Evidence to Support Implementation Fidelity

i-Ready®

Using *i-Ready Personalized Instruction* with Fidelity: Results from the 2018–2019 School Year

Curriculum Associates Research Brief | May 2022

i-Ready Inform™ is the new name for the *i-Ready Diagnostic* adaptive assessment.

Research Overview

This study examined fall-to-spring score gains on the *i-Ready Diagnostic* for groupings of students with differing levels of exposure to *i-Ready Personalized Instruction* ("*i-Ready*") and differing Lesson Quiz pass rates. Students who met recommended usage levels (i.e., 30–49 minutes of *i-Ready* per week and passed at least 70% of their Lesson Quizzes) made greater gains than students with an average of less than 30 minutes of *i-Ready* per week who passed less than 70% of their Lesson Quizzes. The difference was positive and statistically significant. This study also provides evidence that students in Grades K–8 who use *i-Ready* as recommended make greater improvements across multiple measures of performance in reading and mathematics than students who do not use *i-Ready* as recommended.

Introduction

i-Ready lessons are sequenced to support students' strengths and areas for growth, and specific lessons can be assigned by educators, when needed, to help every student reach grade-level proficiency. This research includes data for all lessons, whether from the personalized path or teacher assigned.

There is a growing body of evidence showing that students who use *i-Ready* as recommended demonstrate greater fall-to-spring gains on the *i-Ready Diagnostic* assessment when compared to students who did not use *i-Ready* (Curriculum Associates, 2021; Durfee et al., 2019; Randal et al., 2020a; Randal et al., 2020b; Seabolt, 2018), and students who use *i-Ready* as recommended (or with fidelity) outperform students who use *i-Ready* but not at the level of the recommended guidance (or without fidelity). The current study is a follow-up to a prior study based on data from the 2017–2018 school year comparing students who differed in the average amount of time spent using *i-Ready* per week and their average pass rates across those lessons based on data collected. The current study is based on data collected during the 2018–2019 school year. Results show that across all Grades K–8 in reading and mathematics, students who met the recommended guidance for *i-Ready* usage (i.e., 30–49 minutes per week and passed at least 70% of their Lesson Quizzes) had gains that were statistically significantly higher than those of students who used *i-Ready* for only 10–29 minutes on average per week and passed fewer than 70% of their Lesson Quizzes.

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Methodology

The research used a sample of students who used *i-Ready* during the 2018–2019 school year, categorized into four groups based on the average time spent on *i-Ready* each week and the percentage of Lesson Quizzes passed. Specifically:

Group 1	Group 2	Group 3	Group 4
• Spent **1–9 minutes** on average per week on *i-Ready* during the 2018–2019 school year • Passed less than 70% of all Lesson Quizzes	• Spent **10–29 minutes** on average per week on *i-Ready* during the 2018–2019 school year • Passed less than 70% of all Lesson Quizzes	• Spent **30–49 minutes** on average per week on *i-Ready* during the 2018–2019 school year • Passed at least 70% of all Lesson Quizzes	• Spent **at least 50 minutes** on average per week on *i-Ready* during the 2018–2019 school year • Passed at least 70% of all Lesson Quizzes
Due to the small number of students in Group 1, results for that group were not included in this analysis.	Group 2 usage is below current recommended guidance. While 10–29 minutes may be an appropriate target for time spent, we recommend all students aim for a pass rate of at least 70%.	Group 3 meets current recommended guidance and is appropriate for most implementations.	Group 4 exceeds current recommended guidance and may be appropriate in some but not all implementations.

Students in Groups 1 and 2 did not pass 70% of lessons. **Students in Groups 3 and 4 passed at least 70% of lessons.**

To examine the impact of the average time a student receives *i-Ready* and the average lesson pass rate on students' gains on the *i-Ready Diagnostic* assessment, the Curriculum Associates Research team examined the differences in the raw mean score gains between fall and spring *i-Ready Diagnostic* assessment scores from the same school year (i.e., 2018–2019) for each group. In addition, the team conducted a more rigorous analysis of covariance (ANCOVA) on the differences in score gains between groups to control for prior student achievement on baseline (i.e., fall) test scores in both reading and mathematics.

Sample Description

This study used *i-Ready Diagnostic* and *i-Ready* data from the 2018–2019 school year that includes student performance on the *i-Ready Diagnostic* assessment as well as the time spent on *i-Ready* and the pass rate on Lesson Quizzes for both reading and mathematics. In order to ensure data quality, this data set only includes the *i-Ready Diagnostic* assessments that were completed without rushing, students who were in the same grades within the same academic year, lessons that were fully completed, and lessons that were taken after the fall Diagnostic and before the spring Diagnostic. The overall analytic sample included 741,859 students in the reading analysis and 990,770 students in the mathematics analysis. See Appendix Tables 1 and 2 for sample sizes by subject, grade, and implementation group.

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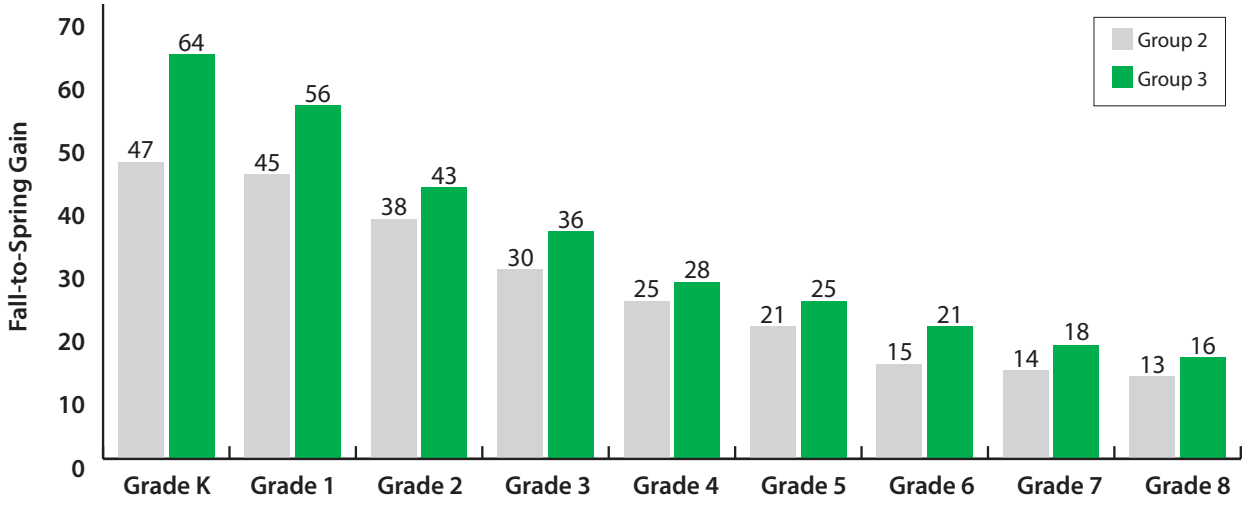
Results

Achieved Higher Fall-to-Spring Score Gains

To determine how the different groups of students performed on the *i-Ready Diagnostic* assessment over the course of an entire school year, we first examined the differences in score gains for students in each grade for both reading and mathematics.

In reading, students who used *i-Ready* as recommended for an average of 30–49 minutes per week and passed, on average, at least 70% of Lesson Quizzes (i.e., Group 3) grew between 3 and 17 scale-score points higher on the *i-Ready Diagnostic* assessment than students who used *i-Ready* for 10–29 minutes and passed less than 70% of Lesson Quizzes (i.e., Group 2). See Graph 1.

Graph 1. Comparison of Gain Scores from School Year 2018–2019 Fall-to-Spring *i-Ready Diagnostic* for Reading Based on *i-Ready* Usage Group



	Group 2: 10–29 Minutes and Pass Rate <70%	Group 3: 30–49 Minutes and Pass Rate >70%	
Grade	**Gain Score**	**Score Gain**	**Gain above Group 2**
K	47	64	+17
1	45	56	+11
2	38	43	+5
3	30	36	+6
4	25	28	+3
5	21	25	+4
6	15	21	+6
7	14	18	+4
8	13	16	+3

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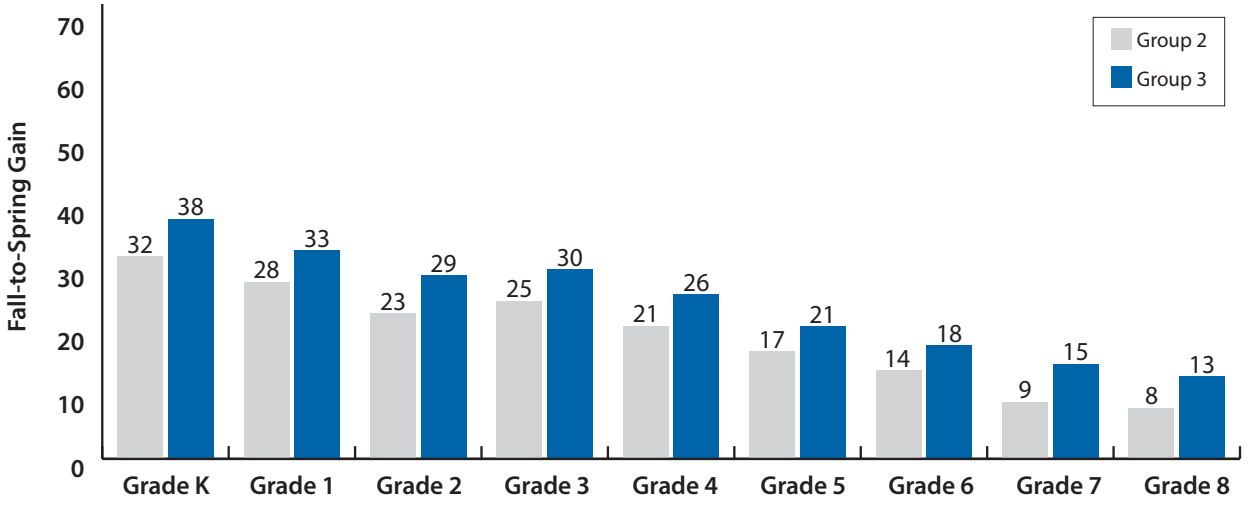
Similarly, in mathematics, students who used *i-Ready* as recommended for an average of 30–49 minutes per week and passed, on average, at least 70% of Lesson Quizzes (i.e., Group 3) grew between 4 and 6 scale-score points higher on the *i-Ready Diagnostic* assessment than students who used *i-Ready* for less than 30 minutes and passed less than 70% of Lesson Quizzes (i.e., Group 2). See Graph 2.

Graph 2. Comparison of Score Gains from School Year 2018–2019 Fall-to-Spring *i-Ready Diagnostic* for Mathematics Based on *i-Ready* Usage Group



	Group 2: 10–29 Minutes and Pass Rate <70%	Group 3: 30–49 Minutes and Pass Rate >70%	
Grade	**Gain Score**	**Score Gain**	**Gain above Group 2**
K	32	38	+6
1	28	33	+5
2	23	29	+6
3	25	30	+5
4	21	26	+5
5	17	21	+4
6	14	18	+4
7	9	15	+6
8	8	13	+5

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The Research team also examined the score gains of students who spent more than the recommended amount of time per week with *i-Ready* (i.e., 50 or more minutes per week) while maintaining an average lesson pass rate above 70% (i.e., Group 4). While some grades and subjects saw additional benefits with more Lesson Time-on-Task in terms of higher scale-score gains, some grades and subjects did not show additional improvement. It is important to note that these results should be interpreted with caution because students' grade-level placements and individual implementation plans were not taken into account.

In reading, students in Grades K–2, 7, and 8 who used *i-Ready* for 50 or more minutes per week and had an average lesson pass rate of 70% or higher experienced greater gains on the spring *i-Ready Diagnostic* than both their counterparts who used *i-Ready* for 30–49 minutes per week and had an average Lesson Quiz pass rate of 70% or higher and their peers who used *i-Ready* for 10–29 minutes per week and had an average pass rate below the 70% threshold. This pattern did not hold for students in Grades 3–6. In mathematics, students in Grades 4–8 who used *i-Ready* for 50 or more minutes per week and had an average lesson pass rate of 70% or higher experienced greater gains on the spring *i-Ready Diagnostic* than their peers who used *i-Ready* for 30–49 minutes per week and had an average Lesson Quiz pass rate of 70% or higher and those who used *i-Ready* for 10–29 minutes per week and passed less than 70% of Lesson Quizzes. This pattern did not hold for students in Grades K–2. See Appendix Tables 3 and 4 for results for Group 4.

Similarly, results from the ANCOVA, which accounts for the prior fall scores and is a more rigorous test of change compared to simple raw gain scores, revealed statistically significant differences for both subjects across all Grades K–8. Specifically:

- Students who used *i-Ready* as recommended for an average of 30–49 minutes per week and passed at least 70% of Lesson Quizzes (i.e., Group 3) had, on average, statistically significantly greater performance on the spring *i-Ready Diagnostic* assessment after controlling for their prior achievement on the fall *i-Ready Diagnostic* assessment—compared to those who used *i-Ready* for less than 10–29 minutes per week on average and passed less than 70% of their Lesson Quizzes (i.e., Group 2).
- Students who used *i-Ready* for an average of 50 minutes per week or more and passed at least 70% of Lesson Quizzes (i.e., Group 4) had, on average, statistically significantly greater performance on the spring *i-Ready Diagnostic* assessment after controlling for their prior achievement on the fall *i-Ready Diagnostic* assessment—compared to students who used *i-Ready* for less than 10–29 minutes per week on average and passed less than 70% of their Lesson Quizzes (i.e., Group 2).

Higher Fall-to-Spring Grade-Level Placement in Spring

In both reading and mathematics, students who used *i-Ready* for an average of 30–49 minutes and passed at least 70% of their Lesson Quizzes (i.e., Group 3) received a higher grade-level placement on the Diagnostic in the spring than their counterparts who only used *i-Ready* for an average of 10–29 minutes and passed less than 70% of their Lesson Quizzes (i.e., Group 2). For example, nearly three-quarters (i.e., 71%) of students in Grade 3 who used *i-Ready* for reading as recommended moved to a higher grade-level placement band from fall to spring compared with 64% of students in Grade 3 who did not use *i-Ready* for reading as recommended—a difference of 7 percentage points. For mathematics, the percentage of Grade 3 students moving to a higher grade-level placement band was 66% versus 78%—a difference of 12 percentage points. See Tables 1 and 2 on the next page.

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Table 1. Percentage of Students Receiving Higher Diagnostic for Reading Grade-Level Placement in Spring

	Group 2: 10–29 Minutes and Pass Rate <70%	Group 3: 30–49 Minutes and Pass Rate >70%	
Grade	**% Higher Grade-Level Placement in Spring**	**% Higher Grade-Level Placement in Spring**	**% above Group 2**
K	71%	94%	+23%
1	54%	74%	+20%
2	58%	76%	+18%
3	64%	71%	+7%
4	56%	63%	+7%
5	55%	65%	+10%
6	52%	61%	+9%
7	51%	57%	+6%
8	51%	54%	+3%

Table 2. Percentage of Students Receiving Higher Diagnostic for Mathematics Grade-Level Placement in Spring

	Group 2: 10–29 Minutes and Pass Rate <70%	Group 3: 30–49 Minutes and Pass Rate >70%	
Grade	**% Higher Grade-Level Placement in Spring**	**% Higher Grade-Level Placement in Spring**	**% above Group 2**
K	54%	82%	+28%
1	52%	66%	+14%
2	51%	66%	+15%
3	66%	78%	+12%
4	67%	77%	+10%
5	58%	70%	+12%
6	56%	65%	+9%
7	45%	57%	+12%
8	49%	55%	+6%

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Achieved Higher Percentage of Typical Growth in Reading and Mathematics

Drawing on multiyear, longitudinal research examining the growth of millions of students who have taken the *i-Ready Diagnostic*, Curriculum Associates introduced a new model to measure student growth in *i-Ready* beginning with the 2018–2019 school year. The primary goal of *i-Ready*'s new growth model was to provide educators with differentiated growth benchmarks designed to help them better understand the amount of growth needed to change their students' proficiency over time.

Typical Growth—the median growth of students at a given placement level—offers educators a useful reference point when working to identify students who may be lagging behind or surpassing their median growth targets. Moreover, it serves as a helpful indicator of how much students are growing compared to the average growth of students nationwide.

Students who used *i-Ready* for an average of 30–49 minutes and passed at least 70% of their Lesson Quizzes (i.e., Group 3) achieved higher Typical Growth in reading and mathematics than their counterparts who only used *i-Ready* for an average of 10–29 minutes and passed less than 70% of their Lesson Quizzes (i.e., Group 2). For example, Grade 3 students who used *i-Ready* for reading as recommended exceeded their Typical Growth targets and achieved a higher percentage of their Typical Growth targets (i.e., 134%) than Grade 3 students who did not use *i-Ready* as recommended (i.e., 114%)—a difference of 20 percentage points. For mathematics, students in Grade 3 who used *i-Ready* as recommended exceeded their Typical Growth targets (i.e., 114%), whereas students who did not use *i-Ready* as recommended approached but did not exceed their Typical Growth targets (i.e., 93%)—a difference of 21 percentage points. See Tables 3 and 4.

Typical Growth marks the annual growth from fall to spring for an average student taking the *i-Ready Diagnostics*.

Table 3. Average Percentage of Typical Growth in Reading

	Group 2: 10–29 Minutes and Pass Rate <70%	**Group 3:** 30–49 Minutes and Pass Rate >70%	
Grade	**% Typical Growth**	**% Typical Growth**	**% above Group 2**
K	96%	137%	+41%
1	92%	119%	+27%
2	96%	122%	+26%
3	114%	134%	+20%
4	121%	143%	+22%
5	115%	169%	+54%
6	115%	212%	+97%
7	101%	181%	+80%
8	87%	169%	+82%

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Table 4. Average Percentage of Typical Growth in Mathematics

	Group 2: 10–29 Minutes and Pass Rate <70%	Group 3: 30–49 Minutes and Pass Rate >70%	
Grade	**% Typical Growth**	**% Typical Growth**	**% above Group 2**
K	101%	126%	+25%
1	86%	112%	+26%
2	86%	112%	+26%
3	93%	114%	+21%
4	89%	116%	+27%
5	92%	118%	+26%
6	99%	131%	+32%
7	76%	121%	+45%
8	78%	130%	+52%

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Achieved Higher Percentage of Stretch Growth® in Reading and Mathematics

Stretch Growth goals are designed to help move students toward grade-level proficiency by creating a path toward closing the proficiency gap over time for students at different starting placement levels, recognizing that getting to proficiency may require more than one academic year. Stretch Growth targets for below-grade level students are especially important as they provide an attainable pathway to proficiency over time. It is rare for students who start the school year performing two or more grade levels below their chronological grade to attain proficiency by the end of the school year, but if these same students are able to hit or get close to their Stretch Growth targets year after year, they will get to proficiency. The closer a struggling student is to meeting their Stretch Growth targets, the faster they will reach proficiency.

In both reading and mathematics, students who used *i-Ready* for an average of 30–49 minutes and passed at least 70% of their Lesson Quizzes (i.e., Group 3) achieved higher Stretch Growth than their counterparts who only used *i-Ready* for an average of 10–29 minutes and passed less than 70% of their Lesson Quizzes (i.e., Group 2). For example, Grade 6 students who used *i-Ready* for reading as recommended achieved a higher percentage of their Stretch Growth targets (i.e., 72%) than Grade 6 students who did not use *i-Ready* as recommended (i.e., 43%)—a difference of 29 percentage points. Similarly, for mathematics, students in Grade 6 who used *i-Ready* as recommended achieved a higher percentage of their Stretch Growth targets (i.e., 68%) than students who did not use *i-Ready* as recommended (i.e., 49%)—a difference of 19 percentage points. See Tables 5 and 6.

Stretch Growth marks the amount of growth a student should target to put them on a path to attaining grade-level proficiency.

Table 5. Average Percentage of Stretch Growth in Reading

	Group 2: 10–29 Minutes and Pass Rate <70%	**Group 3:** 30–49 Minutes and Pass Rate >70%	
Grade	**% Stretch Growth**	**% Stretch Growth**	**% above Group 2**
K	70%	99%	+29%
1	64%	89%	+25%
2	63%	85%	+22%
3	69%	81%	+12%
4	65%	77%	+12%
5	54%	77%	+23%
6	43%	72%	+29%
7	34%	58%	+24%
8	30%	50%	+20%

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Table 6. Average Percentage of Stretch Growth in Mathematics

	Group 2: 10–29 Minutes and Pass Rate <70%	Group 3: 30–49 Minutes and Pass Rate >70%	
Grade	**% Stretch Growth**	**% Stretch Growth**	**% above Group 2**
K	83%	97%	+14%
1	61%	85%	+24%
2	56%	76%	+20%
3	63%	80%	+17%
4	56%	76%	+20%
5	51%	69%	+18%
6	49%	68%	+19%
7	37%	59%	+22%
8	31%	54%	+23%

Limitations

This study is observational in nature, and inferences about the impact of the fidelity of *i-Ready* implementation on student learning gains are correlational and not causal. However, the results do show a positive relationship, and the Curriculum Associates Research team has more research underway to investigate the relationships among *i-Ready* usage and student learning gains.

Conclusion

Findings from this study provide evidence that students who used *i-Ready* per the recommended guidance (i.e., 30–49 minutes on average per week with a lesson pass rate of 70%) had greater fall-to-spring gains than students who used *i-Ready* for 10–29 minutes per week with a lesson pass rate below the recommended 70% threshold. In addition, students who used *i-Ready* as recommended achieved a higher grade-level placement by spring, exceeded their Typical Growth targets, and achieved a higher percentage of their Stretch Growth targets in reading and mathematics across all grade levels. Together, this provides evidence that using *i-Ready* as recommended is associated with greater improvements from fall to spring. Further research should be conducted to better understand which students would benefit from additional Lesson Time-on-Task and which students should continue to use *i-Ready* according to current recommended guidelines.

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Appendix

Appendix Table 1. Sample Sizes for Reading

	K	1	2	3	4	5	6	7	8
Group 2: 10–29 Minutes and Pass Rate <70%	13,762	6,245	5,802	6,875	9,425	8,995	7,245	3,853	2,437
Group 3: 30–49 Minutes and Pass Rate >70%	31,524	84,745	94,244	64,167	48,516	45,132	27,744	17,805	14,564
Group 4: 50+ Minutes and Pass Rate <70%	6,290	28,886	54,666	45,302	31,446	31,797	18,324	16,729	15,339

Appendix Table 2. Sample Sizes for Mathematics

	K	1	2	3	4	5	6	7	8
Group 2: 10–29 Minutes and Pass Rate <70%	7,581	1,751	1,236	3,222	4,953	6,120	4,788	4,268	2,613
Group 3: 30–49 Minutes and Pass Rate >70%	50,881	104,466	128,520	124,451	111,688	80,797	37,209	23,992	16,620
Group 4: 50+ Minutes and Pass Rate >70%	20,655	58,681	83,657	92,035	59,504	50,909	42,789	34,068	23,825

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Appendix Table 3. Fall-to-Spring Gains, Percentage of Students with Higher Spring Grade-Level Placements, Median Percentage of Typical Growth, and Average Percentage of Stretch Growth for Reading

	Grade	K	1	2	3	4	5	6	7	8
Group 2: 10–29 Minutes and Pass Rate <70%	Score Gain	47	45	38	30	25	21	15	14	13
	% Typical Growth	96%	92%	96%	114%	121%	115%	115%	101%	87%
	% Stretch Growth	70%	64%	63%	69%	65%	54%	43%	34%	30%
	% Higher Grade-Level Placement in Spring	74%	54%	58%	64%	56%	55%	52%	51%	51%
Group 3: 30–49 Minutes and Pass Rate >70%	Score Gain	64	56	43	36	28	25	21	18	16
	% Typical Growth	137%	119%	122%	134%	143%	169%	212%	181%	169%
	% Stretch Growth	94%	74%	76%	71%	63%	65%	61%	57%	54%
	% Higher Grade-Level Placement in Spring	99%	89%	85%	81%	77%	77%	72%	58%	50%
Group 4: 50+ Minutes and Pass Rate <70%	Score Gain	66	56	41	34	27	24	19	16	15
	% Typical Growth	141%	118%	120%	128%	135%	161%	187%	169%	160%
	% Stretch Growth	102%	90%	86%	77%	72%	73%	64%	53%	47%
	% Higher Grade-Level Placement in Spring	94%	76%	77%	70%	60%	63%	58%	55%	53%

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Appendix Table 4. Fall-to-Spring Gains, Percentage of Students with Higher Spring Grade-Level Placements, Median Percentage of Typical Growth, and Average Percentage of Stretch Growth for Mathematics

	Grade	K	1	2	3	4	5	6	7	8
Group 2: 10–29 Minutes and Pass Rate <70%	Score Gain	32	28	23	25	21	17	14	9	8
	% Typical Growth	101%	86%	86%	93%	89%	92%	99%	76%	78%
	% Stretch Growth	83%	61%	56%	63%	56%	51%	49%	37%	31%
	% Higher Grade-Level Placement in Spring	54%	52%	51%	66%	67%	58%	56%	45%	49%
Group 3: 30–49 Minutes and Pass Rate >70%	Score Gain	38	33	29	30	26	21	18	15	13
	% Typical Growth	126%	112%	112%	114%	116%	118%	131%	121%	130%
	% Stretch Growth	97%	85%	76%	80%	76%	69%	68%	59%	54%
	% Higher Grade-Level Placement in Spring	82%	66%	66%	78%	77%	70%	65%	57%	55%
Group 4: 50+ Minutes and Pass Rate <70%	Score Gain	39	32	28	29	26	21	17	15	14
	% Typical Growth	130%	111%	111%	111%	114%	117%	124%	120%	139%
	% Stretch Growth	101%	84%	75%	78%	76%	69%	65%	60%	59%
	% Higher Grade-Level Placement in Spring	83%	64%	65%	77%	75%	70%	63%	55%	55%

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