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Reading In Motion Sustainability Outcomes Evaluation 2016
Technical Report #8350

Reading In Motion

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October 20, 2016

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/Group

This study examines the implementation of Reading In Motion by 7 kindergarten and 5 first grade teachers at 2 different schools in Chicago Public School District. This study found that teachers who transitioned from Reading In Motion's typical format (Sustainability Preparation) to a more sustainable model focused on building in-school coach capacity (Sustainability Mode) had the same or better impact on students during the second year (Sustainability Mode). Based on the positive outcomes of this study, the evaluators recommend that Reading In Motion expand the program by transitioning more schools that meet pre-established criteria from Sustainability Preparation to Sustainability Mode.

OVERVIEW

Reading In Motion's Sustainability Program is a teacher-delivered, early reading program. The kindergarten program uses a music-based platform to teach phonemic awareness, letter decoding, and word decoding. The first grade program uses music- and drama-based platforms to learn to decode printed letters, then words, sentences and paragraphs.

Reading In Motion typically operates under the **Sustainability Preparation** model, in which classroom teachers are trained 3 days throughout the year to implement Reading In Motion with their kindergarten and first grade students. To support the classroom teachers as they implement Reading In Motion throughout the school year, a **Reading In Motion coach provides coaching** to their paired classroom teacher twice a month from September through May.

As Reading In Motion strives to increase sustainability and make the program more feasible for schools to adopt, the Executive Director and Sustainability Director selected two schools to transition from the Sustainability Preparation model in 2014-2015 (Year 1) to a **Sustainability Mode** model in 2015-2016 (Year 2). The classroom teachers had already been trained in Year 1, so the formal training was not repeated. And, rather than Reading In Motion staff providing coaching directly to all classroom teachers from September through May, this ongoing **coaching was delivered by select Peer Coaches**—one or two teachers per school who were carefully screened, nominated, and trained by Reading In Motion.

This study examines student performance of the same set of teachers who participated in both models: Sustainability Preparation (Year 1) and Sustainability Mode (Year 2). Given Reading In Motion's track record of success (Rose & Magnotta, 2012), the goal of the study was to determine the ability of teachers to successfully transition from the Sustainability Preparation model in Year 1 to Sustainability Mode in Year 2, and help their students reach expected reading levels both years. More specifically:

- 1) Did the teachers achieve a minimum level of fidelity in implementing the programs during Year 1 during Sustainability Preparation? Did these same teachers teach and achieve fidelity in Year 2 when the program switched to Sustainability Mode?
- 2) Did teachers help their students achieve expected reading levels during both years, and were reading levels the same, better or worse in Year 2?
 - a. If Year 2 student reading levels were the *same or better* than Year 1, it would suggest that Reading In Motion should expand the program by transitioning schools that completed Sustainability Preparation to a Sustainability Mode format.

- b. If student reading levels were *worse* in Year 2, findings would suggest that significant program improvements would be needed before transitioning more Sustainability Preparation schools to Sustainability Mode.

Since the goal of the evaluation was to determine if teachers successfully transitioned from Year 1 to Year 2 with similar student outcomes, in the upcoming analyses...

- no significant difference is a **desirable outcome**
- better performance in Year 2 is a **desirable outcome** (and even better than no significant difference)

This study revealed desirable outcomes across the board, as this report further explains.

Teacher Training and Development

In both Sustainability Preparation and Sustainability Mode, Reading In Motion provides training, curricula, data collection platforms and materials. However, there are some key distinctions between Sustainability Preparation in Year 1 and Sustainability Mode in Year 2 of this study, as described in fuller detail here.

Sustainability Preparation 2014-2015 (Year 1)

Before the classroom teachers began teaching the Reading In Motion kindergarten and first grade program to their students, the teachers participated in 3 full days of training during the summer, followed by half-day trainings in November and January. During the trainings, classroom teachers learned Reading In Motion teaching techniques appropriate for developing early literacy skills in kindergarten or first grade, depending on the grade they were responsible for teaching. Each training session specialized in preparing teachers for the next skills to be taught to the students at that time of the school year.

Once the school year began, teachers implemented the Reading In Motion kindergarten and first grade curricula, while **Reading In Motion coaches supported the teachers**. Reading In Motion coaches planned with each teacher prior to the start of implementation to establish where the teacher felt confident versus where they would like ongoing development and on-site coach support. The coach and teacher worked together to establish goals and action steps, so the focus was aligned. Next the coach conducted a classroom visit to observe the agreed-upon goal while the teacher implemented the program. Later the same day, the coach led the teacher in a one-on-one reflection called a Quiet Coaching Session. During this session, the teacher received and reflected on feedback. Then the teacher and coach set new goals for continuing with implementation, and teacher and coach took action steps to reach the new goal. When needed, the coach provided guided practice or modeled for the teacher.

Progress toward the next goal was checked via email prior to the next classroom visit. This coaching cycle repeated every two weeks across the school year.

Sustainability Mode 2015-2016 (Year 2)

In Fall 2015, Reading In Motion transitioned 2 schools to Sustainability Mode. As with the prior year, these schools continued to implement the Reading In Motion curriculum, and use the Reading In Motion data collection platform and other supportive materials. During this year, Reading In Motion designated 1 or 2 teachers at each school as “Peer Coaches” and provided these teachers with an intensive two-day training in the summer. While the classroom teachers implemented Reading In Motion, the **Peer Coaches supported the teachers**. At one school, a kindergarten teacher became the Peer Coach for kindergarten and first grades; the other school had a kindergarten teacher as the Peer Coach for kindergarten and a first grade teacher as the Peer Coach for first grade. All kindergarten and first grade teachers in this study had received Reading In Motion training and delivered the Reading In Motion program during the previous year while in the Sustainability Preparation program (see description above). Under this model, the Peer Coaches were responsible for providing ongoing training and support to all of the participating teachers in their school. To support the Peer Coaches, Reading In Motion gathered all Peer Coaches once a month in a neutral location where they discussed progress and roadblocks, and offered peer-to-peer solutions to ensure Reading In Motion was being implemented by classroom teachers with fidelity.

READING IN MOTION CURRICULUM

Whether the teachers were in the Sustainability Preparation or Sustainability Mode year, they used the same activities and curricula to implement Reading In Motion, as described in this section.

Small Group Instruction & Independent Work Areas

Small group instruction and work areas comprised the core of Reading In Motion activities, with all students spending 40 minutes per day for four days per week on work area activities, and some students spending part of that time in small group instruction.

Small Group Instruction

Four days per week, small group instruction was conducted with two groups of four students (eight individuals per day), for 20 minutes per group. Students were assigned to small groups based on need, as determined by student DIBELS assessment scores and observations during whole group instruction (described in the next section). Depending on the level of determined need, students were assigned zero to four days of small group instruction per week. A typical small group session contained twenty minutes of short literacy activities and games that allowed individual students to practice the skills at a much higher rate of response and teacher feedback than could be achieved in a whole group setting. The small group setting also allowed teachers to focus on the specific needs of individual students and target the instruction accordingly. Appendix A contains a sample Small Group activity.

Independent Work Areas

While the teacher worked with small groups of 4 students, the other students were engaged in independent student work areas that contained educational, developmentally-relevant, early literacy activities. Four days per week, students rotated through two work areas each day, spending twenty minutes per area. Students worked individually or in groups of three to five in each work area. At the beginning of the school year, teachers spent 4 weeks acclimatizing the students to working independently in the work areas before they began holding small group sessions during work area time.

The work areas allowed students independent practice in skills previously covered in Reading In Motion, and were designed to help students independently practice reading and writing skills, as well as developmental skills such as fine motor, problem solving, and social skills. The exact activities in each work area were based on four starter work areas provided by Reading in Motion at the start of the school year. But the work areas were usually tailored by the teacher and coach to fit the classroom's needs and they evolved across the school year.

Whole Group Instruction

As part of Reading In Motion, first grade teachers conducted whole group instruction for 40-50 minutes one day each week to monitor students' progress, and identify students who needed extra small group instruction to learn the skill that had been taught previously. The general structure of the whole group sessions began with a brief warm-up, followed by two or three activities designed to allow students to practice literacy skills through music and drama (see Appendix A for a sample whole group activity).

In kindergarten, the curriculum focused on phonemic awareness (hearing and being able to say the sounds in a spoken word, such as /b/ /a/ /t/ for bat or /b/ /a/ /th/ for bath) for the first half of the year, and phonemic awareness and reading words or word segments for the second half.

In first grade, the curriculum focused on decoding letters and words for the first half of the year. The second half of the year, students decoded sentences and paragraphs and practiced oral reading fluency.

Fluency Warm-Ups

Teachers led the classroom of students through fluency warm-ups for 5 to 10 minutes daily. The "Fluency Warm-Ups" sample exercise in Appendix A is indicative of the types of activities that were used as fluency warm-ups. The fluency warm-ups were designed to further support the students' learning of the targeted skills by providing additional practice, in a quick, engaging format that could be done daily at whatever time fit between other classroom lessons.

Extra Dosage

Reading In Motion worked with teachers to strategically select first grade (only) students to participate in the Extra Dosage component of the program. These were students whose DIBELS scores in October/November suggested that they were capable of achieving the benchmark goal with added amounts of reading instruction. These select students had four, rather than the zero to two, small group sessions in a five-day week.

During Sustainability Mode Year 1, Reading In Motion staff provided 22% (n=32) of the Reading In Motion students with four small group sessions per week. This percentage decreased in Year 2 to 8% (n=11).

Assessment

Teachers assessed their students at the beginning of the year (August/September), middle of the year (December/January) and end of the year (May/June) using The Dynamic Indicators of Basic Early Literacy Skills (DIBELS Next®). DIBELS Next® is a set of standardized, individually administered measures of early literacy development.

In kindergarten, the DIBELS Next® assessments were used to measure students' First Sound Fluency (FSF), Phoneme Segmentation Fluency (PSF), and Nonsense Word Fluency-Correct Letter Sounds (NWF-CLS).

In first grade, the DIBELS Next® assessments were used to measure students' Nonsense Word Fluency – Correct Letter Sounds (NWF-CLS) and DIBELS Oral Reading Fluency (ORF).

The classroom teachers conducted the tests with their students, as required by Chicago Public Schools. In accordance with Reading In Motion, the teachers used DIBELS Next® results to monitor student progress, determine improvement, identify which students should be assigned to small groups each month, and assess the effectiveness of the program overall.

EVALUATION METHODS

Evaluation Goal

The goal of this evaluation is to determine the ability of teachers to successfully transition from Reading In Motion's Sustainability Preparation model in Year 1 to Sustainability Mode in Year 2, and help their students reach expected reading levels both years. More specifically the evaluation seeks to learn if the teachers successfully transitioned from Sustainability Preparation to Sustainability Mode with the same or better student outcomes.

Study Participants and Qualifying Criteria

Reading in Motion is typically delivered using the Sustainability Preparation model, but the organization would like to make the program more feasible for schools to sustain for many years to come. Thus, 2 schools were selected as pilots to transition into the Sustainability Mode model based on "school readiness". These schools had:

- Participated in Sustainability Preparation for at least 1 year (both schools in the study had a participated in Reading In Motion for multiple years using the Sustainability Preparation format)

- At least 1 classroom teacher who was selected by Reading In Motion and willing to serve as Peer Coach during Year 2 under this new Sustainability Mode format after successfully completing a nomination, interview and training process conducted by Reading In Motion (Year 2).
- Principal support for using Reading In Motion and the Sustainability Mode model

At these qualifying schools, teachers were included in this study if they met all criteria:

- Taught in these two qualifying schools both years
- Taught the same grade in both years (that is, either kindergarten in Years 1 and 2, or first grade in Years 1 and 2)
- Used English for teaching Reading In Motion, and delivered the full program
- Used English DIBELS to test students' reading levels, including testing in the beginning, middle and end of the year

Students were included in the study if they:

- Had a qualifying teacher (defined just above) as their primary classroom teachers
- Attended at least half of the school year (only 1 student was removed from the study due to chronic absences)
- Were assigned to participating classrooms during Reading In Motion. (Students who received Tier 3, intensive, individualized, interventions or Language Support Service in lieu of Reading In Motion were not included)

All qualifying schools and teachers were included in the study. This resulted in 2 schools with 7 teachers who taught kindergarten in both years, and 5 teachers who taught first grade in both years, as illustrated in Table 1.

Table 1. Study Participants

	Sustainability Preparation (Year 1)	Sustainability Mode (Year 2)	Total Individuals
Schools	2	2	2
Kindergarten Teachers	7	7	7
Kindergarten Students	177	144	321
1 st Grade Teachers	5	5	5
1 st Grade Students	146	130	276

Measures

Dynamic Indicators of Basic Early Literacy Skills (DIBELS Next®) Assessments

The Dynamic Indicators of Basic Early Literacy Skills (DIBELS) are a set of standardized, individually administered measures of early literacy development. One version of this assessment, DIBELS Next® for kindergarten and first grade was used as a measure of student progress, and is designed to monitor development of pre-reading and early reading skills. The DIBELS website provides more detailed information about the assessment (<https://dibels.org/dibelsnext.html>). Classroom teachers collected student scores on the DIBELS reading assessment for the Reading In Motion and control schools at three points in time (August/September, December/January, and May/June) as required by Chicago Public Schools.

For kindergarten, student scores on First Sound Fluency (FSF), Phoneme Segmentation Fluency (PSF), and Nonsense Word Fluency (NWF) portions of the DIBELS Next® assessment were compared to DIBELS Next® established benchmarks for each skill as a standard for success. Table 2 below presents the skills tested at each test time and the benchmark for that skill (Dynamic Measurement Group, Inc., 2010).

For 1st grade, student scores on Nonsense Word Fluency-Correct Letter Sounds (NWF-CLS) and DIBELS Oral Reading Fluency-Words Correct (ORF) portions of the DIBELS Next® assessment were compared to DIBELS Next® established benchmarks for each skill as a standard for success. Table 2 below presents the skills tested at each test time and the benchmark for that skill (Dynamic Measurement Group, Inc., 2010).

Table 2. Number of correctly identified sounds of words needed to meet DIBELS Next® Benchmarks

Grade	DIBELS Early Literacy Indicator	August/September Beginning of Year	December/January Middle of Year	May/June End of Year
Kindergarten	First Sound Fluency	10	30	n/a
Kindergarten	Phoneme Segmentation Fluency	n/a	20	40
Kindergarten	Nonsense Word Fluency	n/a	17	28
First Grade	Nonsense Word Fluency-Correct Letter Sounds	27	43	58
First Grade	DIBELS Oral Reading Fluency-Words Correct	n/a	23	47

Environmental Factors Control

To help control environmental factors that affect DIBELS outcomes, 3D Group restricted participation in the study to teachers who taught the same grade in the same school during both years.

Additionally, 3D Group developed a list of variables about the school environment during both years. School-level factors included number of snow days or any other unpredicted interruption, such as a strike or environmental conditions that would place unusual stress on the teachers delivering reading instruction. 3D Group developed the survey. Reading In Motion staff administered the survey with the Reading In Motion Coaches in Year 1 and the Peer Coaches in Year 2.

While the classroom teachers were the same, and they used the same curriculum, we also collected data about the fidelity with which the teachers implemented the activities. Did teachers implement Reading In Motion with the same frequency and dedication during both years? Teacher-level factors included the degree to which they implemented key aspects of Reading In Motion, such as modeling accurate sounds and modifying the level of challenge based on each student's need. The teachers' effectiveness was also measured by examining student-level factors, such as the students' ability to effectively participate in work areas while the teacher was working with a small group of students.

Quarterly Check-ins

3D Group conducted quarterly meeting with the Reading In Motion's Sustainability Coordinator to get a sense of the: 1) program's design, 2) fidelity of implementation, and 3) perceived success of the program.

SUMMATIVE EVALUATION RESULTS

Comparability of Groups

Environment

To help ensure that environmental factors remained relatively consistent from one year to the next between treatment and control years, and ensure that it was sound to compare the two groups, we researched a variety of sources. Demographic information from Chicago Public Schools (http://cps.edu/Schools/Find_a_school/Pages/findaschool.aspx) shows that the schools had relatively similar demographics as shown in Tables 3 and 4. Both schools had large Hispanic student populations, and majority of their students came from low income households. To protect the confidentiality of individual schools in this study, demographic trends have been presented rather than exact percentages.

Tables 3 &4. Demographic Trends for Schools Participating in Study (Chicago Public Schools website, 2016)

Table 3. Student Population

Asian	<5%
African-American	<4%
Hispanic	>80%
White	<5%
Other	<3%

Table 4 Student Population

Low Income	>90%
Diverse Learners	<30%
Limited English	<40%
Mobility Rate	<20%

The school conditions were consistent in many respects from year to year, including length of school day, probation status, and number of snow days. Both schools had the same principals in Year 1 and Year 2. During Year 2 while the Peer Coach offered coaching, teachers may have sensed a lack of job security due to a possible strike, but since the strike never occurred it is not considered to have had a notable impact on teaching reading in the classroom.

During Year 2, the teachers in both schools also saw a notable increase in special needs students (classified as Tier 3 students by Chicago Public Schools), because Tier 3 students were integrated into the mainstream classrooms. These students did not attend Reading In Motion, and thus are not included in the Reading In Motion study. But there is a chance that these students required greater attention, perhaps negatively impacting their teachers' abilities to teach the standard reading curriculum to all students (including the students participating in Reading In Motion) during other parts of the day.

The 12 teachers in this study used the same core curriculum from year to year, with the exception of two teachers who switched from Reading Street to Readers Workshop. The core curricula used by the teachers included:

- Story Town (9 teachers)
- Reading Street (2 teachers in Year 1)
- Readers Workshop (1 teacher in Year 1; 3 teachers in Year 2)

Overall, while there was some variation from year to year in the school and classroom environments, the variation did not strongly favor the Sustainability Preparation (Year 1) or Sustainability Mode (Year 2) conditions.

Implementation of Reading In Motion

Reading in Motion's curriculum was present in the classroom the same length of time, 32 weeks, during both the Sustainability Preparation and Sustainability Mode years. In Year 2, there was notably less presence of coaches in the classrooms, with about 13 visits by Reading In Motion Coaches during Year 1, as compared to only 8 visits by Peer Coaches in Year 2 during Sustainability Mode.

Table 5. Fidelity of Implementation: Completion of Program

Fidelity	Year 1 Average	Year 2 Average
How many weeks of curriculum did the teacher cover?	32	32
About how many times did the coach visit this teacher's classroom this year?	13.6	8.3

The coaches during both years were asked to rate on a scale of 1 to 5 (Never=1, Infrequently=2, About Half the Time=3, Usually=4, Always=5) how frequently the teacher implemented Reading In Motion with fidelity. Table 6 shows the survey items, averages, and standard deviations.

Teachers and their groups of students were almost always rated as 4s and 5s, suggesting that they were "usually" or "always" implementing critical aspects of Reading In Motion as desired. However, during Year 1 while Reading In Motion staff provided coaching there was one teacher who struggled on two items (earning one "infrequently" and one "about half the time"). When the Peer Coach provided ongoing support in Year 2, this teacher's performance notably decreased, earning four "infrequently" and one "about half the time" out of 9 survey items.

Regardless of this one lower performer, the teachers in general tended to perform lower on “using a Rate of Response and Feedback of at least 30 per child in small groups” and “providing increased or decreased challenge levels of instruction based on individual responses to instruction” during Year 2 when the Peer Coach provided coaching support.

Table 6. Fidelity of Implementation: Teacher and Student Behaviors

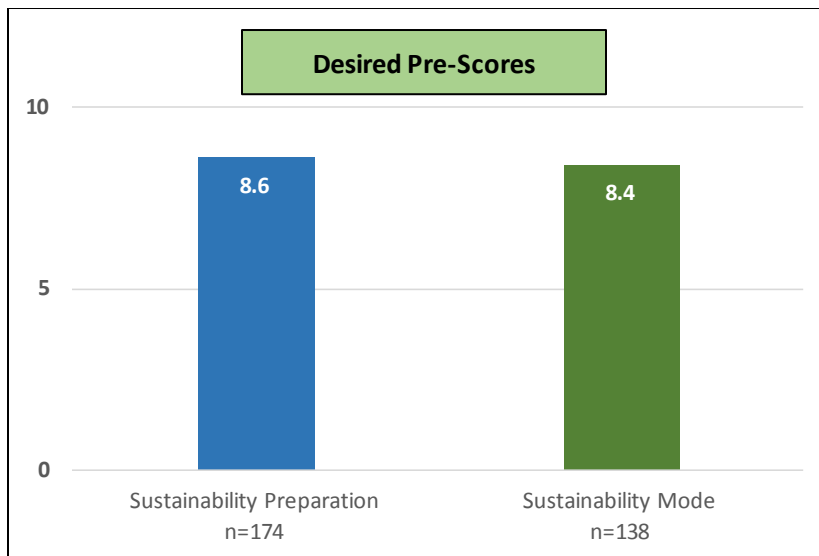
Fidelity Survey Item	Year 1 Avg.	Year 1 Std. Dev	Year 2 Avg.	Year 2 Std. Dev.
<i>To what degree did this teacher...</i>				
Use a Rate of Response and Feedback of at least 30 per child in small groups.	4.8	0.45	3.8	0.83
Model accurate sounds	5.0	0.00	4.8	0.39
Demonstrate that he/she was organized during Reading In Motion time	4.7	0.65	4.5	0.80
Provide increased or decreased challenge levels of instruction based on individual responses to instruction	4.8	0.39	4.3	0.89
<i>To what degree did the students...</i>				
Participate in work areas while small groups were conducted	4.6	0.51	4.8	0.45
Stay focused during the full period	4.3	0.45	4.0	0.85
Stay in groups of 3 or 4 children during small groups	4.5	0.90	4.7	0.49
Demonstrate that they knew what they were supposed to do in small groups	4.8	0.40	4.6	0.51
Demonstrate that they knew what they were supposed to do in work areas	4.8	0.45	4.4	0.90

Kindergarten DIBELS Results

Kindergarten: Initial Student Skill Comparison

To help ensure students in both Sustainability Preparation and Sustainability Mode were comparable when entering the study, 3D Group studied the reading skills of students entering kindergarten. An independent samples t-test was conducted to compare the mean scores on the August/September First Sound Fluency measure for the Sustainability Preparation group (mean=8.6, SD= 9.9) and Sustainability Mode group (mean=8.4, SD= 9.7). As expected, there was no significant difference: $t(310) = -.138$, $p = .86$. See Figure 1. Thus, the kindergarten students in both years had similar skill levels upon starting Reading In Motion, whether they were to receive the Sustainability Preparation or Sustainability Mode format.

Figure 1. Kindergarten Pre-test Scores for First Sound Fluency



Kindergarten: Student Outcomes

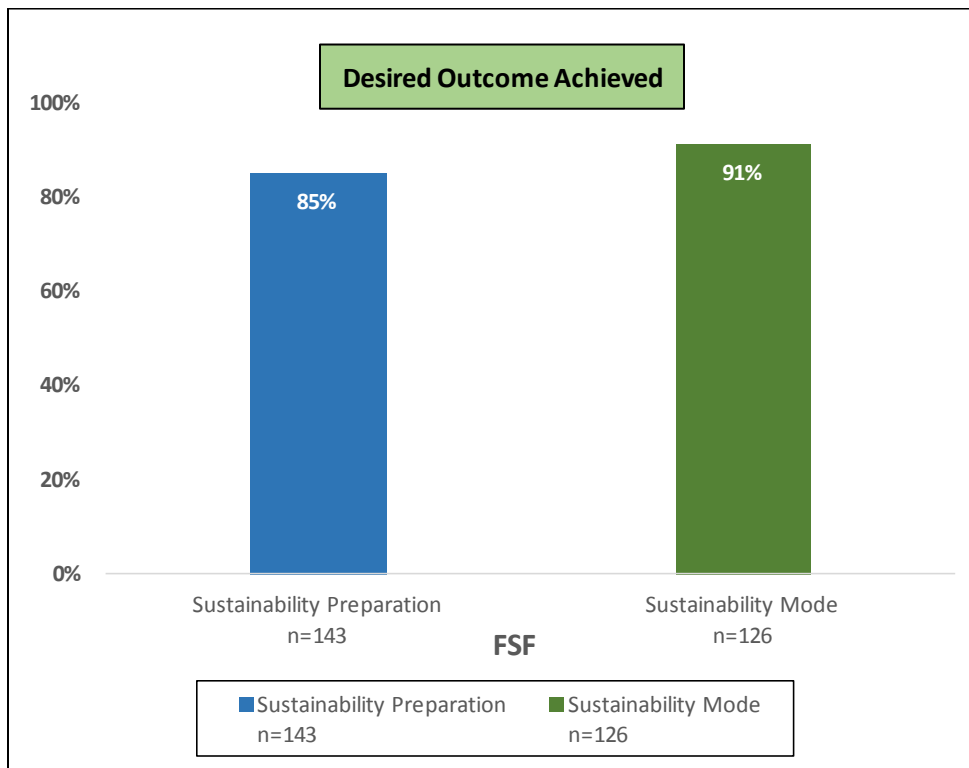
Once it was established that the Sustainability Mode and Sustainability Preparation groups began the school year with similar skill levels and similar school and classroom environments, we conducted student outcome analyses. The goal of Reading In Motion, in both years, is for a high level of students to achieve benchmark scores and to be equally successful with no significant difference between the years. As a reminder:

- the Sustainability Preparation model is Reading In Motion's typical format.
- if the Sustainability Mode model (Year 2) can be as successful as (or more successful than) the Sustainability Preparation model (Year 1), then it could prove to be a great model to implement in other schools.

Kindergarten: First Sound Fluency

By the middle of kindergarten, students should be able to recognize and produce the first sound in orally-presented words at a rate of 30 phonemes per minute, as measured by DIBELS' First Sound Fluency. To assess program impact on FSF, the percentage of Sustainability Preparation students who met the middle-of-year benchmark on FSF was compared with the percentage of the Sustainability Mode students who met the same benchmark. As Figure 2 illustrates, 85% of Sustainability Preparation students met the benchmark in Year 1, and slightly more (91%) of Sustainability Mode students met the mid-year benchmark for FSF in Year 2. This difference was not statistically significant: $\chi^2(1, N=307) = 2.144, p=.143$. The results suggest that teachers were successful in helping their students achieve reading levels in both years by the middle of kindergarten. While Year 2 appears to be more successful, the difference is not significant. By the middle of kindergarten, RIM seems to have successfully transitioned from the Preparation Model (Year 1) that utilized Reading In Motion coaches to the Sustainability Mode (Year 2) that utilized Peer Coaches.

Figure 2. Percentage of Students that Met First Sound Fluency Benchmark by the Middle of Kindergarten

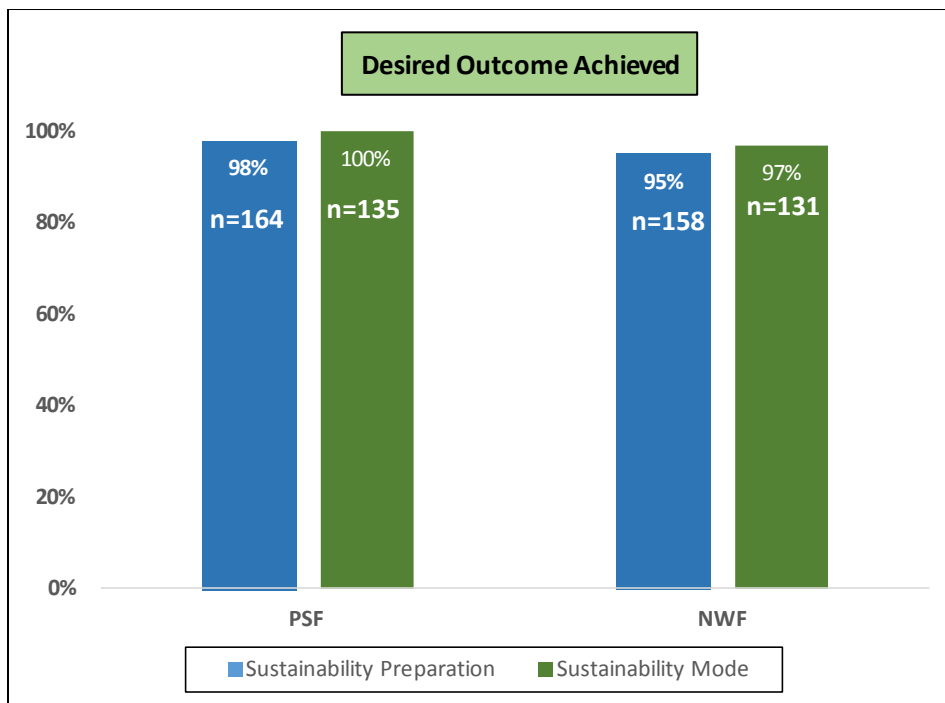


Kindergarten: Phoneme Segmentation Fluency and Nonsense Word Fluency

By the end of the school year, kindergarten students should have achieved grade-level Phoneme Segmentation Fluency and Nonsense Word Fluency. DIBELS Phoneme Segmentation Fluency (PSF) is a measure of a student's ability to segment three- and four-phoneme words into their individual phonemes fluently (Good, Wallin, Simmons, Kame'enui, & Kaminski, 2002). The PSF measure has been found to be a good predictor of later reading achievement and is intended for use with students from the winter of kindergarten to the middle of first grade (Kaminski & Good, 1996).

DIBELS Nonsense Word Fluency (NWF) measures letter-sound correspondence and the ability to blend letters into words in which letters represent their most common sounds (Kaminski & Good, 1996). It is intended for use with students from the middle of kindergarten to the end of first grade. Figure 3 below presents the results of comparing 1) Sustainability Preparation Model students and 2) Sustainability Mode Model students in Kindergarten.

Figure 3. Percentage of Students that Met Phoneme Segmentation and Nonsense Word Fluency Benchmarks by the End of Kindergarten



As shown above in Figure 3, 100% of Sustainability Mode students met the final benchmark for PSF, and 98% of the Sustainability Preparation students met the final benchmark. This difference was not statistically significant, with $\chi^2(1, N=302) = 2.449, p=0.118$.

Likewise, slightly more kindergarten students in Year 2 met the final benchmark for NWF, with 97% of the students reaching benchmark, as opposed to the 95% of students in Year 1 who met benchmark (Figure 3). This difference was not statistically significant: $\chi^2(1, N=302) = 1.067, p=0.302$.

These comparisons suggest that both years were equally successful in getting students to benchmark on both tests by the end of kindergarten. While the students seem to be performing better in Year 2, the results are not statistically different.

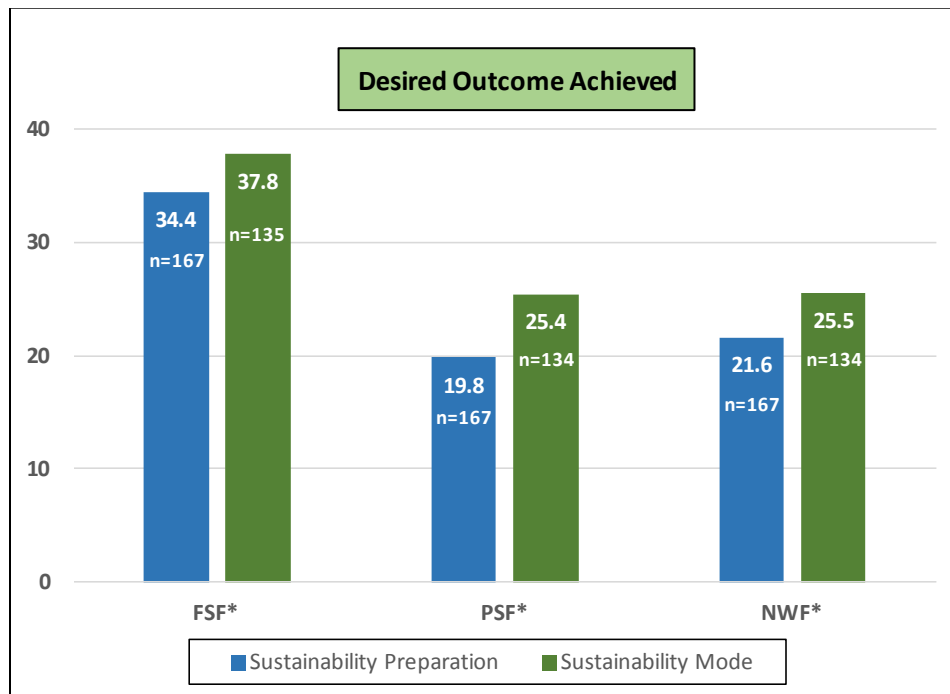
While studies with comparison groups typically strive for significant differences, in this case “no significant difference” is considered a desirable finding. Reading In Motion hoped to perform well in Year 1 (achieved), and perform as well or better in Year 2 (achieved) despite scaling back the amount of coaching they directly provided to each school.

Kindergarten: Improvement on All Three Skills

Another way to examine the data is to assess each student’s gain in skill from the pre-test to the post-test, with the interest of seeing whether kindergarten students had larger gains during the Sustainability Preparation or Sustainability Mode years.

As shown in Figure 4, kindergarten students who received the Sustainability Model (Year 2) showed significantly more improvement on each of the early literacy indicators than during the Sustainability Preparation Model during Year 1: (FSF: $t(300) = 2.50, p=0.013$; PSF: $t(267.4) = 2.75, p=0.006$; NWF: $t(299) = 2.09, p=0.038$). This may lead the reader to believe that Peer Coaches were more effective than Reading In Motion coaches. However, it is important to remember that in this study, the success of Year 2 was dependent on the success of Year 1 because the same set of teachers were teaching during both years. During Year 1 the teachers were learning the Reading In Motion curriculum and activities while implementing it in the classroom, while in Year 2 the teachers were able to focus more on refining their experience of the program.

Figure 4. Average Improvement in Number of Phonemes and Pseudo-words Recognized on FSF, PSF, and NWF



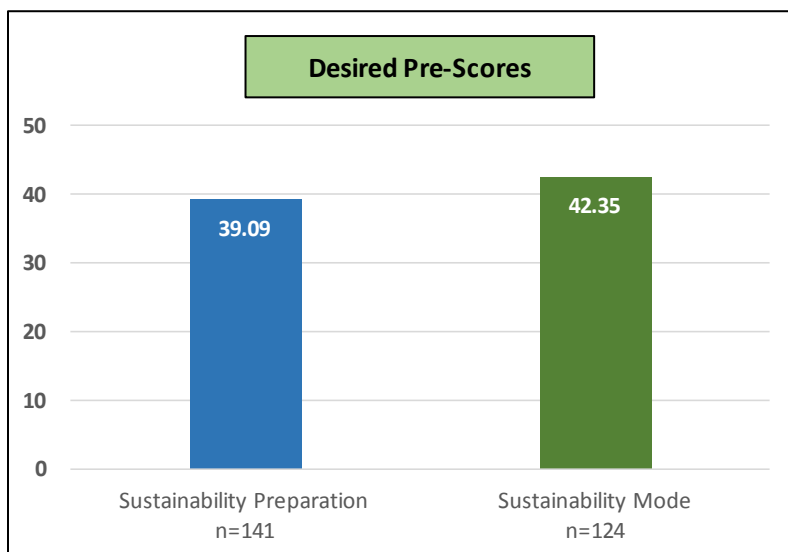
*=Statistically significant

First Grade DIBELS Results

First Grade: Initial Student Skill Comparison

To see if the Sustainability Preparation and Sustainability Mode groups were similar upon entering the Reading In Motion first grade program, we analyzed the reading skills of first grade students at the beginning of the year. An independent samples t-test was conducted to compare the mean scores on the August/September Nonsense Word Fluency Correct Letter Sounds (NWF-CLS) measure for the Sustainability Preparation group (mean=39.09, SD= 20.53) and Sustainability Mode group (mean=42.35, SD= 22.35): $t(263) = 1.241$, $p = .862$. See Figure 5. Students in both conditions began first grade with similar skill level.

Figure 5. First grade Pre-test Scores for Nonsense Word Fluency



First Grade: Student Outcomes

Once we discovered that the Sustainability Mode and Sustainability Preparation groups began the school year with parallel skill levels, we conducted the student outcome analyses.

As a reminder, the Sustainability Preparation mode is Reading In Motion's typical format. If the Sustainability Mode can be as successful as (or better than) the Preparation year, then it could prove to be a great model to implement in other schools.

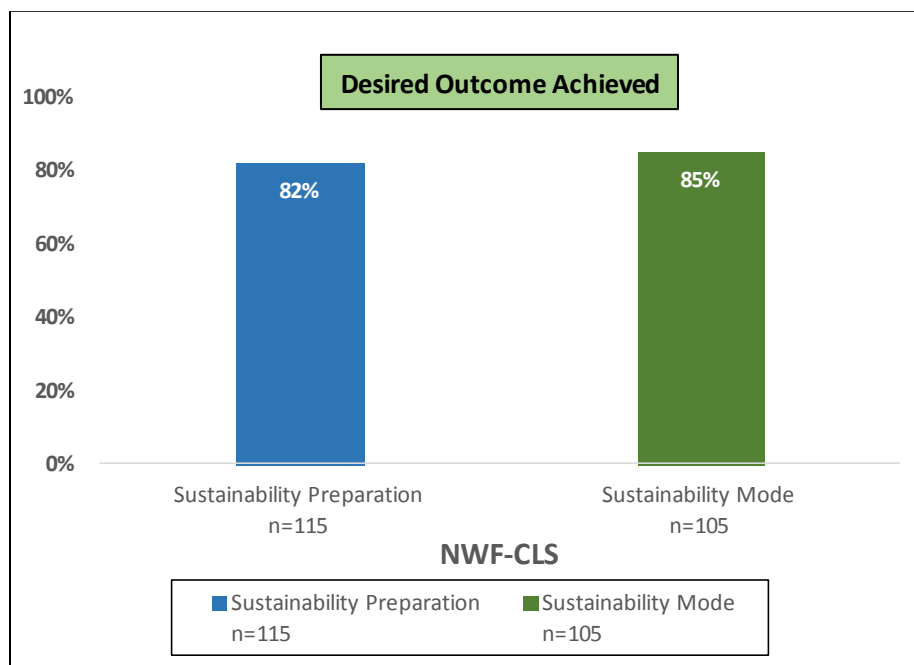
Nonsense Word Fluency Correct Letter Sounds (NWF-CLS)

By the middle of the school year in first grade, students should have achieved Nonsense Word Fluency. This DIBELS test measures letter-sound correspondence and the ability to blend letters into words in which letters represent their most common sounds (Kaminski & Good, 1996). The Correct Letter Sounds (NWF-CLS) score measures the total letter sounds read in a minute. Figure 6 below presents the results of comparing Year 1 and Year 2 first grade students, both taught by the same individual teachers using either the Sustainability Preparation model (Year 1) or Sustainability Mode (Year 2).

To evaluate program impact on NWF-CLS, the percentage of Sustainability Preparation (Year 1) students who met the middle-of-year benchmark on NWF-CLS was compared to the percentage of the Sustainability Mode (Year 2) students who met the same benchmark. As shown in Figure 6, slightly more first grade students in Year 2 met the mid-year benchmark for NWF-CLS, with 85% of the students reaching benchmark during Sustainability Preparation compared with 82% of the students doing the same during Sustainability Mode. This difference was not statistically significant: $\chi^2(1, N=264) = .685, p=.408$. These results show that the teachers were successful in getting their students to benchmark by the middle of first grade during both years. Although the Sustainability Mode group seems to be more successful in getting students to benchmark, the difference is not significantly better.

During the middle of the year, Reading In Motion achieved the program goal. For NWF-CLS, the teachers were just as successful at getting high percentages of students to benchmark when they received coaching from Reading In Motion (Year 1) as when they received coaching from a Peer Coach (Year 2). Note that all teachers participated in Year 1 and Year 2, implying that the success of Year 2 is still related to the high level of guidance that these teachers received during Year 1. It seems that by the middle of first grade, RIM has successfully transitioned from Sustainability Preparation (Year 1) to the Sustainability Mode (Year 2).

Figure 6. Percentage of Students that Met NWF-CLS Benchmarks by the Middle of Grade 1



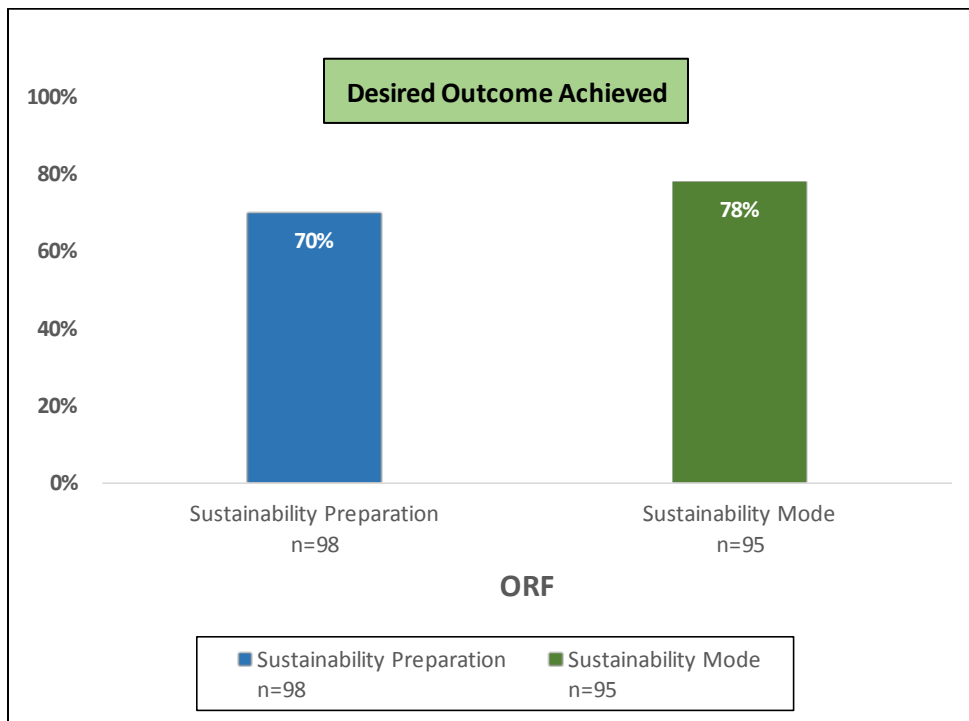
Oral Reading Fluency

At the end of the school year, students should have achieved grade-level oral reading fluency, the ability to read connected text with rate, accuracy, and expression. Figure 7 below presents the results of comparing: 1) first grade students in Year 1 when their teachers were coached by Reading In Motion staff, and 2) first grade students in Year 2 when their teachers received coaching by designated Peer Coaches.

A greater percentage of first grade students in Sustainability Mode met the end-of-year benchmark for ORF, with 78% of the students in this group reaching benchmark, as compared to 70% of the Year 1 students doing the same. However, this difference was not statistically significant: $\chi^2 (1, N=262) = 2.081, p=.149$.

While trending in a good direction, statistical tests indicate that the teachers were just as successful during both years. This is still within the realm of desired outcomes, since Reading In Motion hopes that teachers will perform the same or better, during Year 2 while in Sustainability Mode.

Figure 7. Percentage of Students that Met Oral Reading Fluency Benchmarks by the End of Grade 1

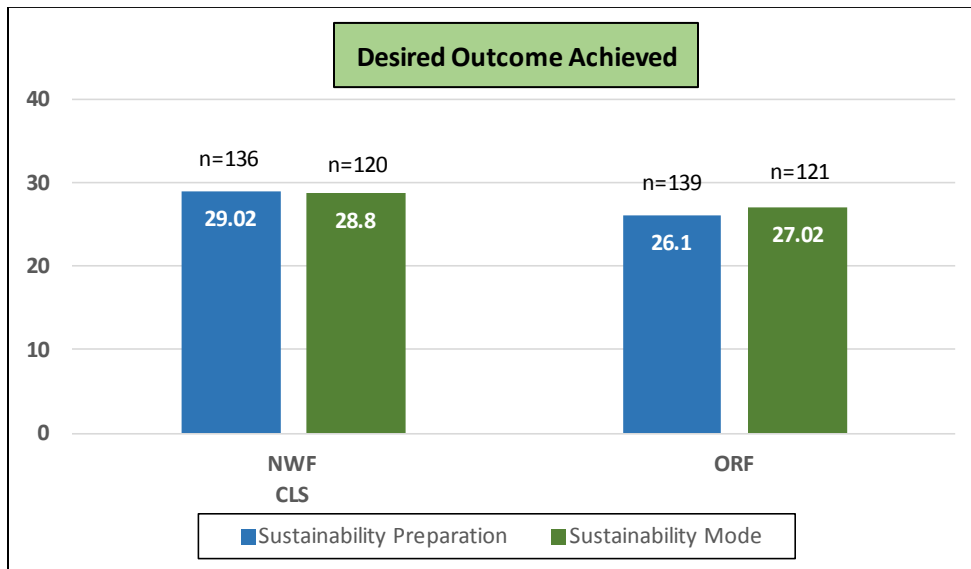


First Grade: Reading Skill Improvement

Another way to assess the data is to calculate each student's gain in skill from the pre-test to the post-test, with the interest of seeing whether Year 2 students had the *same or larger gains* than the Year 1 group. As shown in Figure 8, students showed a slightly higher improvement rate during Year 1 (Sustainability Mode) than during Year 2 (Sustainability Mode) on the mid-year NWF-CLS ($t(254) = -0.091$, $p=.927$). Year 2 saw a greater increase in student's gain in skill on the end-of-year Oral Reading Fluency test ($t(258) = 0.531$, $p=.596$). It is worth noting that none of these differences were statistically significant, achieving Reading In Motion's goal of equal levels of student achievement in both years.

By the end of the year, the difference between the years amounted to a difference of about 1 word per test, which is not meaningful at a sensible level (or a statistical level). This begins to explain why teachers were not radically different in helping their students achieve benchmark at the end of the year (Figure 8) during Sustainability Preparation or Sustainability Mode.

Figure 8. Average Improvement in Number of Pseudo-words and Real Words Recognized on NWF-CLS and ORF



CONCLUSIONS

Kindergarten

- Teachers first used the Sustainability Preparation format in Year 1 in which Reading In Motion Coaches provided ongoing support. They were then transitioned into Sustainability Mode in Year 2, during which one or two Peer Coaches in each school supported the classroom teachers. Teachers were just as effective during Sustainability Mode in Year 2, in getting kindergarten students to benchmark by middle (FSF) and end of the year (PSF and NWF).
- During Sustainability Mode in Year 2, teachers were significantly more effective than Year 1 in helping students' skill gain on all three tests (FSF, PSF, NWF).
- Both sets of outcomes suggest Reading In Motion was successful in transitioning teachers from Sustainability Preparation to Sustainability Mode in kindergarten.

First Grade

- Teachers, whether they were in Year 1 (Sustainability Preparation) or in Year 2 (Sustainability Mode), were equally successful in getting students to benchmark on Nonsense Word Fluency - Correct Letter Sounds (NWF-CLS) by the middle of the year, as well as getting students to benchmark by the end of the year on Oral Reading Fluency (ORF).
- Similarly, teachers were equally successful in helping students' skill gain on both tests (NWF-CLS, ORF).
- Both sets of outcomes suggest that teachers successfully transitioned from Sustainability Preparation to Sustainability Mode in first grade.

Overall

- Reading In Motion should select schools that meet pre-established criteria and transition them from Sustainability Preparation to Sustainability Mode. Even though these teachers did not have direct support from a trained Peer Coach within their school rather than Reading In Motion coaches in Year 2, student achievement was well sustained by these peer coached teachers.
- While Reading In Motion experienced great success in their transition from Sustainability Preparation (Year 1) to Sustainability Mode (Year 2), this evaluation is in no way an endorsement for replacing Year 2's model with Year 1's model. The success of Year 2's Sustainability Mode demonstrated in this study is dependent on the high level of training and coaching that teachers receive directly from Reading In Motion during Sustainability Preparation in Year 1.
- 3D Group recommends transitioning more Sustainability Preparation schools that meet pre-established criteria into Sustainability Mode. As Reading In Motion transitions more schools to Sustainability Mode (and perhaps loosens their criteria) they should continue to carefully monitor the success of the program, both in terms of implementation fidelity and student outcomes, to ensure that the Reading In Motion continues to have a strong impact on students and teachers in Sustainability Mode.

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APPENDIX A

Small Group Activities—Sample Instructions for Teachers

Teachers meet with several small groups of students four days a week for more individualized instruction. This 1st Grade sample covers 11 minutes of a 20-minute session with a small group, and is implemented during week #16 of the 32-week curriculum.

Sound to Symbol Echo:

Do Pick up the a, i, o, u, and e letter cards.

Say We are going to begin today by comparing a, i, o, u, and e.

As I hold up the letter cards, you tell me the sounds and show me the hand movements that go with the letter.

Do Hold up the cards one at a time, and allow the students to generate the sounds and movements in unison.

Drill students on the a, i, o, u, and e cards.

Vary the pattern in which you show the five letters.

Continue to drill until each letter card has been shown two or three times.

Check students' responses for accurate sounds and hand movements.

Say Now, I'm going to give you each a turn to answer on your own.

Do Drill each child individually on each of the five cards.

Mix up the order of the cards.

Read Nonsense Words - Speed Read:

Say We are now going to read nonsense words with the /e/ sound in the middle.



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- Do Show Word Page D.
- Say We will start by reading the first row.
- I want you to look at the words with me.
- Tell me the first, middle, and final sounds, and then I want you to blend the sounds to say the nonsense word.
- I'll put my finger over each letter as you say the sound, and then sweep it across the word as you blend.
- For this round, let's answer together.
- Do Hold up the word page so it can be seen by all students.
- Say Here we go.
- Do Put your finger above each letter, as the students give you the sounds.
Sweep your finger across the letters, as the students blend.
Assist as necessary.
Read the first two lines of words together.
- Say Now, we are going to take turns reading the rows.
- Do Position yourself so that you can see the second hand on the classroom clock, or use a stopwatch.

Work Areas Activity - Sample Instructions for Teachers

This activity is used after students are familiar with using the writing, Word Sculptures, and easel work areas. It occurs in week #5 of the 32-week curriculum.

Work Areas Assignment: At the writing, Word Sculptures, and easel areas, students should make the letters *h*, *m*, and *p* (both uppercase and lowercase). After students have made their letters, they may write, draw, or create whatever they like.



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Whole Group Activities—Sample Instructions for Teachers

All students meet once a week to participate in Whole Group, which lasts 40 minutes. This 1st Grade sample covers 21 minutes of a 40-minute session of Whole Group. It is conducted during week #16 of the 32-week curriculum.

Note: Before class begins, seat the students in Partner Reading pairs.

Sound to Symbol Echo with Music:

- Do Pick up the letter cards.
Separate the a, i, o, u, and e cards from the deck of letter cards.
- Say We are going to start out today comparing a, i, o, u, and e.
As I hold up the letter cards, tell me the sounds and show me the hand movements that go with the sounds.
- Do Play track 13 on the CD.
In tempo with the music, drill the students on the a, i, o, u and e cards.
Mix up the order of the cards so the students can't memorize the order.
Continue to drill the students until each letter card has been shown three or four times.
Check students' responses for accurate sounds and hand movements.
- Say Now, I'm going to call on some of you for a solo turn.
- Do Call on the students you do not see in a small group.
Drill each child individually on the five letters.
Mix up the order of the cards.
Use this very brief drill to check the progress of students who are not in small group.
They should have 100% accuracy with the five vowels.

“Word Blues”:

- Say Now we are going to read some nonsense words, and use our blues song to help us.
This week, we will focus on words with the /e/ sound in the middle.
- Do Pick up the card tray and letter cards.
Place the nonsense word mez in the tray.
Place the remaining letter cards in the back row of the card tray.
- Say As I point to the letters, tell me each sound.
When I sweep my finger across the word, blend the sounds and say the word.
Here we go.



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- Do Play track 8 on the CD, and sing the song.
Use the letter cards to form words from the word list printed below.
After each set of four words, sing the chorus
When the music runs out, turn off the CD.
- Say Now let's practice a cappella, or without music.
I'm going to go a little bit faster.
- Do Drill the students, using words from the word list again, at a slightly faster pace.
Allow the students to answer in unison.

Words

mez	vej	pef	kec
yez	rej	sef	gec
bez	tej	lef	wec
vez	pej	kef	hec

"Word Blues" 2:

- Say Now, I want you to read the words and keep your voices running.
- Do Place the nonsense word mez in the card tray.
Say This time, instead of starting and stopping our voices between the sounds, we are going keep our voices running.
Start your voice with the first sound and keep it going until you have said all three sounds.
It will sound like this.
/m/.../e/.../z/
Try it with me.
(All: /m/.../e/.../z/)
- Do Change mez into yez.
- Say Again.
(All: /y/.../e/.../z/)
- Do Change yez to yev.
- Say Again.
(All: /y/.../e/.../v/)
- Now, I want you to try a few without my help.



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- Do Continue to change one letter at a time to create new nonsense words.
Allow students to read the words with continuous voices.
Continue until the class has read five or six words.
- Say Now, I'm going to give you each a chance to read a word on your own. Remember to keep your voices running.
I'll look at you when it is your turn.
- Do Go around the room, giving each student a word to read from the list above.
Respond to any incorrect answers by modeling the correct answer and allowing the student to try again.
Make sure each child gets a turn.
- Say Now, let's see if we can read two words in a row.
- Do Pick up the stack of two-word nonsense word cards.
Hold up the mez yez card.
- Say Keep your voices running and try these two with me.
(All: /m/.../e/.../z/, /y/.../e/.../z/)
- Do Check the students' responses, and repeat the two words if necessary.
- Say Let's read some more like this.
Do Continue to work through the two-word cards, allowing the students to read each set of words in unison.
- Say Now it's time to read some with the music.
Follow my cues. I'll help you.
- Do Play track 8 on the CD.
In time with the music, hold up a card and model reading two words at a time. Direct students to read along with you.

Example

mez	yez	(rest)
bez	vez	(rest)
vej	rej	(rest)
tej	pej	(rest)



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After reading four cards, repeat the chorus:

I've got the blues
Hear what I say
I'm gonna read my nonsense words today

Words

mez	yez
pef	sef
jep	jem
bez	vez
lef	kef
teb	neb
vej	rej
kec	gec

- Do When the song is over, turn off the CD.
Say Now, I want to give you a chance to read two words in a row on your own.
Do Go around the room and give each student a chance to read one of the two-word cards.

Echo Read by Character Parts:

- Say Now it's time to work on our script, Lamb and Coyote.
Do Pass out copies of Lamb and Coyote, Part 3 to all of the students.
Do Read the script, allowing students to echo read their lines.
- Say If you are the partner sitting closest to the door, I want you to read the part of Coyote.
If you are the partner sitting farthest away from the door, I want you to read the part of Lamb.
Let's check to make sure that everyone knows which part to read.
Let me see the Lambs raise their hands.
- Do Check students' responses, and assist them as necessary.
Say Now let me see the Coyotes raise their hands.
Do Check students' responses, and assist them as necessary.
Say I'll read the lines first, then I want you to echo read your part.
Try to make your voice sound like mine.



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Partner Reading:

- Say Now, it's time for you to read with your partner.
When I say begin, I want you to see if you can read the first page of your script.
Remember to take turns reading your parts.
When I say cut, I want you to freeze and listen to my next directions.
- Do Allow students to read the first page of the script with their partners.
Circulate around the room to coach and assist students as necessary.
Allow students to read with their partners for a short period of time (1-2 minutes), then cue them to stop.
- Say And...cut.
- Do Compliment good behaviors that you observed to reinforce the expectations you have for Partner Reading.
If there were problems with some partners, coach the students in the areas where you would like to see improvement.

Timed Reading Practice:

- Say Please turn your script over to the last section.
- Do Hold up your script to show the students the story section.
- Say Many of you worked with this version of the story, during small group.
It takes practice to read at the appropriate speed and make our words sound natural, like we are speaking.
So it is great that we can practice our story a few different times during the week.
Now I'm going to give you two turns to read this version of our story.
And, you will get to time yourself to help track your progress.
- Do Point to the classroom clock or hold up your timer.
- Say If you are the partner sitting closest to the door, I would like you to read first.
If you are the partner sitting farthest away from the door, I want you to listen.
Use your finger to follow along as your partner reads, and mark their last word with your finger in your script.
Ready...action.
- Do Allow students to read for 15 seconds.
Circulate around the room to listen, and assist students as necessary.
After 15 seconds, direct the students to stop by saying "cut."
Check to see that students have marked the last read word.



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- Say Now it is time to switch.
If you are sitting farthest away from the door, it is now your turn to read.
And, those of you sitting closest to the door, it's your turn to track your partner's reading.
Don't forget to use your finger to follow along as your partner reads and mark the last word.
Ready...action.
- Do Allow students to read for 15 seconds.
Circulate around the room to listen, and assist students as necessary.
After 15 seconds, direct the students to stop by saying "cut."
Check to see that students have marked the last read word.
- Say Now, both partners will get a chance to read again.
I want you to continue reading with accuracy, and challenge yourself to make your reading sound natural, like speaking.
- Do Allow both partners another turn to read for 15 seconds.
Circulate around the room to listen, and assist students as necessary.
- Do Collect the scripts.
- Say Now, I want you to read as quickly as you can. I will time you.
I want you to tell me each letter sound.
Start here. (Point to the first letter.)
Then read this way. (Move your hand across the rest of the letters.)
Be accurate.
I'm going to add five seconds for each missed sound
- Do Look at child #1.
- Say You will go first.
- Do Allow child #1 to read the words.
Keep track of the time.
With a light-hearted spirit, announce the time.
Repeat the process with the other students, assigning them a different row from the word page.



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- Say Now, you will each get another turn.
See if you can match your last score or beat it.
This time, I want you to keep your voices running as you say the sounds of the words.
Start your voice with the beginning sound and don't stop your voice until you say the last sound of each word.
It will sound like this.
- Do Read a row of words to model using a continuous voice.
- Say It will help you beat your last time, if you don't stop your voice between all of the sounds.
Give each student one more turn.
Optional Step: Give students a third turn. This time have them read the whole words as blended words.

Script: Lamb and Coyote:

Level 1: Echo Read the Script Sentence by Sentence

- Say Now it is time to continue reading Lamb and Coyote to see what happens next in the story.
- Do Pass out copies of Lamb and Coyote, Part 3.
- Say Let's begin by reading through the script sentence by sentence or line by line.
Repeat after me, and try to make your voice sound like mine.
As I read, I want you to use your finger to follow along with the words.
Then, when it is your turn to repeat the words, use your finger again to follow the words.
- Do Using your finger to trace the words, read the first line.
Allow the students to repeat the line.
Read the next line, using a different voice to emphasize that another character is speaking.
Allow the students to echo read the second line.
Encourage them to match the expression in your voice for the lamb or the coyote.
Continue reading the text, using your finger to trace the words, and allowing the students to echo read each line.



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Script: Partner Read the Script:

- Say Now we are going to read the script with partners.
- Do Pair the two strongest readers in the small group together.
Assign them each a part to read (Lamb or Coyote).
Pair yourself with the remaining student, and assign the student to read the part of Lamb.
- Say Remember, your job is to take turns reading your lines with your partner.
You can keep track of whose turn it is by looking at the character pictures.
- Do Hold up your script and point to the first character icon.
- Say When your partner is reading, you should be using your finger to follow along with the words so that you will be ready to read your part when it is your turn.
If you get stuck, you can help each other out by sounding out the word together or by telling your partner the word.
Just remember to give your partner a chance to try to read it on her own first, before you jump in.
Or, you can skip the word and continue reading.
The one thing you shouldn't do is just sit there and stop reading.
I will know that you are doing a good job if I see you taking turns reading your lines and helping each other out.
When I say action, begin reading. When I say cut, I want you to freeze.
- Do Say "action" and prompt the students to begin reading.
Begin reading the script with the remaining student.
As you read along with your student partner, listen to the other pair of students reading.
If the students are able to effectively Partner Read, allow them to read through the script.
If students are not able to Partner Read, call "cut" to direct them to stop.
Briefly give students feedback on how they can improve their partner reading.
Tell students they will have another chance to practice later in the week.



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Fluency Warm-Up — Sample Instructions for Classroom Teachers

Classroom teachers were provided with five to ten-minute fluency warm-ups to use with the whole group of students every day. This first grade sample covers one day of the week from week #3 of the 32-week curriculum.

Say – Repeat after me.

Do – Go through the list saying the initial sound and then the whole word.

big	sit	tip	mad
bat	sock	tap	men
bed	see	tub	mop
bug	sail	talk	map

*Word lists for each day of the week are provided by Reading In Motion



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