2–June 15

Table 1: Number of Students by Grade Cohort in Reading and Mathematics

Grade Cohort	Reading	Mathematics
K → 1	304,080	387,417
1 → 2	403,693	527,144
2 → 3	472,488	576,007
3 → 4	493,390	597,268
4 → 5	482,884	580,472
5 → 6	358,473	448,560
6 → 7	313,521	376,061
7 → 8	287,225	335,803
Total	3,115,754	3,828,732

Stretch Growth Targets

i-Ready classifies students into criterion-referenced placement levels based on their Diagnostic scale score. Students who place below or above their chronological grade level are classified into a placement grade level (i.e., Levels K–8), while students who place on grade level are assigned a placement of Early, Mid, or Late On Grade Level. For the purpose of assigning growth targets, students' fall Diagnostic placements are categorized into five relative placement levels: Mid or Above Grade Level, Early On Grade Level, One Grade Level Below, Two Grade Levels Below, or Three or More Grade Levels Below. Students' Stretch Growth targets are determined by the subject, their chronological grade level, and their fall Diagnostic relative placement level.

i-Ready's Stretch Growth measures are designed to put students on a path toward proficiency. For students who begin the year below grade level, Stretch Growth targets are designed to put students on a path to Mid or Above Grade Level (i.e., proficiency) in one year, two years, or more than two years. For students who begin the year on or above grade level, Stretch Growth targets are designed to put students on a path to Late On Grade Level or Above (i.e., advanced proficiency) in one year, two years, or more than two years.

Due to the nature of *i-Ready's* Stretch Growth targets, students may meet Stretch Growth for one, two, or more than two consecutive years and still not reach proficiency. Within an academic year, there are two reasons why a student can meet their Stretch Growth target but not reach proficiency:

1. The student's Stretch Growth target is a two-year or more than two-year target.
2. The student's fall Diagnostic scale score is at the low end of the scale score range for their relative placement level (e.g., a student who starts the year four grade levels below will have the same target as a student in the same subject and grade level who starts the year three grade levels below, but the student who starts four grade levels below will obviously need to show greater growth to reach proficiency).

Across two or more academic years, there are three reasons why a student can meet their Stretch Growth target in consecutive years but not reach proficiency:

1. The student's Stretch Growth target is a more than two-year target.
2. The student's fall Diagnostic scale score is at the low end of the scale score range for their relative placement level.
3. The student's Diagnostic scale score decreases from spring of one year to fall of the next year (i.e., summer learning loss).

Results

Frequency of Meeting Stretch Growth

The first research question was answered descriptively by calculating the percentage of students who met their Stretch Growth target in 2021–2022, 2022–2023, and in both years. We calculated these results by subject and grade cohort (Table 2) as well as by subject, grade cohort, and starting placement level (Table A1). Additionally, we place the results of this year's study side by side with the results from our 2022 study to show how these percentages differ from the pre-pandemic data. However, we must note that the results from each two-year sample are not matched to a defined population. That is, changes in the percentages could be due to effects from the pandemic, but they could also be due to differences in the makeup of the samples from the two studies.

Table 2: Percentage of Students Meeting Stretch Growth by Subject, Grade, and Academic Year(s)

Percentage of Students Meeting Stretch Growth							
Subject	Grade Cohort	2017–2018	2018–2019	Both Years	2021–2022	2022–2023	Both Years
Reading	K → 1	33%	36%	14%	30%	35%	13%
	1 → 2	38%	36%	16%	30%	39%	15%
	2 → 3	36%	36%	16%	34%	34%	15%
	3 → 4	35%	33%	14%	34%	33%	14%
	4 → 5	32%	31%	12%	33%	29%	12%
	5 → 6	29%	29%	10%	28%	27%	9%
	6 → 7	27%	26%	9%	27%	24%	8%
	7 → 8	25%	24%	7%	25%	24%	7%
Mathematics	K → 1	40%	37%	16%	38%	33%	13%
	1 → 2	38%	31%	13%	29%	23%	8%
	2 → 3	31%	35%	12%	23%	26%	7%
	3 → 4	35%	31%	13%	26%	24%	8%
	4 → 5	32%	24%	10%	25%	24%	8%
	5 → 6	26%	24%	8%	25%	26%	9%
	6 → 7	24%	23%	8%	27%	25%	9%
	7 → 8	22%	22%	7%	25%	26%	8%

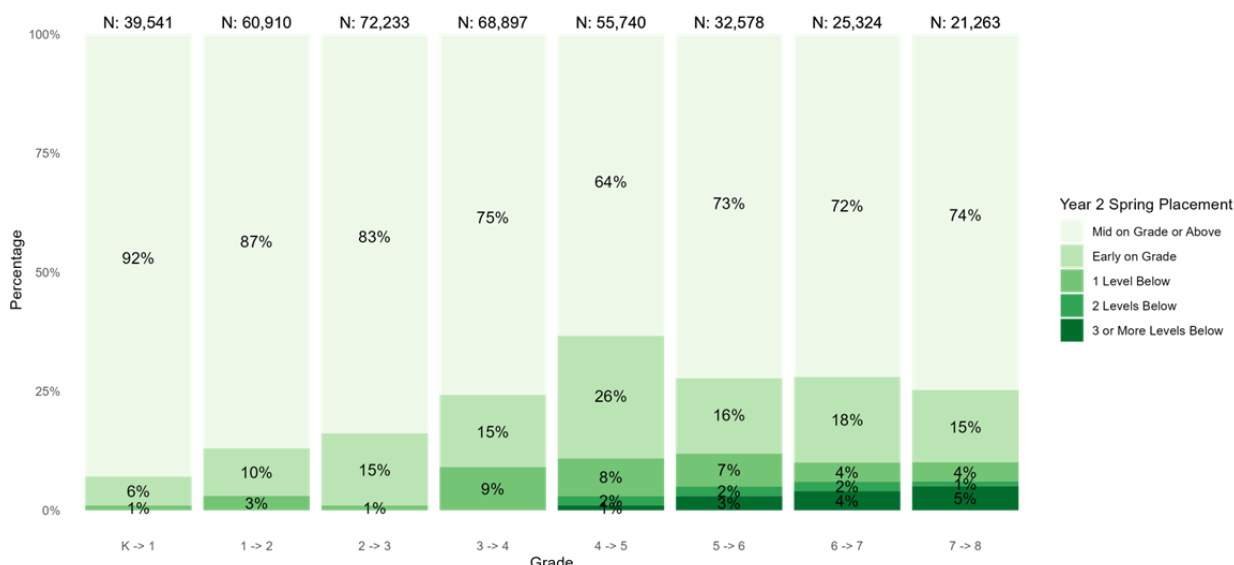
The most recent data continue to show that *i-Ready*'s Stretch Growth targets were attainable. Across grade cohorts, about 31% of students met Stretch Growth in any one year in reading and about 26% in mathematics. The targets were also ambitious, with less than 40% of students meeting Stretch Growth in a given subject, grade cohort, and academic year since the 2021–2022 academic year. Finally, about 12% and 9% of students met Stretch Growth in both 2021–2022 and 2022–2023 in reading and mathematics, respectively. While the general trends mirror those of last year's study, there is a noticeable drop in Stretch Growth attainment from the pre-pandemic data to now. The drop was most prominent in mathematics in Grades 1–4, where the percentage of students meeting Stretch Growth in a single year dropped by seven to nine percentage points and the percentage meeting Stretch Growth in both years dropped by five percentage points in each grade cohort.

As shown in Table A1, the *i-Ready* Stretch Growth targets appeared to be attainable for students at all levels. The percentage of students meeting Stretch Growth in a single year was at least 15% in all but seven of the 76 subject, grade cohort, and starting placement level combinations. On average, the percentage of students meeting Stretch Growth tended to be higher for students who started at a higher placement level, but this trend was not consistent across all subjects and grade cohorts. When compared to results of last year's study, we see that the drop in the percentage of students who met Stretch Growth in the first, second, or both years tended to be larger among students in lower starting placement levels. This effect was small. However, we also know that more students started below grade level in fall 2021 compared to historical data due to unfinished learning (Curriculum Associates, 2021). The interaction of these two effects likely contributes to some of the precipitous drops seen when aggregating across placement levels in Table 2.

Results of Meeting Stretch Growth

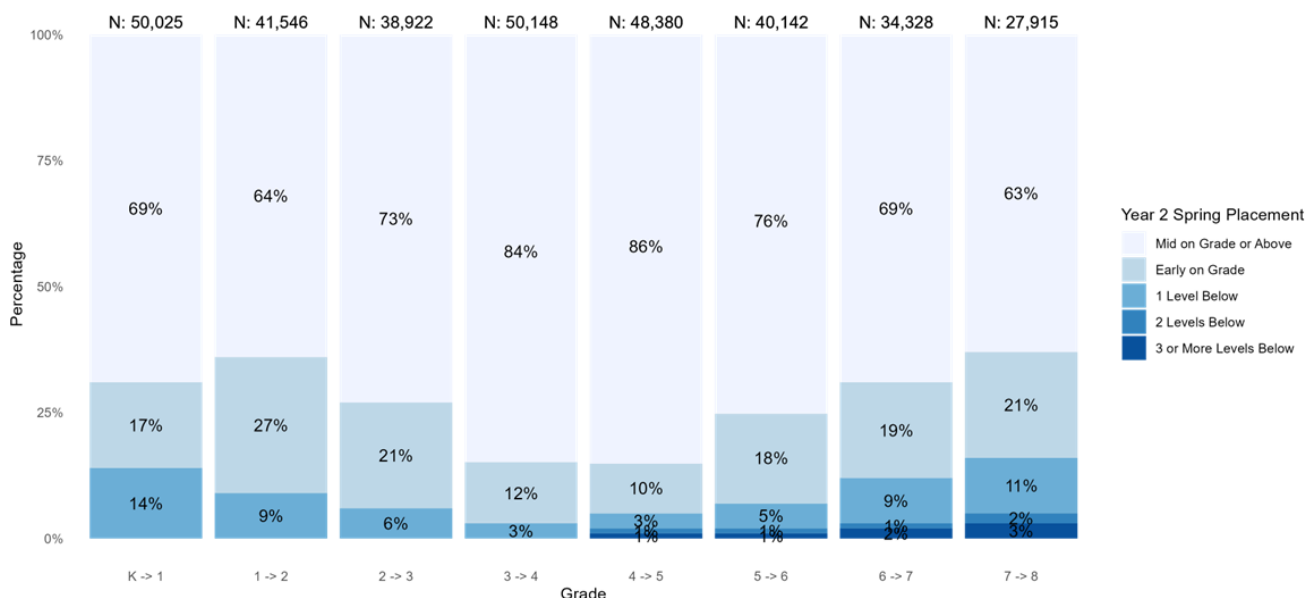
We also used descriptive methods to answer the second research question. Specifically, we examined the frequency distribution of spring Diagnostic placement levels for students who met their Stretch Growth targets. If Stretch Growth puts students on a path toward proficiency, students who meet Stretch Growth should score proficient (i.e., Mid On Grade Level or Above) and on grade level (i.e., Early On Grade Level or Above) at high rates. Figures 1 and 2 display the spring 2023 placement-level distributions for students who met Stretch Growth in both 2021–2022 and 2022–2023 in reading and mathematics, respectively. Table A2 in the Appendix shows the distribution of ending placement level for students who met Stretch Growth in each academic year.

Figure 1: Spring 2023 Placement Distribution for Students Meeting Stretch Growth in Both Years: Reading



There were more than 376,000 students in reading and more than 331,000 students in mathematics who met Stretch Growth in both years, with at least 21,000 in every subject and grade cohort. In reading, 78% of these students ended the second year proficient while 94% ended the second year on grade level. In mathematics, 74% of students who met Stretch Growth in both years ended the second year proficient in *i-Ready* while 92% ended the second year on grade level. In reading, the percent proficient was highest for the Grades K → 1 cohort and tended to decrease as grade level increased. In mathematics, the percent proficient was highest for the Grades 3 → 4 and 4 → 5 cohorts, with the Grades K–3 and 5–8 cohorts showing slightly lower percent proficient.

Figure 2: Spring 2023 Placement Distribution for Students Meeting Stretch Growth in Both Years: Mathematics



When we compare results to those of last year's study, we find a negligible change in the percentage of students who reached Early and/or Mid On Grade Level or Above in reading and a small drop in mathematics. Specifically, last year's study found that 82% and 95% of students who met Stretch Growth in consecutive years ended the second year proficient and on grade level, respectively. While the drop of eight percentage points reaching proficiency in mathematics is noticeable, it does not change the overall conclusions of the validity research: The overwhelming majority of students who met Stretch Growth in consecutive years ended the second year proficient in *i-Ready*. As such, the remainder of the results will focus on the 2021–2022 and 2022–2023 results, with some part of the Conclusion section dedicated to explaining the differences with the pre-pandemic data in mathematics.

Results by Starting Placement

We also examined the spring 2023 Diagnostic placement distribution for students who met Stretch Growth in both academic years, disaggregated by fall 2021 Diagnostic placement level. Figures 3 and 4 show examples of these results from the Grades 2 → 3 cohort in reading and the Grades 4 → 5 cohort in mathematics, respectively. These cohorts were chosen as examples because research shows these were the grades most heavily impacted by the pandemic in their respective subjects (Curriculum Associates, 2021). Appendix Table A3 shows the complete results across all subjects, grade cohorts, and starting placement levels.

Students who started fall 2021 on grade level (i.e., Early On Grade Level or Above) and met Stretch Growth in both years almost always finished spring 2023 proficient in *i-Ready*. Additionally, more than 50% of students who began the 2021–2022 academic year One Grade Level Below and met Stretch Growth in both years finished the 2022–2023 academic year proficient, and the vast majority (more than 90%) finished on grade level. For students who started Two Grade Levels Below, where *i-Ready*'s Stretch Growth targets are two-year or more than two-year targets, more than 75% of students who met Stretch Growth in both years finished the second year on grade level. Finally, in most subjects and grade cohorts, more than 30% of students who started Three or More Grade Levels Below and met Stretch Growth in both years finished on grade level and at least 7% reached proficiency. This finding is consistent with the fact that students who start the year Three or More Grade Levels Below always have a more than two-year path to proficiency (Curriculum Associates, 2018). These students did, however, finish the 2022–2023 academic year in a much better place than where they started the 2021–2022 academic year.

Figure 3: Spring 2023 Placement Distribution for Students Meeting Stretch Growth in Both Years by Fall 2021 Placement: Reading Grades 2–3

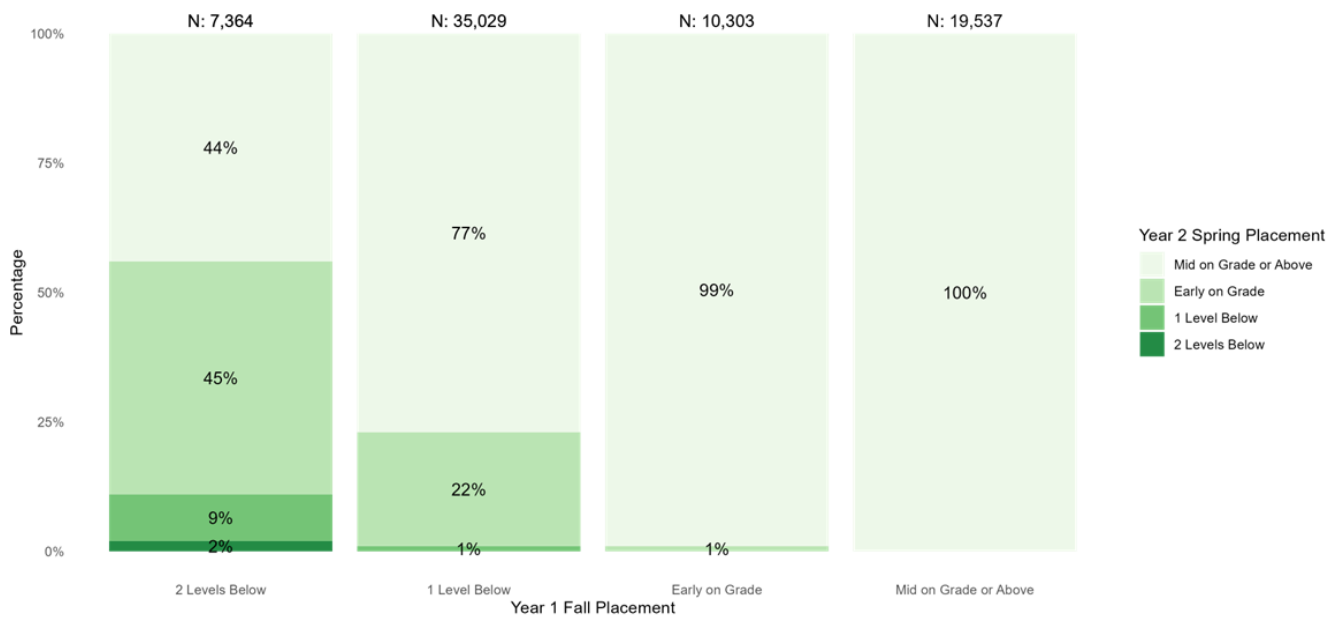
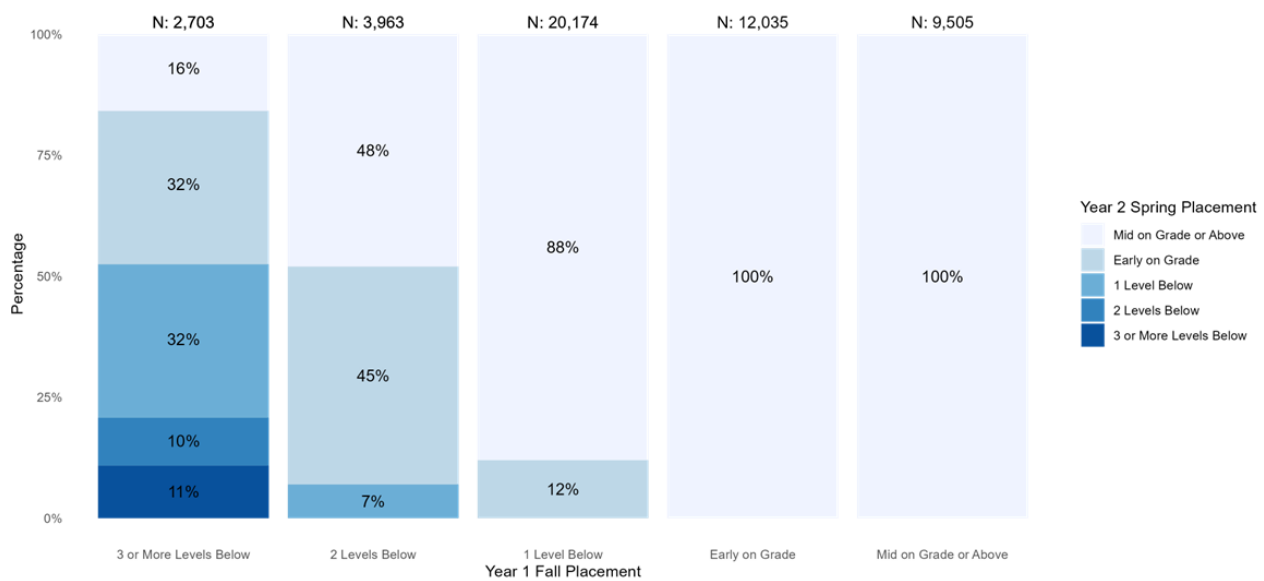


Figure 4: Spring 2023 Placement Distribution for Students Meeting Stretch Growth in Both Years by Fall 2021 Placement: Mathematics Grades 4–5



Conclusion

This study provides additional validity evidence for *i-Ready*'s Stretch Growth targets as a growth goal that is ambitious, attainable, and puts students on a path toward proficiency. Additionally, our comparison with last year's report, which used a pre-pandemic sample of Diagnostic data, adds to the previous research in two ways. First, this study provides additional support for the finding that growth has stalled, or at the very least not accelerated to the extent necessary, since the onset of the pandemic (Lewis & Kuhfeld, 2023). Second, this study shows that the *i-Ready* Stretch Growth targets still provide an ambitious and attainable path toward proficiency even in the face of pandemic disruptions, school closures, and the resulting unfinished learning.

Analysis of two years of pandemic-affected Diagnostic data showed that between 23% and 39% of students met their Stretch Growth goal each year, with higher percentages among students in lower grade cohorts and slightly higher percentages in reading than mathematics. Compared to last year's study, there was a noticeable decline in the percentage of students who met Stretch Growth, particularly in mathematics in Grades 1–4, the grades most heavily impacted by the pandemic (Curriculum Associates, 2021; Curriculum Associates, 2022). As with the pre-pandemic study, we found that in nearly all combinations of subject, grade cohort, and starting placement level, at least 15% of students met their Stretch Growth target. Across the two years, approximately 12% and 9% of students met their Stretch Growth target in both years in reading and mathematics, respectively. This is down from 13% and 11%, respectively, in the pre-pandemic study.

The second set of analyses examined the Diagnostic placement level distributions among students who met Stretch Growth in both years. Across subjects and grade cohorts, approximately 76% of students who met Stretch Growth in consecutive years finished the second year proficient in *i-Ready*, while 93% finished on grade level. These percentages were higher among students who started fall 2021 in higher placement levels. However, even students who started fall 2021 Two Grade Levels Below were usually able to get to grade level by spring 2023 by meeting Stretch Growth in both academic years. These analyses provide evidence of Stretch Growth as a growth goal that puts students on a path toward proficiency.

When compared to the results from the pre-pandemic data, there was a noticeable difference in the percentage of students who finished the second year proficient in mathematics, among those who met Stretch Growth in both years (down to 74% from 82%). As discussed in the Methodology section, there are three reasons why a student could meet Stretch Growth in consecutive years and not finish the second year proficient or on grade level. We hypothesize that two of these three reasons likely factored into the drop from the pre-pandemic data to the current study.

First, we know that there was a dramatic increase in the percentage of students who started fall 2021 Two or More Grade Levels Below, compared to pre-pandemic data (Curriculum Associates, 2021). Since most of these students will have a more than two-year Stretch Growth target, we should not expect to see as high of a percentage of students reaching proficiency or on grade level, given the declines in starting placement from unfinished learning. Second, we also know that unfinished learning manifested in declines in average scale scores. Therefore, students were likely starting fall 2021 in the lower end of their relative placement level scale score range, especially those in the

Three or More Grade Levels Below relative placement level. These two factors likely contributed to the drop in students reaching proficiency or on grade level from the pre-pandemic data.

Finally, we do not think that changes in summer learning loss are to blame for the differences in reaching proficiency and on grade level between the pre-pandemic data and the current study. While summer learning loss was not a focus of this research, a cursory look at the average scale score change from spring 2021 to fall 2021, compared to spring 2018 to fall 2018 from last year's study, revealed negligible differences in summer learning loss, with no consistent direction, between the pre-pandemic data and the data from the current study.

Limitations

The current study addresses one key limitation of the pre-pandemic study. Specifically, this is the first Stretch Growth validation study conducted using two years of data where Stretch Growth targets were shown to students and teachers in the *i-Ready* reports. The previous study utilized data from the 2017–2018 academic year, despite the fact that Stretch Growth was not added to *i-Ready* reporting until fall 2018.

As with last year's study, the analyses conducted here were entirely descriptive in nature. Though there is much we can learn from examining frequencies in a very large sample of students, a more rigorous methodology could use significance testing and model-based methods to answer similar research questions. An additional limitation of this study that did not exist in the previous study was missingness in the sample due to out-of-school testing. Curriculum Associates has found tests taken out of school to have results that are less consistent, and more influenced by construct-irrelevant variance, than tests taken in school. As such, students were disqualified from the current study if they did not have an in-school test during each of the four required testing windows. The percentage of students disqualified per subject and grade cohort ranged from 12% to 22%, with higher percentages in the Grades K–2 and 6–8 cohorts.

The other major limitation that must be noted is our comparison with last year's study. Though the samples for the two studies were created with the same criteria, besides the academic years of interest, we did not do any matching or sampling to ensure that the two samples were comparable on important confounding characteristics. Both samples can be thought of as examining the population of *i-Ready* users who tested in consecutive academic years. Without any matching or sampling procedure, we cannot determine if the drop in Stretch Growth attainment was due to pandemic-related disruptions to learning or changes in the population of *i-Ready* users. In this report, we make an inference of attributing drops in Stretch Growth attainment to unfinished learning simply because of the extent to which our results align with existing research on unfinished learning during the pandemic (e.g., Curriculum Associates, 2022; Lewis & Kuhfeld, 2023).

Despite these limitations, this study confirms previous research (Rome & Daisher, 2022) and provides strong validity evidence for *i-Ready*'s Stretch Growth model. Additionally, by comparing the newest data with our pre-pandemic data, this study adds to the growing chorus of researchers highlighting the urgent need to accelerate learning in the post-pandemic classroom.

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Appendix

Table A1: Percentage of Students Meeting Stretch Growth by Subject, Grade, Starting Placement, and Academic Year(s)

Subject	Grade Cohort	Starting Placement*	Percentage of Students Meeting Stretch Growth					
			2017– 2018	2018– 2019	Both Years	2021– 2022	2022– 2023	Both Years
Reading	K → 1	Two Levels Below	N/A	18%	N/A	N/A	17%	N/A
		One Level Below	34%	33%	14%	33%	33%	13%
		Early On Grade	26%	50%	14%	20%	49%	11%
		Mid On Grade or Above	45%	47%	20%	36%	52%	18%
	1 → 2	Two Levels Below	21%	17%	7%	14%	20%	6%
		One Level Below	37%	40%	15%	29%	42%	13%
		Early On Grade	49%	33%	25%	45%	42%	28%
		Mid On Grade or Above	46%	49%	25%	47%	62%	31%
	2 → 3	Three or More Levels Below	N/A	17%	N/A	N/A	15%	N/A
		Two Levels Below	22%	25%	7%	15%	24%	5%
		One Level Below	40%	42%	15%	42%	42%	17%
		Early On Grade	33%	30%	16%	38%	33%	19%
		Mid On Grade or Above	49%	55%	29%	55%	53%	32%
	3 → 4	Three or More Levels Below	22%	23%	6%	13%	21%	4%
		Two Levels Below	26%	25%	8%	23%	26%	8%
		One Level Below	41%	31%	13%	44%	35%	16%
		Early On Grade	29%	37%	12%	34%	39%	15%
		Mid On Grade or Above	52%	44%	28%	52%	42%	27%
	4 → 5	Three or More Levels Below	26%	22%	6%	21%	19%	5%
		Two Levels Below	25%	20%	7%	27%	21%	7%
		One Level Below	30%	35%	10%	36%	36%	12%
		Early On Grade	37%	38%	17%	39%	33%	16%
		Mid On Grade or Above	40%	42%	21%	41%	34%	18%
	5 → 6	Three or More Levels Below	23%	21%	5%	19%	19%	4%
		Two Levels Below	20%	23%	5%	22%	23%	5%
		One Level Below	34%	36%	12%	35%	32%	11%
		Early On Grade	35%	28%	15%	33%	26%	13%
		Mid On Grade or Above	37%	38%	17%	35%	33%	15%
	6 → 7	Three or More Levels Below	21%	21%	5%	21%	19%	4%
		Two Levels Below	21%	25%	6%	24%	20%	6%
		One Level Below	34%	34%	11%	32%	29%	9%
		Early On Grade	26%	23%	10%	26%	23%	9%
		Mid On Grade or Above	35%	31%	13%	35%	31%	14%
	7 → 8	Three or More Levels Below	21%	22%	5%	20%	19%	4%
		Two Levels Below	23%	24%	6%	21%	20%	5%
		One Level Below	31%	28%	9%	30%	27%	8%

			Percentage of Students Meeting Stretch Growth					
Subject	Grade Cohort	Starting Placement*	2017–2018	2018–2019	Both Years	2021–2022	2022–2023	Both Years
		Early On Grade	21%	22%	7%	24%	21%	8%
		Mid On Grade or Above	33%	26%	10%	35%	30%	14%

*Starting placement refers to fall 2017 (2021) placement for 2017–2018 (2021–2022), fall 2018 (2022) placement for 2018–2019 (2022–2023), and fall 2017 (2021) placement for both years.

			Percentage of Students Meeting Stretch Growth					
Subject	Grade Cohort	Starting Placement*	2017–2018	2018–2019	Both Years	2021–2022	2022–2023	Both Years
Mathematics	K → 1	Two Levels Below	N/A	26%	N/A	N/A	28%	N/A
		One Level Below	45%	39%	17%	41%	36%	14%
		Early On Grade	25%	37%	12%	22%	24%	8%
		Mid On Grade or Above	29%	30%	13%	23%	18%	8%
	1 → 2	Two Levels Below	26%	22%	8%	25%	22%	6%
		One Level Below	40%	38%	14%	33%	26%	9%
		Early On Grade	35%	18%	10%	18%	11%	4%
		Mid On Grade or Above	31%	19%	9%	12%	22%	4%
	2 → 3	Three or More Levels Below	N/A	20%	N/A	N/A	16%	N/A
		Two Levels Below	23%	27%	8%	21%	19%	5%
		One Level Below	37%	39%	15%	27%	28%	8%
		Early On Grade	18%	37%	9%	9%	32%	5%
		Mid On Grade or Above	20%	36%	10%	20%	46%	10%
	3 → 4	Three or More Levels Below	22%	20%	5%	16%	15%	3%
		Two Levels Below	28%	23%	8%	24%	14%	5%
		One Level Below	38%	32%	14%	28%	23%	9%
		Early On Grade	38%	30%	21%	28%	30%	17%
		Mid On Grade or Above	37%	47%	17%	43%	52%	23%
	4 → 5	Three or More Levels Below	21%	20%	5%	16%	14%	3%
		Two Levels Below	24%	19%	6%	17%	16%	4%
		One Level Below	34%	23%	9%	26%	24%	8%
		Early On Grade	33%	24%	13%	33%	27%	16%
		Mid On Grade or Above	46%	38%	21%	50%	46%	28%
	5 → 6	Three or More Levels Below	21%	20%	4%	15%	17%	3%
		Two Levels Below	22%	21%	5%	17%	21%	4%
		One Level Below	25%	21%	6%	26%	26%	8%
		Early On Grade	26%	26%	10%	29%	31%	14%
		Mid On Grade or Above	39%	42%	19%	51%	52%	29%
	6 → 7	Three or More Levels Below	22%	20%	4%	17%	17%	3%
		Two Levels Below	21%	20%	4%	23%	25%	6%
		One Level Below	21%	21%	6%	28%	23%	9%
		Early On Grade	27%	32%	11%	31%	37%	15%

Subject	Grade Cohort	Starting Placement*	Percentage of Students Meeting Stretch Growth					
			2017–2018	2018–2019	Both Years	2021–2022	2022–2023	Both Years
	7 → 8	Mid On Grade or Above	41%	30%	18%	55%	37%	26%
		Three or More Levels Below	20%	20%	4%	17%	21%	4%
		Two Levels Below	20%	19%	5%	26%	25%	7%
		One Level Below	20%	24%	6%	24%	27%	9%
		Early On Grade	31%	25%	11%	37%	33%	15%
		Mid On Grade or Above	30%	26%	11%	37%	30%	14%

*Starting placement refers to fall 2017 (2021) placement for 2017–2018 (2021–2022), fall 2018 (2022) placement for 2018–2019 (2022–2023), and fall 2017 (2021) placement for both years.

Table A2: Ending Placement Level Distribution for Students Who Met Stretch Growth

Subject	Grade Cohort	Ending Placement*	Percentage among Students Who Met Stretch Growth		
			2021–2022	2022–2023	Both Years
Reading	K → 1	Two Levels Below	N/A	0%	0%
		One Level Below	1%	4%	1%
		Early On Grade	12%	12%	6%
		Mid On Grade or Above	86%	84%	92%
	1 → 2	Two Levels Below	0%	0%	0%
		One Level Below	5%	11%	3%
		Early On Grade	13%	22%	10%
		Mid On Grade or Above	82%	66%	87%
	2 → 3	Three or More Levels Below	N/A	0%	0%
		Two Levels Below	1%	1%	0%
		One Level Below	11%	6%	1%
		Early On Grade	20%	24%	15%
		Mid On Grade or Above	68%	69%	83%
	3 → 4	Three or More Levels Below	0%	2%	0%
		Two Levels Below	1%	2%	0%
		One Level Below	5%	18%	9%
		Early On Grade	24%	19%	15%
		Mid On Grade or Above	69%	60%	75%
	4 → 5	Three or More Levels Below	2%	2%	1%
		Two Levels Below	2%	4%	2%
		One Level Below	19%	13%	8%
		Early On Grade	20%	29%	26%
		Mid On Grade or Above	58%	52%	64%
	5 → 6	Three or More Levels Below	2%	7%	3%
		Two Levels Below	4%	3%	2%
		One Level Below	16%	13%	7%

Percentage among Students Who Met Stretch Growth

Subject	Grade Cohort	Ending Placement*	2021–2022	2022–2023	Both Years
	6 → 7	Early On Grade	29%	19%	16%
		Mid On Grade or Above	49%	59%	73%
		Three or More Levels Below	7%	9%	4%
		Two Levels Below	4%	3%	2%
		One Level Below	13%	8%	4%
		Early On Grade	19%	22%	18%
		Mid On Grade or Above	57%	57%	72%
	7 → 8	Three or More Levels Below	9%	10%	5%
		Two Levels Below	4%	3%	1%
		One Level Below	8%	8%	4%
		Early On Grade	22%	21%	15%
		Mid On Grade or Above	57%	58%	74%

*Ending placement is spring 2022 placement for 2021–2022 and spring 2023 placement for 2022–2023 and both years.

Percentage among Students Who Met Stretch Growth

Subject	Grade Cohort	Ending Placement*	2021–2022	2022–2023	Both Years
Mathematics	K → 1	Two Levels Below	N/A	0%	0%
		One Level Below	11%	18%	14%
		Early On Grade	17%	19%	17%
		Mid On Grade or Above	73%	63%	69%
	1 → 2	Two Levels Below	0%	1%	0%
		One Level Below	19%	15%	9%
		Early On Grade	18%	28%	27%
		Mid On Grade or Above	63%	56%	64%
	2 → 3	Three or More Levels Below	N/A	0%	0%
		Two Levels Below	2%	1%	0%
		One Level Below	17%	10%	6%
		Early On Grade	32%	23%	21%
		Mid On Grade or Above	49%	66%	73%
	3 → 4	Three or More Levels Below	0%	1%	0%
		Two Levels Below	1%	2%	0%
		One Level Below	15%	7%	3%
		Early On Grade	25%	19%	12%
		Mid On Grade or Above	59%	72%	84%
	4 → 5	Three or More Levels Below	1%	2%	1%
		Two Levels Below	2%	2%	1%
		One Level Below	10%	8%	3%

Percentage among Students Who Met Stretch Growth

Subject	Grade Cohort	Ending Placement*	2021–2022	2022–2023	Both Years
	5 → 6	Early On Grade	23%	19%	10%
		Mid On Grade or Above	65%	69%	86%
		Three or More Levels Below	2%	3%	1%
		Two Levels Below	2%	2%	1%
		One Level Below	9%	13%	5%
		Early On Grade	23%	28%	18%
	6 → 7	Mid On Grade or Above	64%	54%	76%
		Three or More Levels Below	4%	5%	2%
		Two Levels Below	3%	3%	1%
		One Level Below	15%	19%	9%
		Early On Grade	30%	24%	19%
		Mid On Grade or Above	50%	49%	69%
	7 → 8	Three or More Levels Below	6%	8%	3%
		Two Levels Below	3%	4%	2%
		One Level Below	21%	18%	11%
		Early On Grade	27%	26%	21%
		Mid On Grade or Above	43%	44%	63%

*Ending placement is spring 2022 placement for 2021–2022 and spring 2023 placement for 2022–2023 and both years.

Table A3: Ending Placement Distribution for Students Who Met Stretch Growth in Both Years by Starting Placement

Subject	Grade Cohort	Starting Placement*	N	Ending Placement*				
				Three or More Levels Below	Two Levels Below	One Level Below	Early On Grade	Mid On Grade or Above
Reading	K → 1	One Level Below	28,771	N/A	0%	2%	9%	90%
		Early On Grade	6,785	N/A	0%	0%	0%	100%
		Mid On Grade or Above	3,985	N/A	0%	0%	0%	100%
	1 → 2	Two Levels Below	2,146	N/A	0%	16%	37%	47%
		One Level Below	38,639	N/A	0%	3%	14%	83%
		Early On Grade	8,598	N/A	0%	0%	0%	100%
		Mid On Grade or Above	11,527	N/A	0%	0%	0%	100%
	2 → 3	Two Levels Below	7,364	0%	2%	9%	45%	44%
		One Level Below	35,029	0%	0%	1%	22%	77%
		Early On Grade	10,303	0%	0%	0%	1%	99%
		Mid On Grade or Above	19,537	0%	0%	0%	0%	100%
	3 → 4	3 or More Levels Below	2,256	7%	8%	51%	22%	13%
		Two Levels Below	9,133	0%	0%	34%	36%	29%
		One Level Below	17,311	0%	0%	10%	33%	57%

Subject	Grade Cohort	Starting Placement*	N	Ending Placement*				
				Three or More Levels Below	Two Levels Below	One Level Below	Early On Grade	Mid On Grade or Above
	4 → 5	Early On Grade	17,868	0%	0%	0%	6%	94%
		Mid On Grade or Above	22,329	0%	0%	0%	0%	100%
		3 or More Levels Below	4,266	8%	19%	40%	26%	7%
		Two Levels Below	3,602	0%	1%	30%	53%	15%
		One Level Below	23,165	0%	0%	8%	44%	48%
		Early On Grade	10,744	0%	0%	0%	8%	92%
	5 → 6	Mid On Grade or Above	13,963	0%	0%	0%	1%	99%
		3 or More Levels Below	2,677	31%	16%	30%	15%	9%
		Two Levels Below	4,519	1%	2%	24%	39%	34%
		One Level Below	11,405	0%	0%	4%	24%	72%
		Early On Grade	7,823	0%	0%	0%	2%	97%
		Mid On Grade or Above	6,154	0%	0%	0%	0%	100%
	6 → 7	3 or More Levels Below	3,880	27%	10%	22%	28%	13%
		Two Levels Below	2,660	0%	1%	8%	49%	41%
		One Level Below	6,935	0%	0%	1%	27%	71%
		Early On Grade	3,705	0%	0%	0%	5%	95%
		Mid On Grade or Above	8,144	0%	0%	0%	0%	100%
	7 → 8	3 or More Levels Below	3,982	29%	7%	19%	28%	16%
		Two Levels Below	1,601	0%	1%	5%	43%	52%
		One Level Below	4,412	0%	0%	1%	27%	72%
		Early On Grade	3,908	0%	0%	0%	5%	95%
		Mid On Grade or Above	7,360	0%	0%	0%	0%	100%

*Starting placement is fall 2021 placement and ending placement is spring 2023 placement.

Subject	Grade Cohort	Starting Placement*	N	Ending Placement*				
				Three or More Levels Below	Two Levels Below	One Level Below	Early On Grade	Mid On Grade or Above
Mathematics	K → 1	One Level Below	44,236	N/A	0%	16%	19%	65%
		Early On Grade	3,151	N/A	0%	0%	1%	98%
		Mid On Grade or Above	2,638	N/A	0%	0%	0%	100%
	1 → 2	Two Levels Below	5,138	N/A	2%	28%	38%	32%
		One Level Below	33,863	N/A	0%	6%	28%	66%
		Early On Grade	1,227	N/A	0%	0%	0%	100%
		Mid On Grade or Above	1,318	N/A	0%	0%	0%	100%
	2 → 3	Two Levels Below	9,244	0%	1%	23%	38%	38%
		One Level Below	24,578	0%	0%	2%	18%	80%
		Early On Grade	2,587	0%	0%	0%	0%	100%
		Mid On Grade or Above	2,513	0%	0%	0%	0%	100%

Subject	Grade Cohort	Starting Placement*	N	Ending Placement*				
				Three or More Levels Below	Two Levels Below	One Level Below	Early On Grade	Mid On Grade or Above
	3 → 4	3 or More Levels Below	1,965	5%	9%	33%	35%	18%
		Two Levels Below	6,936	0%	0%	10%	47%	43%
		One Level Below	26,412	0%	0%	0%	9%	91%
		Early On Grade	9,540	0%	0%	0%	0%	100%
		Mid On Grade or Above	5,295	0%	0%	0%	0%	100%
	4 → 5	3 or More Levels Below	2,703	11%	10%	32%	32%	16%
		Two Levels Below	3,963	0%	0%	7%	45%	48%
		One Level Below	20,174	0%	0%	0%	12%	88%
		Early On Grade	12,035	0%	0%	0%	0%	100%
		Mid On Grade or Above	9,505	0%	0%	0%	0%	100%
	5 → 6	3 or More Levels Below	2,655	16%	9%	39%	29%	7%
		Two Levels Below	3,287	0%	0%	17%	61%	21%
		One Level Below	14,503	0%	0%	2%	29%	69%
		Early On Grade	9,496	0%	0%	0%	1%	99%
		Mid On Grade or Above	10,201	0%	0%	0%	0%	100%
	6 → 7	3 or More Levels Below	3,140	19%	9%	42%	22%	9%
		Two Levels Below	3,697	0%	1%	33%	48%	18%
		One Level Below	10,765	0%	0%	7%	36%	57%
		Early On Grade	9,703	0%	0%	0%	3%	97%
		Mid On Grade or Above	7,023	0%	0%	0%	0%	100%
	7 → 8	3 or More Levels Below	4,280	19%	10%	38%	20%	13%
		Two Levels Below	3,221	0%	1%	28%	45%	25%
		One Level Below	9,930	0%	0%	5%	34%	62%
		Early On Grade	7,945	0%	0%	0%	4%	96%
		Mid On Grade or Above	2,539	0%	0%	0%	0%	100%

*Starting placement is fall 2021 placement and ending placement is spring 2023 placement.