

Evaluation of the Council Bluffs Community School District's 2018 Summer Reading Program

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Student Reading Success Through Research and Collaboration

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Summary of Student Outcomes in Grades 1-3

The [Council Bluffs Community School District's](#) summer reading program demonstrated the following positive effects on participating students' pre- to posttest growth in reading skills as measured by Reading Assessment for Prescriptive Instructional Data (RAPID).

Grade level	Positive reading outcomes
1	Reading Success Probability (overall reading ability), Word Reading, Vocabulary Pairs, and Following Directions (oral language comprehension)*
2	Reading Success Probability (overall reading ability), Word Reading, Vocabulary Pairs, and Following Directions (oral language comprehension)
3	Reading Success Probability (overall reading ability), Word Recognition, Vocabulary Knowledge, Syntactic Knowledge, and Reading Comprehension

Note. Only the Grade 1 Following Directions effects were statistically significant.

The following positive effects of the summer reading program were found when comparing the RAPID scores of students who participated in the summer reading program with non-participating students who did not meet Formative Assessment System for Teachers [FAST] benchmarks in either the Fall or Winter testing periods (i.e., “high priority”).

Grade level	Positive reading outcomes
1	Reading Success Probability (overall reading ability), Word Reading, Vocabulary Pairs, and Following Directions (oral language comprehension)
2	Reading Success Probability (overall reading ability), Word Reading, Vocabulary Pairs, Following Directions (oral language comprehension), and Spelling
3	Reading Success Probability (overall reading ability), Syntactic Knowledge, and Reading Comprehension

Note. No effects were statistically significant.

The following RAPID scores of students receiving the small-group, push-in intervention demonstrated a slight closing of the gap with their peers who were not eligible for the supplemental intervention.

Grade level	Positive reading outcomes
1	Overall reading ability (Reading Success Probability) and Word Reading
3	Overall reading ability (Reading Success Probability)

Note. No effects were statistically significant

Finally, the district made great strides in reducing the attrition of summer program participants. In 2017, attrition rates were 20.0% to 26.1%. This year, attrition rates 11.0% to 18.1%.

Overview

In 2018, the Council Bluffs Community School District (CBCSD) continued its tradition of offering a summer learning and enrichment program (summer program) to elementary students identified by school personnel as being at risk of reading failure. Each year, CBCSD has refined its summer program and, for 2018, district personnel identified seven elements as priorities for continuous improvement:

- Concentrating resources on students in Grades 1-3.
- Prioritizing enrollment for students with low Formative Assessment System for Teachers (FASTBridge, herein referred to as FAST) scores in both the fall and winter screening periods.
- Increasing the professional development offered to summer teachers.
- Providing the small-group intervention for students with the greatest need through a push-in model.
- Aligning the small-group intervention curriculum with the core reading program.
- Reducing the weeks toward the end of the summer during which attendance typically declines.
- Offering the summer program five days per week and increasing the overall hours of the program.

The Iowa Reading Research Center (IRRC) at the University of Iowa College of Education served as the external evaluator of the summer program, analyzing the data gathered on students who had just completed kindergarten and Grades 1-4. Throughout this report, the students are referenced by the grade level they were entering in the fall after the summer program concluded (i.e., Grades 1-5).

Reading Assessment

Although the fidelity of the summer program's implementation was monitored in all grades, only students in Grades 1-3 were assessed to determine their pre- and posttest performance. For the latter purpose, CBCSD administered the RAPID. This measure allowed for determining changes in students' overall reading score (referred to as the Reading Success Probability Score [RSP]) as well as scores on individual components of reading. The scores also assisted personnel in identifying students for the intensive supplemental intervention. The subtests varied by grade level as shown in **Table 1**.

Table 1. RAPID Reading Subtests Administered in Each Grade

Subtest	Grade 1	Grade 2	Grade 3
Phonological Awareness			
Letter Sounds			
Word Reading	X	X	
Spelling		X	
Word Recognition			X
Vocabulary Pairs	X	X	
Following Directions (oral language comprehension)	X	X	
Vocabulary Knowledge			X
Syntactic Knowledge			X
Reading Comprehension			X

All students in Grades 1-3 who were eligible for the summer program were pretested in the spring of 2018 (between the dates of May 15 and June 6) and posttested in the fall of 2018 (between the dates of August 23 and Sept 10). The demographics of the students who did (treatment) and did not participate (control) in the summer program are provided in **Table 2**.

Table 2. Demographic Characteristics of Treatment and Control Students by Grade Level

Sample Size	Female	Black	Hispanic	White	FRL	EL	IEP
Grade 1							
Treatment (<i>n</i> = 62)	51.6%	8.1%	19.4%	71.0%	45.2%	6.5%	11.3%
Control (<i>n</i> = 258)	46.9%	5.4%	14.0%	79.1%	54.3%	14.3%	14.0%
Grade 2							
Treatment (<i>n</i> = 70)	48.6%	10.0%	14.3%	74.3%	47.1%	11.4%	22.9%
Control (<i>n</i> = 199)	48.7%	7%	14.6%	76.4%	56.3%	11.6%	20.1%
Grade 3							
Treatment (<i>n</i> = 69)	43.5%	2.9%	15.9%	78.3%	46.4%	7.2%	30.4%
Control (<i>n</i> = 222)	45.5%	5.9%	17.6%	75.7%	51.8%	14.0%	26.6%

Note: FRL = Free and Reduced Price Lunch; EL = English learners; IEP = Individualized Education Program.

Prioritizing Enrollment in the Summer Reading Program

Each year, CBCSD has set guidelines for ensuring students experiencing reading difficulties are prioritized for participation in the summer program. The 2018 guidelines were based on scores from FAST, the state of Iowa's universal screening and progress monitoring measure. FAST administration occurs three times—fall, winter, and spring—during the regular school year, but planning for the summer program must begin early. Therefore, only the fall and winter testing

waves were used to determine eligibility. FAST test scores from the spring 2018 testing wave considered pretest, and those from the fall 2018 testing wave were considered posttest.

The priorities for student enrollment were as follows:

- High Priority = scores below benchmark on both fall and winter FAST testing
- Moderate Priority = score below benchmark on winter FAST testing
- Low Priority = score below benchmark on fall FAST testing

Occasionally non-eligible siblings of eligible students were permitted to participate in the summer program. Or, students who recently transferred into the district without sufficient data at the time of summer enrollment were recommended by their principals for participation. Any students who did not meet eligibility criteria were not considered in the analyses of student outcomes.

Providing Structured Core Reading Instruction

Summer program participants spent 3.25 hours per day (approximately 9:00 AM – 12:20 PM) in reading instruction. CBCSD utilized their *Wonders* comprehensive core reading curriculum from the regular academic year for whole-group instruction. *Wonders* includes three primary components intended to be taught daily: Whole Group Reading (60 min/day), Whole Group Language Arts (30 min/day), and Small Group Differentiated Instruction (combined total of 90 min/day). An additional 10 minutes per day was allotted for a “brain break,” and teachers were allowed to administer short assessments on Fridays as necessary.

Within each *Wonders* whole-group component, there were multiple lessons and activities, as outlined in the “lesson path” included with the teachers’ materials. Because the summer program participants were considered to be below benchmark, teachers used materials from the grade level students had just completed (i.e., the grade of their spring enrollment). To ensure the lessons were not repetitions of what had been taught during the school year, the district identified the units teachers should deliver:

- Grade 1 was to start with unit 4 of the kindergarten materials, but teachers could pull additional letters or words from units 1-3.
- Grades 2-5 were to start with unit 3 of the preceding grade-level materials.

To ensure the lessons were at an appropriate level of difficulty, teachers were advised to use the “approaching level” materials for the whole-group lessons. However, more flexibility was allowed during the small-group lesson time. Within each class, teachers formed small groups based on students’ needs as identified in their RAPID subtest scores. The teacher had discretion to choose

either “approaching” or “on level” lessons from the *Wonders* curriculum that targeted the appropriate skills.

While the teacher met with one group at a time, the other students worked independently on literacy activities such as writing to sources, computer-delivered practice, independent reading, listening comprehension, and fluency. Students were not permitted to spend more than 30 minutes working independently before they received feedback or other instruction from the teacher, so the small-group rotations may have been interspersed with the whole-group lessons. Across the 1.5 total hours of small-group time, teachers were advised to have 3-4 rotations. This meant that each group might have met with the teacher one time, or one or more of the groups might have met with the teacher twice. This depended on the size of the class and the type of activities students were doing.

Offering More Intensive Supports

Students with the lowest performance on RAPID were prioritized for the small-group, push-in intervention. This was delivered by a reading intervention teacher to small groups of no more than 5 students, taking the place of one small-group segment in which students otherwise would have been working independently. In other words, students received their usual small-group instruction from the core reading teacher and another rotation of small-group instruction from the interventionist. It is considered a “push-in” model because the interventionist met with the students in their core reading class, rather than pulling the small group out of the class to deliver the instruction in another room.

Intervention lessons were drawn from the *WonderWorks* and *Foundational Skills Kit* materials that were aligned with the skills and content of *Wonders*. In addition, students used apprentice-level readers from the preceding grade level, and some groups in Grades 1 and 2 used decodable texts from kindergarten or Grade 1, respectively.

Distributing the Summer Program

To offer students an extended period of time for summer learning, CBCSD offered the summer program for a total of 30 days between June 11 and July 27. There was a one-week break around Independence Day that was planned to accommodate the high rate of absences experienced at that time during previous years. The schedule spanned 6 weeks of the summer, which is shorter than in 2017 by 1 week. However, students attended 5 days per week in 2018, compared to 4 days per week in the previous year. Therefore, the total time in summer reading instruction was 97.5 hours (13.5 total hours longer than in 2017).

Results of the Summer Program

Data Cleaning

Students were removed from analysis if they were listed with a grade level other than 1-3.

Attrition Rates

Attrition rates for each grade level are reported in **Table 3**. The summer 2018 attrition rates were smaller than the attrition rates reported in summer 2017, meaning that a larger percentage of students were retained in the summer program at each grade level. Students who were enrolled in the summer program but never attended were subsequently removed from the treatment group and considered instead in the control group.

Table 3. Attrition by Grade Level

% Dropped Grade 1	% Dropped Grade 2	% Dropped Grade 3
11.0%	15.2%	18.1%

Effect of Summer Program on RAPID Composite and Subscale Scores

Means, standard deviations, and correlations among RAPID subtest and composite scores (RSP) during both pretest and posttest periods are reported by grade level in **Appendix A**.

There were several considerations when analyzing the data. First, students participating in the summer program were nested in summer classrooms, but students in the control group were not because they were not in school during this time. Thus, data analyses needed to account for this partially nested structure. Additionally, the analyses took into account that students were nested within academic year classrooms in the spring for both treatment and control groups. Finally, because invited students may have opted out of participating in the summer program, the analyses accounted for potential differences between students that participated in the summer program (treatment) versus students that did not (control).

Analyses were performed in the R environment using the *twang*, *survey*, and *lme4* packages. Consequently, the data analyses for each grade level involved multiple steps:

1. Treatment and control groups were balanced by students' characteristics (i.e., gender, race, free and reduced price lunch (FRL), English learner (EL), special education with an Individualized Education Program (IEP), age at the time of pretest, and composite RAPID pretest score (RSP) using propensity scores.
2. Propensity scores were then entered in the models as weights.

3. The statistical analyses were performed for each outcome and individual grade level. When the outcome of interest was the composite RAPID posttest score (RSP), only the variable representing participation (or not) in the summer program was included in the model. On the other hand, when RAPID subscale scores were the outcome of interest, the pretest score for the specific subscale was included in the model, in addition to the variable representing participation in the summer program.

All the main effects analyses took into account the nested structure of the data via cluster standard errors.

Main Effects on RAPID Scores

Main effect results of summer program participation can be found in **Appendix B**. The analyses were conducted in two ways, as the scores from the treatment group were compared to scores from two different control groups. In the first analysis, the control group consisted of all students who were eligible for the summer program but did not participate. In the second analysis, the control group consisted only of those students who were deemed to be the “High Priority” for summer school services (i.e., scores below benchmark on both fall and winter FAST testing) but did not participate. Note that in both analyses the standardized mean-difference effect sizes reported in the final column take into account the differentially-nested structure of the data, as described in the previous section.

Results from the first analysis show no statistically significant differences in RAPID scores between the treatment and control groups at any grade level (effect sizes in Grade 1: -0.086 to 0.092; Grade 2: -0.044 to 0.118; Grade 3: -0.032 to 0.093). However, it should be noted that the treatment group had a larger percentage of students at the high priority level for summer school (66%) than the control group did (58%). Therefore, in the second analysis we restricted the control group to just the High Priority students and compared their scores to the treatment group. In this analysis, although still not reaching the level of statistical significance for any outcomes, the effect sizes were larger for several outcomes in Grades 1 and 2 than in the first analysis, and these effects favored the treatment group. These outcomes include the Word Reading (0.157) and Vocabulary Pairs (0.118) subtests in Grade 1; the Word Reading (0.087), Following Directions (0.110), and Spelling (0.127) subtests in Grade 2; and the RSP composite in Grade 2 (0.222) and Grade 3 (0.177). This shows that when comparing the performance of summer school students to control students that are most in need of supplemental instruction, summer program participation showed small-to-moderate positive effects.

Effect of Small-Group, Push-In Intervention on RAPID Scores

Only a subgroup of the lowest performing students in each class received the supplemental intervention in small groups of five or fewer students. Propensity scores were utilized to balance observable differences between the treatment and control groups for each grade level, just as with the main effects analyses. The small-group intervention models included RSP or Word Reading/Recognition scores as outcomes and three covariates (i.e., a dummy variable indicating if the student was receiving supplemental intervention or not, the pretest corresponding to either the RSP or Word Reading/Recognition outcome, and the number of days the student received supplemental intervention). Results for these models can be found in **Appendix C**. The results suggest that first grade students in the small-group intervention reduced the gap in their test performance with Grade 1 students that received only the core summer reading program (i.e., there is a small positive effect; 0.049 to 0.195). This gap was not reduced for Grade 2 students (effect size -0.219 to -0.118), and it was only slightly reduced for Grade 3 students on the composite RSP score (effect size 0.026), but not the Word Recognition subtest (effect size -0.060). However, these results were not statistically significant at any of the three grade levels.

Effect of Summer Program Attendance on RAPID Scores

We explored the effect of attendance on posttest scores by adding “number of days in attendance in summer school” as a third covariate in the models discussed in the **Main Effects on Fast Scores** section of this report. Attendance was not found to be statistically significant for any of the RAPID outcomes at any grade level.

Effect of Attendance in Small-Group on RAPID Scores

We similarly tested for the effect of attendance in the small-group, push-in intervention (considering only the students who participated in the small-group intervention) on students’ posttest scores, controlling for their respective pretest scores. There was a statistically significant positive effect of small-group attendance on RSP scores for Grade 1 (mean estimate = 0.368; standard error = 0.168; $p = .034$), and a statistically significant negative effect of small-group attendance on the Word Recognition subtest in Grade 3 (mean estimate = -4.04; standard error = 1.59; $p = .014$). However, due to very small sample sizes within each grade level, these results must be interpreted with caution.

Pre- to Post-Summer RAPID Growth for Participating Students

In addition to comparing RAPID scores between treatment and control groups, we explored the growth in RAPID scores from the pretest to posttest periods (i.e., spring to fall) for the group of students who participated in the summer program. Results from these growth models across RAPID outcomes can be found in **Appendix D** and indicate that participating Grade 1 students

demonstrated statistically significant positive growth on the Following Directions subtest (mean growth = 74.6; standard error = 21.0; $p = .001$; effect size = 0.584). No other RAPID scores demonstrated statistically significant growth between spring and fall test periods for the treatment group. However, there were moderate positive growth effect sizes on the Following Directions subtest for Grade 2 (0.248) and on the Reading Comprehension subtest for Grade 3 (0.259).

Further exploration of the variance components allowed for identifying sources of score variability that might help to detect the specific effect of the summer intervention. It was found that a larger percentage of variability in growth on RAPID was attributable to students' academic year classroom assignment (determined by spring teacher of record) than to their classroom membership during the summer intervention (determined by core reading teacher in the summer). Of the 14 RAPID outcomes investigated, all but one of the outcomes exhibited this trend (the one exception was Word Recognition scores in Grade 3). For example, the percentage of RSP score variance in Grade 2 that was attributable to students' academic year classrooms (12.1%) was nearly 1.5 times the variance attributable to their summer classrooms (8.7%). For RSP growth in Grade 3, the difference was even more pronounced: The proportion of variance due to academic year membership was 23 times greater than the proportion due to summer class membership (53.5% vs. 2.3%).

These findings on the score of overall reading ability emphasize the importance of considering academic year experience in understanding the variation in student performance and the efficacy of the summer intervention. In other words, how well students might do in the fall seems to hinge more on the instruction they received in the spring rather the instruction they did or did not receive in the summer.

Effect of Summer Program on FAST Scores

Means, standard deviations, and correlations among FAST scores during both pretest and posttest periods as well as student demographic information are reported by grade level in **Appendix E**. Correlations between FAST scores and RSP also are provided.

As with the analyses for RAPID scores, FAST scores were compared between students who participated in the summer program and students who were eligible for but did not participate in the summer program. The analyses using FAST scores also needed to account for the differentially nested structure of the data because only students participating in the summer program were nested in summer classrooms (though both groups were nested in classrooms in

the spring). Analyses were performed in the R environment using the `twang`, `survey`, and `lme4` packages.

The data analyses for each grade level involved multiple steps:

1. Treatment and control groups were balanced by students' characteristics (i.e., gender, race, FRL, EL, IEP, and date of birth) and FAST pretest scores using propensity scores. For students in Grades 1 and 2, the RSP score was used as the pretest measure; for students in Grade 3, the Median Words Read Correctly per Minute was used as the pretest measure.
2. Propensity scores were then entered in the models as weights during the statistical analyses.
3. The statistical analyses were performed for each outcome and individual grade level. Because all student characteristics were balanced between the treatment and control groups by the propensity score weights, only the variable representing participation (or not) in the summer program was included in the model.
4. All the main effects analyses took into account the nested structure of the data via cluster standard errors.

Main Effects on FAST Scores

Main effect results of summer program participation for FAST can be found in **Appendix F**. The standardized mean difference effect sizes take into account the differentially-nested structure of the data. As with the RAPID main effects analysis, there were no statistically significant differences in average FAST scores between the treatment and control groups at any grade level. The effect sizes were likewise small or negligible (-0.013 to 0.066).

Fidelity of Teachers' *Wonders* Implementation

There were a total of 23 teachers (Grade 1 = 6; Grade 2 = 6; Grade 3 = 6; Grade 4 = 3; Grade 5 = 2) delivering the summer reading instruction. All were audio recorded weekly to monitor the fidelity with which they implemented *Wonders*. The results presented below represent a sampling of the instruction delivered, rather than a full accounting of all instruction delivered in all classes.

Fidelity of *Wonders* Whole-Group Reading Implementation

All teachers in Grades 1-5 implemented *Wonders* whole-group reading lessons. **Table 4** displays the percent of observations in which teachers at each grade implemented the recommended 60 minutes of whole-group reading instruction.

- In half of the observations, teachers provided 50-70 minutes of whole-group reading instruction.
- In 26% of observations, teachers provided more than 70 minutes of whole-group reading instruction.
- In 24% of observations, teachers provided less than 50 minutes of whole-group reading instruction.

Table 4. Time Spent in *Wonders* Whole-Group Reading by Grade

Grade	Under 1 hr (<50 min)	Around 1 hr (50 – 70 min)	Over 1 hr (>70 min)
1 (n = 12)	8%	75%	17%
2 (n = 12)	17%	42%	42%
3 (n = 12)	42%	33%	25%
4 (n = 6)	33%	50%	17%
5 (n = 4)	25%	50%	25%
Overall (n = 46)	24%	50%	26%

Note. n = number of observations

Materials Used for Core Reading Instruction

All teachers used the approved *Wonders* core materials. Because the students attending the summer program were not meeting grade-level benchmarks, teachers were advised to use the “approaching level” materials from the grade level that students just completed (i.e., grade of enrollment in spring 2018). Those grade levels would be one grade below that used in this report (i.e., grades referenced throughout the report are based on students’ fall 2018 grade of enrollment).

Table 5 displays the number of observations in which a component of *Wonders* whole-group reading lessons was included in the weekly path. Observations are listed by grade level of the designated class, which is one grade above the grade of the materials used. On average, 65% (SD = 35%; range = 0–100%) of teachers implemented the *Wonders* core whole-group reading components when required by the weekly lesson path. Note that the lowest implementation rate of 0% was in Fluency and Handwriting. This is more likely due to the components occurring rarely in the weekly lesson path, so there were few opportunities to observe their implementation. That is, Fluency was only required four times in all observed lessons, and Handwriting was only required one time in the observed lessons.

When looking at components that were more common to the weekly lesson paths, the lowest rate of implementation was 18% for the Integrate Ideas. Note that this is the only component that was included in all grade levels. Among the most frequently included components in any grade (those in 20 or more of the weekly lesson paths observed), Spelling had the lowest fidelity score (60%). This may explain the poor results Grade 2 students demonstrated on the RAPID Spelling subtest, the only grade in which spelling skills were measured at pre- and posttest.

Table 5. *Wonders* Whole-Group Reading Components Implemented by Grade

Lesson Component	Grade 1 (<i>n</i> = 12)		Grade 2 (<i>n</i> = 12)		Grade 3 (<i>n</i> = 12)		Grade 4 (<i>n</i> = 6)		Grade 5 (<i>n</i> = 4)		Overall (<i>n</i> = 46)	
	#	%	#	%	#	%	#	%	#	%	#	%
Close Reading			8	100%	10	100%	6	100%	3	100%	27	100%
Comprehension			1	100%	4	100%	3	100%			8	100%
Fluency					2	0%	1	0%	1	0%	4	0%
Handwriting	1	0%									1	0%
High Frequency Words	12	75%	12	92%	6	33%					30	73%
Integrate Ideas	3	0%	2	50%	1	100%	3	0%	2	0%	11	18%
Introduce the Concept or Build Background	3	100%	8	88%	3	100%					14	93%
Listening Comprehension or Interactive Read-Aloud	11	100%	7	100%	1	100%					19	95%
Oral Language	9	100%	2	100%	5	40%					16	81%
Phonics	12	92%	12	83%	7	43%					31	77%
Phonological Awareness	12	92%	12	92%	9	44%					33	79%
Spelling			12	58%	8	63%					20	60%
Structural Analysis			8	75%	7	29%					15	53%
Vocabulary	5	100%			9	67%	3	67%			17	76%

Note. *n* = number of observations; # = number of observations where the component was required in the weekly lesson path.

Although Vocabulary was not a required component in all grades, it was a frequent component of the Grade 3 lesson paths. Here implementation was relatively weak (67%), although it was not among the lowest fidelity scores. However, Grade 3 students demonstrated negative effects on the RAPID Vocabulary Knowledge subtest when compared with their non-participating peers, so it is an instructional component that could be improved.

In 17% of observations (Grade 1 = 25%, Grade 2 = 17%, Grade 3 = 0%, Grade 4 = 33%, and Grade 5 = 25%), teachers used additional materials or led activities not a part of *Wonders* core. Not all teachers were observed using additional materials or activities but, among those who did, one or more different kinds of materials and activities might have been implemented. Listed below are the non-*Wonders* materials those teachers were observed using and the number of times each item was observed. Because they were not a part of any *Wonders* lesson path, it was not possible to determine if they were intended for reading or language arts instruction.

Therefore, they are grouped together here.

- Cut/paste worksheet ($n = 1$)
- Dictation ($n = 1$)
- Fluency assessment ($n = 2$)
- Sentence building ($n = 2$)
- Sight word game ($n = 1$)
- Sparkle game (spelling, sight words, and vocabulary; [$n = 1$])
- Spelling tests ($n = 2$)
- Tier 2 materials ($n = 1$)
- Typing game ($n = 1$)

Fidelity of *Wonders* Whole-Group Language Arts Implementation

In 74% of observations (Grade 1 = 67%, Grade 2 = 83%, Grade 3 = 67%, Grade 4 = 67%, and Grade 5 = 100%), teachers implemented *Wonders* whole-group language arts. **Table 6** displays the percentage of observations in which teachers at each grade implemented the recommended 30 minutes of whole-group language arts instruction.

- In 6% of the observations, teachers provided 25-35 minutes of whole-group language arts instruction.
- In 15% of observations, teachers provided more than 30 minutes of whole-group language arts instruction.
- In 79% of observations, teachers provided less than 25 minutes of whole-group language arts instruction.

Table 6. Time Spent in *Wonders* Whole-Group Language Arts by Grade

Grade	Under 30 min (<25 min)	Around 30 min (25–35 min)	Over 30 min (>35 min)
1 (<i>n</i> = 8)	100%		
2 (<i>n</i> = 10)	80%	10%	10%
3 (<i>n</i> = 8)	75%	13%	13%
4 (<i>n</i> = 4)	50%		50%
5 (<i>n</i> = 4)	75%		25%
Overall (<i>n</i> = 34)	79%	6%	15%

Note. *n* = number of observations

Materials Used for Core Language Arts Instruction

Table 7 displays the number of observations in which a component of *Wonders* whole-group language arts lessons was included in the weekly path. Observations are listed by grade level of the designated class, which is one grade above the grade of the materials used. On average, 67% (SD = 45%; range = 0–90%) of teachers implemented the *Wonders* core whole-group language arts components when required by the weekly lesson path. As can be seen in the table, two components (Grammar and Writing/Writing Process) were required at all grade levels and were frequently included in the lesson path.

Table 7. *Wonders* Whole-Group Language Arts Components Implemented by Grade

Lesson Component	Grade 1 (<i>n</i> = 8)		Grade 2 (<i>n</i> = 10)		Grade 3 (<i>n</i> = 8)		Grade 4 (<i>n</i> = 4)		Grade 5 (<i>n</i> = 4)		Overall	
	#	%	#	%	#	%	#	%	#	%	#	%
Grammar	7	100%	9	89%	8	100%	4	50%	2	100%	30	90%
Spelling							3	100%	1	100%	4	100%
Vocabulary							3	0%			3	0%
Writing or Writing Process	7	86%	8	100%	0	67%	6	50%	2	50%	26	77%

Note. *n* = number of observations; # = number of observations where the component was required in the weekly lesson path.

The other two components (Spelling and Vocabulary) were rarely required in the lesson paths, so there were few opportunities to observe their implementation. Although these two also are components of the whole-group reading lessons, Spelling was only a part of the required reading lesson paths observed in Grades 2-3 and had relatively low implementation in those instances (60% fidelity). Implementation was high during the Grades 4-5 language arts lessons (100%) but was required only four times (compared to 20 times in the reading lessons). Vocabulary was a part of the required reading lesson paths observed in Grade 4, and was low in both lesson types (76% fidelity in reading lessons; 0% fidelity in language arts lessons).

Fidelity of Small-Group Rotations within Core Reading Instruction

Overall, teachers met the guidelines of providing 3–4 teacher-led small groups in 70% of the observations (Grade 1 = 75%, Grade 2 = 42%, Grade 3 = 33%, Grade 4 = 50%, and Grade 5 = 50%). A total of 143 small groups were observed. **Table 8** displays the number of groups implemented and the group sizes by grade. On average, small groups were composed of 3 students (SD = 1; range = 1–6 students).

There was no evidence of teacher-led small groups in 2% of observations. These were all in Grade 5, where class sizes may have been small already.

- In 4% of observations, there was only one teacher-led small group.
- In 24% of observations, there were two teacher-led small groups.
- In 20% of observations, there were three teacher-led small groups.
- In 23% of observations, there were four teacher-led small groups.

Among observations where the teacher led more than one small group, 79% (Grade 1 = 92%, Grade 2 = 91%, Grade 3 = 73%, Grade 4 = 50%, and Grade 5 = 67%) varied the instruction between groups.

Table 8. Number of Small-Group Rotations and Group Size by Grade

Grade	Number of small-group rotations					Group size			
	0	1	2	3	4	Min	Max	Mean	SD
1 (<i>n</i> = 12 Teachers; <i>n</i> = 41 Groups)			25%	8%	67%	1	3	2.1	0.3
2 (<i>n</i> = 12 Teachers; <i>n</i> = 37 Groups)		8%	17%	33%	42%	1	4	2.4	0.7
3 (<i>n</i> = 12 Teachers; <i>n</i> = 38 Groups)		8%	17%	25%	50%	4	5	2.2	1
4 (<i>n</i> = 5 Teachers; <i>n</i> = 19 Groups)			33%	17%	50%	2	5	3.6	0.4
5 (<i>n</i> = 3 Teachers; <i>n</i> = 8 Groups)	25%		50%		25%	3	6	4.5	0.9
Overall (<i>n</i> = 44 Teachers; <i>n</i> = 143 Groups)	2%	4%	24%	20%	50%	1	6	2.5	1

Note. *n* = number observed; Min = minimum group size; Max = maximum group size; SD = standard deviation.

Materials Used for Small-Group Instruction

In 92% of observed small groups (Grade 1 = 83%, Grade 2 = 95%, Grade 3 = 92%, Grade 4 = 100%, and Grade 5 = 100%), the teacher used approved *Wonders* Differentiated Instruction materials.

Table 9 displays the number of observations in which different *Wonders* core materials were included in the small-group instruction. Observations are listed by grade level of the designated class, which is one grade above the grade of the materials used. *Wonders* Differentiated Instruction materials were used most often. In the majority (56%) of small groups, teachers used the *WonderWorks* Approaching Level materials, followed by On Level (24%), and Beyond Level (8%). In 11% of the small groups observed, teachers implemented extended practice with whole-group instruction materials.

Table 9. Materials Used in Small Groups by Grade

Materials for small-group instruction	Grade 1 (<i>n</i> = 41)	Grade 2 (<i>n</i> = 37)	Grade 3 (<i>n</i> = 38)	Grade 4 (<i>n</i> = 19)	Grade 5 (<i>n</i> = 8)	Overall (<i>n</i> = 143)
Wonders Differentiated Instruction: Approaching Level	39%	78%	53%	68%	25%	56%
Wonders Differentiated Instruction: On Level	32%	14%	8%	11%	13%	17%
Wonders Differentiated Instruction: Beyond Level	10%	3%	5%	21%	13%	8%
Extended Whole-Group Reading or Language Arts instruction practice in small group	2%		26%		50%	11%
Other materials	17%	5%	8%			8%

Note. *n* = number of small groups observed

In 8% of observed small groups, the teacher used additional materials or led activities not part of *Wonders* core. Not all teachers were observed using additional materials or activities but, among those who did, one or more different kinds of materials and activities might have been implemented. Listed below are the non-*Wonders* core materials those teachers were observed using and the number of times each item was observed in small groups.

- Decodable reader (*n* = 2)
- Letter identification/sound game (*n* = 1)
- Non-literacy games (*n* = 2)
- Sentence reading (*n* = 2), writing (*n* = 1), or rearranging (*n* = 1)
- Sight word games (*n* = 2)
- Teacher led computer games (*n* = 1)
- Tier 2 materials (*n* = 3)

Fidelity of Interventionists' *WonderWorks* Implementation

There were a total of six interventionists (Grade 1 = 2; Grade 2 = 2; Grade 3 = 2; Grade 4 = 0; Grade 5 = 0) delivering the small-group, push-in intervention. All were audio recorded weekly to monitor the fidelity with which they implemented *WonderWorks*. The results presented below represent a sampling of the instruction delivered, rather than a full accounting of all instruction delivered in all intervention groups.

A total of 51 intervention groups were observed across Grades 1-3 (Grade 1 = 10, Grade 2 = 20, Grade 3 = 21). **Table 10** provides the group sizes by grade. The average intervention group was composed of 3 students (SD = 1, range = 1–6 students).

Table 10. *WonderWorks* Intervention Group Size by Grade

Grade	Min	Max	Mean	SD
1 (<i>n</i> = 10)	2	5	4.0	0.8
2 (<i>n</i> = 20)	1	4	2.5	0.9
3 (<i>n</i> = 21)	1	4	2.4	0.8
Overall (<i>n</i> = 51)	1	5	2.8	1.0

Note. *n* = number of observations; Min = minimum group size; Max = maximum group size; SD = standard deviation.

Table 11 displays the percent of observations in which teachers at each grade implemented the recommended 30 minutes of *WonderWorks* intervention.

- In 59% of observations, interventionists delivered 25–35 minutes of instruction.
- In 4% of observations, interventionists delivered more than 35 minutes of instruction.
- In 37% of observations, interventionists delivered less than 25 minutes of instruction.

Table 11. Time Spent in *WonderWorks* Intervention Groups by Grade

Grade	Under 30 min (<25 min)	Around 30 min (25–35 min)	Over 30 min (>35 min)
1 (<i>n</i> = 10)	60%	40%	
2 (<i>n</i> = 20)	30%	70%	
3 (<i>n</i> = 21)	33%	57%	10%
Overall (<i>n</i> = 51)	37%	59%	4%

Note. *n* = number of observations

Materials Used for Small-Group, Push-In Intervention

All interventionists used the approved *WonderWorks* materials.

- No interventionists used the optional Foundational Skills Kit.
- No interventionists used materials other than the *WonderWorks* materials.

Table 12 displays the number of observations in which a component of *WonderWorks* was included in the weekly path by the grade level of the designated class, which is one grade above the grade of the materials used. Overall, 88% (SD = 29; range = 1–100%) of interventionists implemented the *WonderWorks* components when required by the weekly lesson path. Note that the lowest implementation rate of 0% was for the After Reading component. This was one of four components that were only a part of the Grade 3 lesson path. Excluding the After Reading components, implementation fidelity of the other *WonderWorks* lesson components was high on average (range 80% to 100%), with teachers demonstrating 100% fidelity in eight of the 12 total components.

Table 12. *WonderWorks* Lesson Components Implemented by Grade

Lesson Component	Grade 1 (<i>n</i> = 10)		Grade 2 (<i>n</i> = 20)		Grade 3 (<i>n</i> = 21)		Overall (<i>n</i> = 51)	
	#	%	#	%	#	%	#	%
Phonological Awareness	6	100%	10	100%			16	100%
Phonemic Awareness	10	100%	20	100%			30	100%
Phonics	10	100%	20	100%			30	100%
Build Fluency	10	100%	20	75%			30	83%
High Frequency Words	10	100%	20	100%			30	100%
Shared Read	10	100%	20	93%			24	96%
Oral Vocabulary	9	100%	14	100%			20	100%
Weekly Concept			11	100%	10	100%	10	100%
Review Vocabulary					10	100%	10	100%
Read/Reread Complex Text					10	80%	10	80%
During Reading					11	100%	11	100%
After Reading					11	0%	11	0%

Note. *n* = number of observations; # = number of observations where the component was required in the weekly lesson path.

Appendix A

RAPID Descriptive Statistics by Grade Level

First Grade

The cells shaded in blue show the correlations between spring (pretest) and fall (posttest) administrations of the same RAPID subtest/composite. The FAST composite score from spring is used as the FAST premeasure.

Correlations, Means, and Standard Deviations

	RSP pretest	WRead pretest	VP pretest	FD pretest	RSP posttest	WRead posttest	VP posttest	FD posttest	FAST pretest
RSP pretest	1.00	0.56	0.46	0.19	0.36	0.35	0.18	0.11	0.28
WRead pretest		1.00	0.16	0.26	0.24	0.56	0.20	0.22	0.61
VP pretest			1.00	0.20	0.08	0.12	0.16	0.09	0.07
FD pretest				1.00	0.15	0.25	0.19	0.60	0.27
RSP posttest					1.00	0.62	0.34	0.11	0.30
WRead posttest						1.00	0.18	0.20	0.56
VP posttest							1.00	0.25	0.18
FD posttest								1.00	0.29
FAST pretest									1.00
Mean	6.3	315.4	427.9	371.3	8.0	296.3	428.2	422.8	64.3
SD	8.5	131.8	87.4	142.8	15.9	147.6	94.1	127.2	8.3
N	320	320	320	320	320	320	320	320	306

Note. RSP = Reading Success Probability; WRead = Word Reading; VP = Vocabulary Pairs; FD = Following Directions; FAST = Formative Assessment for Teachers; SD = standard deviation; N = number of students.

Means and Standard Deviations for Treatment and Control Groups

RAPID score	Group	Test Wave	Mean	SD	N	Min	Max
RSP	Treatment	Pretest	7.0	12.3	62	1	81
		Posttest	7.4	13.4	62	1	88
	Control	Pretest	6.1	7.3	258	1	40
		Posttest	8.1	16.5	258	1	99
WRead	Treatment	Pretest	307.1	137.0	62	0	523
		Posttest	321.7	129.9	62	66	576
	Control	Pretest	317.3	130.7	258	0	523
		Posttest	290.2	151.1	258	0	1000
VP	Treatment	Pretest	422.3	101.5	62	231	620
		Posttest	434.9	82.4	62	220	597
	Control	Pretest	429.2	83.9	258	199	616
		Posttest	426.6	96.8	258	0	657
FD	Treatment	Pretest	361.8	124.9	62	0	598
		Posttest	434.7	117.0	62	0	638
	Control	Pretest	373.6	146.9	258	0	814
		Posttest	419.9	129.5	258	0	703

Note. SD = standard deviation; N = number of students; Min = minimum; Max = maximum; RSP = Reading Success Probability; WRead = Word Reading; VP = Vocabulary Pairs; FD = Following Directions.

Second Grade

The cells shaded in blue show the correlations between spring (pretest) and fall (posttest) administrations of the same RAPID subtest/composite. The FAST composite score from spring is used as the FAST premeasure.

Correlations, Means, and Standard Deviations

	RSP pretest	WRead pretest	VP pretest	FD pretest	SP pretest	RSP posttest	WRead posttest	VP posttest	FD posttest	SP posttest	FAST pretest
RSP pretest	1.00	0.32	0.44	0.49	0.69	0.57	0.31	0.30	0.37	0.41	0.41
WRead pretest		1.00	0.10	0.23	0.60	0.39	0.65	0.19	0.26	0.58	0.65
VP pretest			1.00	0.30	0.14	0.28	0.13	0.41	0.32	0.08	0.08
FD pretest				1.00	0.23	0.18	0.25	0.25	0.53	0.12	0.15
SP pretest					1.00	0.50	0.57	0.18	0.26	0.66	0.63
RSP posttest						1.00	0.37	0.42	0.46	0.70	0.53
WRead posttest							1.00	0.16	0.33	0.57	0.64
VP posttest								1.00	0.38	0.15	0.19
FD posttest									1.00	0.21	0.30
SP posttest										1.00	0.66
FAST pretest											1.00
Mean	13.7	430.6	495.5	473.5	431.6	13.4	441.3	512.6	499.6	403.3	55.3
SD	18.0	112.1	75.1	146.3	126.7	16.9	106.0	86.3	140.3	132.0	16.3
N	269	269	269	269	269	269	269	269	269	269	254

Note. RSP = Reading Success Probability; WRead = Word Reading; VP = Vocabulary Pairs; FD = Following Directions; SP = Spelling; FAST = Formative Assessment for Teachers; SD = standard deviation; N = number of students.

Means and Standard Deviations for Treatment and Control Groups

RAPID score	Group	Test Wave	Mean	SD	N	Min	Max
RSP	Treatment	Pretest	10.8	15.6	70	1	74
		Posttest	14.0	19.7	70	1	76
	Control	Pretest	14.8	18.7	199	1	82
		Posttest	13.1	15.9	199	1	74
WRead	Treatment	Pretest	418.3	125.9	70	0	612
		Posttest	442.1	103.6	70	115	623
	Control	Pretest	434.8	106.8	199	0	665
		Posttest	441.0	107.1	199	0	612
VP	Treatment	Pretest	497.8	60.8	70	363	630
		Posttest	503.3	71.1	70	253	688
	Control	Pretest	494.6	79.6	199	243	749
		Posttest	515.9	91.0	199	237	1000
FD	Treatment	Pretest	442.4	155.0	70	0	717
		Posttest	491.4	137.9	70	57	719
	Control	Pretest	484.4	141.9	199	0	1000
		Posttest	502.4	141.4	199	0	796
SP	Treatment	Pretest	415.1	130.6	70	100	678
		Posttest	398.6	138.6	70	100	678
	Control	Pretest	437.4	125.1	199	100	684
		Posttest	405.0	129.9	199	100	778

Note. SD = standard deviation; N = number of students; Min = minimum; Max = maximum; RSP = Reading Success Probability; WRead = Word Reading; VP = Vocabulary Pairs; FD = Following Directions; SP = Spelling.

Third Grade

The cells shaded in blue show the correlations between spring (pretest) and fall (posttest) administrations of the same RAPID subtest/composite. The FAST median words read per minute from spring is used as the FAST premeasure.

Correlations, Means, and Standard Deviations

	RSP pretest	WRec pretest	VK pretest	SK pretest	RC pretest	RSP posttest	WRec posttest	VK posttest	SK posttest	RC posttest	FAST pretest
RSP pre	1.00	0.53	0.33	0.24	0.80	0.48	0.19	0.22	0.13	0.34	0.32
WRec pre		1.00	0.17	0.09	0.22	0.16	0.21	0.19	0.04	0.08	0.31
VK pre			1.00	0.03	0.21	0.22	0.22	0.11	0.04	0.16	0.34
SK pre				1.00	0.17	0.25	0.09	0.04	0.18	0.23	0.11
RC pre					1.00	0.45	0.15	0.19	0.14	0.37	0.29
RSP post						1.00	0.40	0.29	0.27	0.84	0.37
WRec post							1.00	-0.07	0.15	0.20	0.26
VK post								1.00	0.19	0.24	0.27
SK post									1.00	0.26	0.16
RC post										1.00	0.35
FAST pre											1.00
Mean	9.8	255.0	335.5	302.0	303.9	10.6	259.0	344.4	305.7	306.2	76.0
SD	16.0	113.7	89.5	85.7	34.9	16.3	91.7	77.8	92.9	36.8	29.1
N	291	291	291	291	291	291	291	291	291	291	280

Note. RSP = Reading Success Probability; WRec = Word Recognition; VK = Vocabulary Knowledge; SK = Syntactic Knowledge; RC = Reading Comprehension; FAST = Formative Assessment for Teachers; SD = standard deviation; *N* = number of students.

Means and Standard Deviations for Treatment and Control Groups

RAPID score	Group	Test Wave	Mean	SD	N	Min	Max
RSP	Treatment	Pretest	8.1	14.3	69	1	96
		Posttest	10.6	15.9	69	1	71
	Control	Pretest	10.4	16.4	222	1	99
		Posttest	10.6	16.4	222	1	93
WRec	Treatment	Pretest	244.1	104.9	69	0	425
		Posttest	254.0	101.2	69	0	430
	Control	Pretest	258.4	116.3	222	0	854
		Posttest	260.5	88.8	222	0	445
VK	Treatment	Pretest	338.2	90.3	69	0	575
		Posttest	340.9	86.4	69	0	677
	Control	Pretest	334.6	89.5	222	0	520
		Posttest	345.5	75.2	222	0	571
SK	Treatment	Pretest	302.4	90.3	69	0	483
		Posttest	309.0	87.5	69	0	501
	Control	Pretest	301.9	84.4	222	0	484
		Posttest	304.7	94.7	222	0	585
RC	Treatment	Pretest	298.3	37.4	69	226	435
		Posttest	307.6	35.1	69	253	415
	Control	Pretest	305.6	34.0	222	227	459
		Posttest	305.8	37.4	222	217	446

Note. SD = standard deviation; N = number of students; Min = minimum; Max = maximum; RSP = Reading Success Probability; WRec = Word Recognition; VK = Vocabulary Knowledge; SK = Syntactic Knowledge; RC = Reading Comprehension.

Appendix B

Main Effects Model Results for RAPID (Students in Summer Program vs. Eligible, Non-attending Students)

Grade	Outcome	Mean difference	Standard error	<i>t</i> statistic	<i>p</i> value	Effect size
1	RSP	-2.587	1.788	-1.447	0.158	-0.086
1	WRead	25.685	15.830	1.623	0.115	0.085
1	VP	12.534	16.077	0.780	0.441	0.069
1	FD	25.117	20.634	1.217	0.232	0.092
2	RSP	4.559	4.968	0.918	0.367	0.118
2	WRead	10.361	12.530	0.827	0.415	0.045
2	VP	-7.704	10.558	-0.730	0.472	-0.044
2	FD	6.668	25.562	0.261	0.796	0.023
2	SP	18.273	22.304	0.819	0.420	0.066
3	RSP	2.914	3.503	0.832	0.412	0.093
3	WRec	-0.851	13.307	-0.064	0.949	-0.004
3	VK	-5.114	14.337	-0.357	0.724	-0.032
3	SK	7.272	12.956	0.561	0.579	0.035
3	RC	6.430	5.993	1.073	0.292	0.084

Note. RSP = Reading Success Probability; WRead = Word Reading; VP = Vocabulary Pairs; FD = Following Directions; SP = Spelling; WRec = Word Recognition; VK = Vocabulary Knowledge; SK = Syntactic Knowledge; RC = Reading Comprehension.

Main Effects Model Results for RAPID (Students in Summer Program vs. High-Priority, Non-Attending Students)

Grade	Outcome	Mean difference	Standard error	<i>t</i> statistic	<i>p</i> value	Effect size
1	RSP	0.654	1.838	0.356	0.724	0.027
1	WRead	44.429	22.905	1.940	0.061	0.157
1	VP	20.933	14.621	1.432	0.162	0.118
1	FD	27.262	19.273	1.415	0.167	0.088
2	RSP	6.787	3.980	1.705	0.099	0.222
2	WRead	20.312	15.643	1.299	0.205	0.087
2	VP	5.043	12.045	0.419	0.679	0.033
2	FD	28.677	28.489	1.007	0.323	0.110
2	SP	33.746	23.041	1.465	0.154	0.127
3	RSP	4.791	3.211	1.492	0.146	0.177
3	WRec	-4.569	14.616	-0.313	0.757	-0.021
3	VK	-0.458	14.756	-0.031	0.976	-0.003
3	SK	5.917	13.167	0.449	0.656	0.030
3	RC	6.145	4.872	1.261	0.217	0.083

Note. RSP = Reading Success Probability; WRead = Word Reading; VP = Vocabulary Pairs; FD = Following Directions; SP = Spelling; WRec = Word Recognition; VK = Vocabulary Knowledge; SK = Syntactic Knowledge; RC = Reading Comprehension.

Appendix C

Small Group Intervention Model Results (Subgroup of Students Receiving Pullout, Supplemental Intervention)

Grade	Outcome	Mean difference	Standard error	<i>t</i> statistic	<i>p</i> value	Effect size
1	RSP	3.863	2.894	1.335	0.188	0.195
1	WRead	7.928	33.254	0.238	0.813	0.049
2	RSP	-5.430	4.638	-1.171	0.247	-0.219
2	WRead	-16.929	22.340	-0.758	0.451	-0.118
3	RSP	0.557	3.810	0.146	0.884	0.026
3	WRec	-8.030	25.648	-0.313	0.755	-0.060

Note. RSP = Reading Success Probability; WRead = Word Reading; WRec = Word Recognition.

Appendix D

Growth Model Results for RAPID (Summer Program Students Only)

Grade	Outcome	Mean growth	Standard error	<i>t</i> statistic	<i>p</i> value	Effect size
1	RSP	0.545	2.107	0.259	0.796	0.043
1	WRead	18.047	21.568	0.837	0.405	0.132
1	VP	16.942	15.946	1.062	0.291	0.182
1	FD	74.602	21.000	3.552	0.001 *	0.584
2	RSP	3.519	2.609	1.349	0.180	0.198
2	WRead	20.958	18.873	1.110	0.269	0.168
2	VP	4.362	10.779	0.408	0.686	0.067
2	FD	36.688	23.324	1.573	0.118	0.248
2	SP	-8.138	19.037	-0.427	0.670	-0.061
3	RSP	3.127	1.893	1.652	0.102	0.183
3	WRec	5.830	16.036	0.364	0.717	0.057
3	VK	7.448	13.479	0.553	0.582	0.081
3	SK	5.822	13.579	0.429	0.669	0.067
3	RC	9.761	5.319	1.835	0.069	0.259

Note. RSP = Reading Success Probability; WRead = Word Reading; VP = Vocabulary Pairs; FD = Following Directions; SP = Spelling; WRec = Word Recognition; VK = Vocabulary Knowledge; SK = Syntactic Knowledge; RC = Reading Comprehension; * = Statistically significant results at $\alpha < .05$.

Appendix E

Formative Assessment for Teachers (FAST) Descriptive Statistics by Grade Level

Grade 1

Correlations

	FAST		RAPID	
	Comp spring	Comp fall	RSP pretest	RSP posttest
Comp spring	1.00	0.71	0.28	0.30
Comp fall		1.00	0.30	0.18
RSP pretest			1.00	0.36
RSP posttest				1.00

Note. FAST = Formative Assessment System for Teachers; RAPID = Reading Assessment for Prescriptive Instructional Data; Comp = composite; RSP = Reading Success Probability.

FAST Scores (Composite): Treatment vs. Control

Group	Test	Mean	SD	N	Min	Max
Treatment	Spring	62.4	7.2	61	44	78
	Fall	30.9	2.8	61	26	38
Control (w/ RAPID)	Spring	64.3	8.7	265	37	93
	Fall	30.9	2.9	265	23	40
Control (w/o RAPID)	Spring	76.2	10.4	260	41	112
	Fall	38.4	3.7	260	26	49
Overall	Spring	69.4	11.2	586	37	112
	Fall	34.2	5.0	586	23	49

Note. SD = standard deviation; N = number of students; Min = minimum; Max = maximum; RAPID = Reading Assessment for Prescriptive Instructional Data.

Demographics

Group	Female	Black	Hispanic	White	FRL	EL	IEP
Treatment	54.1%	8.2%	19.7%	68.9%	44.3%	6.6%	9.8%
Control (w/RAPID)	46.8%	6.0%	13.6%	78.9%	55.5%	13.2%	15.8%
Control (w/o RAPID)	54.2%	5.8%	10.4%	80.4%	36.5%	6.1%	5.0%

Note. FRL = Free and Reduced Price Lunch; EL = English learner; IEP = Individualized Education Program; RAPID = Reading Assessment for Prescriptive Instructional Data.

Grade 2

Correlations

	FAST		RAPID	
	Comp Spring	Comp Fall	RSP Pretest	RSP Posttest
Comp Spring	1.00	0.81	0.41	0.53
Comp Fall		1.00	0.32	0.34
RSP Pretest			1.00	0.57
RSP Posttest				1.00

Note. FAST = Formative Assessment System for Teachers; RAPID = Reading Assessment for Prescriptive Instructional Data; Comp = composite; RSP = Reading Success Probability.

FAST Scores (Composite): Treatment vs. Control

Group	Test	Mean	SD	N	Min	Max
Treatment	Spring	52.9	18.0	69	17	110
	Fall	31.9	6.4	69	19	49
Control (w/ RAPID)	Spring	55.7	15.9	195	14	111
	Fall	32.8	6.2	195	18	51
Control (w/o RAPID)	Spring	92.0	19.7	323	12	154
	Fall	53.9	16.2	323	18	127
Overall	Spring	75.3	26.0	587	12	154
	Fall	44.3	16.6	587	18	127

Note. SD = standard deviation; N = number of students; Min = minimum; Max = maximum; RAPID = Reading Assessment for Prescriptive Instructional Data.

Demographics

Group	Female	Black	Hispanic	White	FRL	ELL	IEP
Treatment	44.9%	10.1%	13.0%	76.8%	50.7%	10.1%	26.1%
Control (w/RAPID)	46.7%	6.2%	14.4%	77.9%	58.5%	11.3%	21.0%
Control (w/o RAPID)	48.6%	7.1%	11.1%	79.6%	41.2%	5.6%	7.1%

Note. FRL = Free and Reduced Price Lunch; EL = English learner; IEP = Individualized Education Program; RAPID = Reading Assessment for Prescriptive Instructional Data.

Grade 3

Correlations

	FAST		RAPID	
	Median WRC Spring	Median WRC Fall	RSP Pretest	RSP Posttest
Median WRC Spring	1.00	0.90	0.32	0.37
Median WRC Fall		1.00	0.29	0.33
RSP Pretest			1.00	0.48
RSP Posttest				1.00

Note. FAST = Formative Assessment System for Teachers; RAPID = Reading Assessment for Prescriptive Instructional Data; WRC = words read correctly per minutes; RSP = Reading Success Probability.

FAST Scores (Words Correct per Minute): Treatment vs. Control

Group	Test	Mean	SD	N	Min	Max
Treatment	Spring	71.8	31.1	73	12	139
	Fall	34.4	20.1	73	2	86
Control (w/ RAPID)	Spring	76.8	28.8	227	3	130
	Fall	38.1	19.7	227	0	94
Control (w/o RAPID)	Spring	130.6	30.5	315	9	236
	Fall	91.2	29.4	315	5	215
Overall	Spring	103.6	40.7	618	3	236
	Fall	64.8	36.9	618	0	215

Note. SD = standard deviation; N = number of students; Min = minimum; Max = maximum; RAPID = Reading Assessment for Prescriptive Instructional Data.

Demographics

Group	Female	Black	Hispanic	White	FRL	ELL	IEP
Treatment	41.1%	2.7%	16.4%	78.1%	47.9%	6.8%	31.5%
Control (w/RAPID)	45.4%	5.7%	15.9%	77.5%	51.1%	13.7%	26.4%
Control (w/o RAPID)	51.4%	4.8%	14.0%	79.0%	35.2%	2.2%	11.1%

Note. FRL = Free and Reduced Price Lunch; EL = English learner; IEP = Individualized Education Program; RAPID = Reading Assessment for Prescriptive Instructional Data.

Appendix F

Main Effects Model Results for FAST (Students in Summer Program vs. Eligible, Non-Attending Students)

Grade	Outcome	Mean difference	Standard error	<i>t</i> statistic	<i>p</i> value	Effect size
1	Comp Score	0.459	0.495	0.927	0.361	0.066
2	Comp Score	-0.181	0.993	-0.182	0.857	-0.013
3	Median WRC	-0.499	2.698	-0.185	0.855	-0.012

Note. Comp = composite; WRC = words read correctly per minute.