Correlational Study of the Sonday System and Reading Score Gains

Prepared by Leadership for Success in Education (LSE) Staff and Consultants
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ABSTRACT

The purpose of this study was to determine what correlation existed between reading scores and use of the Sonday System reading curriculum. The study found a positive correlation between use of the Sonday System curriculum and increased reading scores. The mean score for the students who used the Sonday System for reading intervention increased by 32% over the scores of a comparison group of students participating in the general reading curriculum only. The correlation was significant at the 0.01 level (2-tailed). The findings indicate that the increased scores were associated with the use of the Sonday System for reading intervention. The promising evidence found in this study meets the Tier 3 level of the *Every Student Succeeds Act* (ESSA, 2015) as it is supported by a well-designed correlational study that controlled for selection bias.

The study used a quantitative methodology with a non-experimental correlational design to quantify the correlation between the two variables, (a) use of the Sonday System reading intervention and (b) students' reading scores on a standardized test. Reading skills were assessed using the Digital On-Line Reading Assessment (DORA) for students in second through seventh grade. Two groups, one that was enrolled in reading intervention using the Sonday system plus the general reading curriculum and one group enrolled in the general reading curriculum only, were included in the Point-Biserial Correlation as the criteria for the correlation requires two equivalent paired groups. We found an increase in individual students' learning over time for those participating in the Sonday System. The average weighted score for students who participated in the Sonday System increased by 32% over the scores of the comparison group of students who participated in the general reading curriculum. These finding indicate the increase in the scores were associated with the use of the Sonday System.

BACKGROUND

In 2019, The National Assessment of Educational Progress (NAEP) issued the Nation's Report Card for the 2018-2019 reading scores. Results of the assessment indicated that student scores in 2019 were lower than in 2017 for both 4th graders and 8th graders. These new scores are concerning as only 35 percent of fourth- and 34% of eighth-grade students were at or above proficiency on grade-level assessments in reading. In other words, more than 60 percent of the nation's students struggled with basic reading skills. The prevalence of reading difficulties that persist into secondary level schooling is especially concerning as recent educational reforms are focused on accelerating the rigor of academic standards which would be challenging for many students, particularly challenging for struggling readers. Federal mandates such as ESSA (2015) reiterated the need for increased rigor through the adoption of academic standards aligned with college and career goals while concomitantly stressing the importance of accountability for teachers and schools.

These federal mandates, which include literacy initiatives, have placed students with reading difficulties at a disadvantage (Elish-Piper, 2016). Students who do not "acquire key reading skills in the first two years of schooling suffer adverse effects that are very difficult to overcome in later years" signaling a critical need for early intervention for struggling readers (Reynolds, Wheldall, & Madelaine, 2007, p. 147). The focus on programs that promote and incorporate early intervention through the use of a Multi-Tier System of Supports (MTSS), and differentiated instruction to support struggling readers warrants continued and sustained attention.

THE SONDAY SYSTEM

The Sonday System curriculum provides a structured literacy intervention for beginning and intermediate readers. It is a structured, systematic, multisensory Orton-Gillingham reading curriculum. The Sonday System reading intervention is specially designed to fit within a Multi-Tier System of Supports (MTSS) to meet the individual needs of struggling students and students with the most persistent reading needs. In a study by the National Reading Panel (2000), five components of reading were identified as foundational in reading instruction: phonological awareness, phonics, fluency, vocabulary, and reading comprehension. Effective reading programs should incorporate instruction related to each of these five areas. The Sonday System incorporates each of the five components identified by NPR (2000).

METHODS

Data were provided by a large urban public district in the Northeastern United States that offers educational programing for students from pre-kindergarten through high school. All students in the study participated in the general reading curriculum. Struggling readers who met district criteria for reading intervention were enrolled in Sonday System lessons 30 minutes a day 5 times per week in addition to receiving the general reading curriculum. Sonday System intervention was delivered to small groups by teachers trained in its use. Student attendance at the reading intervention sessions was not collected for this study. A standardized reading assessment, *Digital On-line Reading Assessment* (DORA) was administered to all students in the fall (1ˢᵗ DORA) and spring (final DORA) of the 2016-2017, 2017-2018, and 2018-2019 academic years. DORA scores submitted included the weighted average score and the domain scores for high frequency words, word recognition, phonics, phonemic awareness, vocabulary, spelling and comprehension.

The participants in this study were chosen using a purposive, convenience sampling method. The data provided by the school system had 7,919 cases and included some incomplete data sets. By using a random sampling of the total population, the researchers were able to create a comparable sample of students who participated in the general reading curriculum only for analysis. The researchers randomly selected 328 students from a total population of 7,919 who had not participated in the Sonday System as a control sample for this correlational study. These control students had mean baseline reading scores ranging from 1.09 to 3.25.

IBM's Statistical Package for Social Sciences (SPSS, Version 25) data analysis software was used to quantify the correlation between two variables: the use of the Sonday System and reading scores on a standardized assessment. Participants' characteristics are summarized in Table 1 and Table 2.

Table 1: Gender of Participants

	Number	%
F	131	39.9
M	197	60.1
Total	328	100.0

Table 2: Ethnicity of Participants

	Number	%
African American	130	39.6
Asian	15	4.6
Caucasian	33	10.1
Hawaiian / PI	6	1.8
Hispanic	141	43.0
Multi-Racial	3	.9
Total	328	100.0

CORRELATION RESULTS

The sample population (*n* = 328) of Sonday users in the Point-Biserial Correlation study included second, third, fourth, fifth, sixth and seventh grade students. Of the 328 Sonday students, 253 students were used for the Point-Biserial Correlation and linear regression calculation because scores from 75 students were missing. The Point-Biserial Correlation method was chosen to characterize the strength and direction of the relationship between one continuous variable (ratio or interval/ test scores) and one binary variable (nominal/Sonday and Non-Sonday). A Point-Biserial Correlation, like all Correlation Coefficients (e.g. Pearson's r, Spearman's rho) provides a correlation coefficient (r) and indicates the coefficient's estimate of linear association based on the sampling data (Sekaran, 2003). A correlation coefficient (r) may show a positive (+) or a negative (-) sign indicating the direction of the relationship. The coefficient value can range from +1 to -1, with +1 indicating a perfect positive relationship, 0 indicating no relationship, while -1 indicates a perfect negative or reverse relationship (as one variable grows larger, the other variable grows smaller) (Hair et al., 2006). However, caution should be taken in interpreting its value, as it does not indicate that one variable would cause an effect upon the other.

The non-experimental correlational design is deemed an appropriate statistical procedure for this study because it identified whether a relationship existed *between* two variables, the implementation of reading strategy (Sonday System) and reading achievement scores on a standardized reading assessment to answer the research question: To what extent, if any, is there a relationship between use of the Sonday System curriculum and students' reading achievement? In response to the research question, a descriptive analysis measured average scores on first

score and final score from 2018-2019. This analysis found a positive correlational coefficient of 0.28 between test scores and the use of the Sonday System that was statistically significant at the p>.001 level.

The average and standard deviation of the Sonday students' reading scores for the 2018-2019 academic year is shown in Table 3. Sonday students' average first score, including all subtests, was 2.47 with variance (SD = 1.58). Students' average final score, including all subtests, was 3.27 with variance (SD = 1.73). There was a statistically significant correlation between first score and final score, correlation = .804, p = .000. Additionally, there was a statistically significant correlation between Sonday System use and the final reading assessment scores.

Table 3: Correlation Means of Subtest Scores for Sonday System Users 2018-19

Paired Samples Statistics

	Average	Number of Students	Std. Deviation	Std. Error Mean
2018-19 1st DORA	2.47	253	1.58	.0912
2018-19 Final DORA	3.27	253	1.72	.1010

Table 4: Correlation Results Sonday System Users 2018-2019

Paired Samples Correlations

	N	Correlation	Sig.
2018-19 1st DORA & Final DORA	323	.804	.000

Students' reading achievement and use of the Sonday system for the 2018-2019 academic year was examined in 328 students. The inclusion criteria were students who were engaged in Sonday system and had reading test scores after participating in the system. The total *N*=328 are the students who had both variables required. The researcher drew an equivalent sample size (*N*= 328) as controls for Spearman correlation analysis. The inclusion criteria for this

control sample were students who were not engaged in Sonday System and were from the same data set as the participants using the Sonday System. There was a statistically significant positive relationship between the final reading assessment score and the use of the Sonday System for the academic year 2018-19, $r = .218$, $p = .000$ (Table 5).

Table 5

Correlation of the Sonday System with the Final Reading Scores 2018-2019				
			2018-19 Final DORA	SONDAY
Spearman's rho	2018-19 Final DORA	Correlation Coefficient	1.000	.218**
		Sig. (2-tailed)	.	.000
		N	656	656
	SONDAY	Correlation Coefficient	.218**	1.000
		Sig. (2-tailed)	.000	.
		N	656	656
**. Correlation is significant at the 0.01 level (2-tailed).				

For the 2017-18 academic year, there was also a statistically significant correlation between the final reading assessment score and the use of the Sonday System, r (656) = .292, p = .00 (Table 6).

Table 6

Correlation of the Sonday System with the Final Reading Scores 2017-2018				
			SONDAY	2017-18 Final DORA
Spearman's rho	SONDAY	Correlation Coefficient	1.000	.292[**]
		Sig. (2-tailed)	.	.000
		N	656	656
	2017-18 Final DORA	Correlation Coefficient	.292[**]	1.000
		Sig. (2-tailed)	.000	.
		N	656	656
**. Correlation is significant at the 0.01 level (2-tailed).				

Finally, the results for the academic year 2016-17 again show that there was a statistically significant relationship between the final reading assessment scores and the use of the Sonday System, r (656) = .224, p = .000 (Table 7). This promising evidence for all three academic years studied meets the Tier 3 evidence level of ESSA (2015).

Table 7

Correlation of Sonday System with the Final Reading Scores 2016-2017				
			SONDAY	2016-17 Final DORA
Spearman's rho	SONDAY	Correlation Coefficient	1.000	.224[**]
		Sig. (2-tailed)	.	.000
		N	656	589
	2016-17 Final DORA	Correlation Coefficient	.224[**]	1.000
		Sig. (2-tailed)	.000	.
		N	589	589
** Correlation is significant at the 0.01 level (2-tailed).				

ADDITIONAL RESULTS

There was an increase in the individual Sonday students' reading achievement scores over time. In the final year, the average score of students using the Sonday System improved 32%. Results indicate that the increase was associated with using the Sonday System and suggest that the longer students are exposed to the Sonday system, the greater their improvement. Figure 1 shows the progress of the students in the Sonday system for the three years between 2016 – 2019 ($n = 257$). The slope of the linear regression (dashed red line) indicates that their scores in the reading evaluation tests (DORA) have improved about 31% beginning with their pre-test scores in 2016-2017 until their post-test scores at the end of 2018-2019 year. All scores are calculated using their 2016-2017 pre-test scores at baseline.
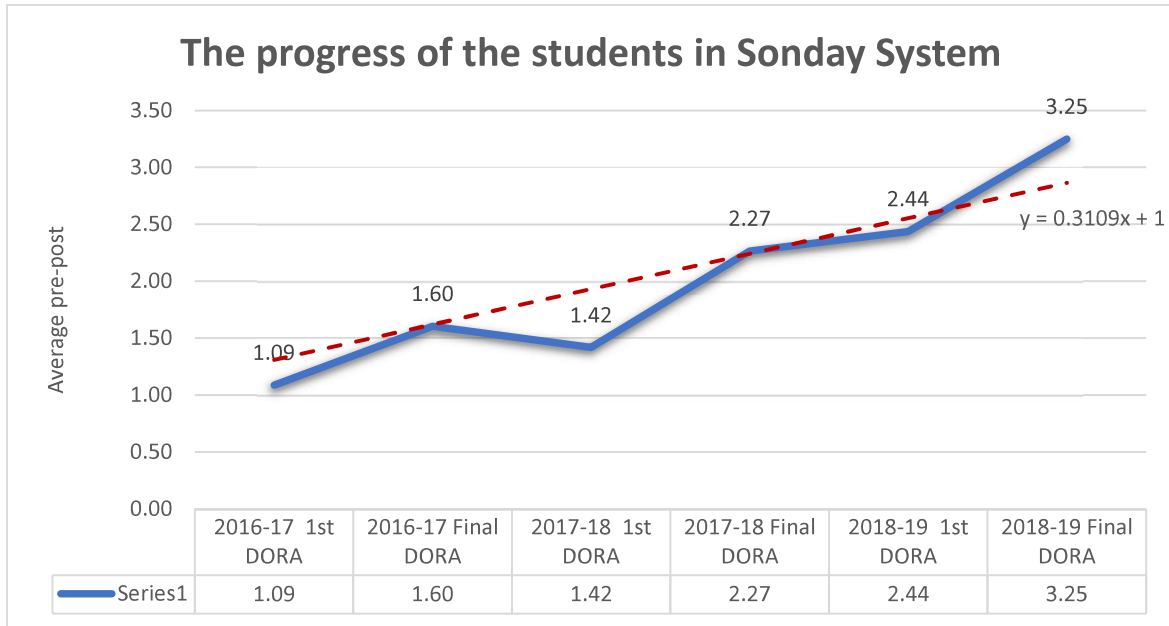
Figure 1: The progress of the students in Sonday System

Figure 2 shows the progress of the non-Sonday system students between 2016 and 2019 (*n* = 279). The slope of the linear regression (dashed red line) indicates that their DORA scores have improved approximately 62% from their pre-test scores at the beginning of the 2016-2017 school year to their final post-test scores in 2018-2019. This growth is expected for typically developing readers who did not require intervention as their reading skills and abilities did not warrant their participation in the Sonday system.
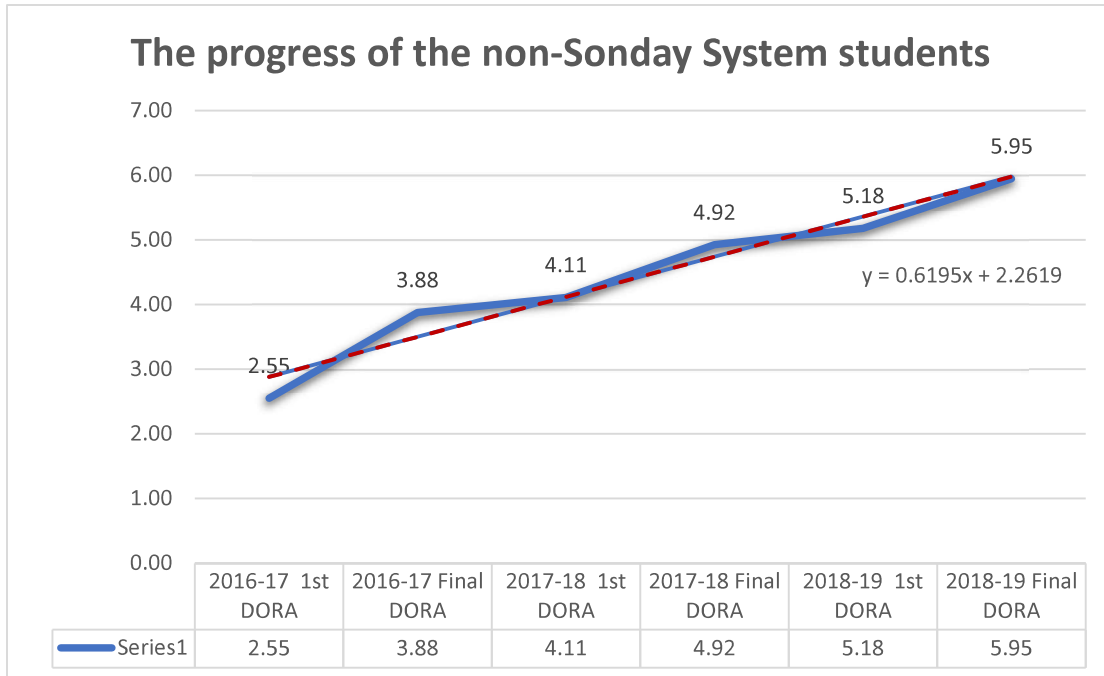
The progress of the non-Sonday System students

	2016-17 1st DORA	2016-17 Final DORA	2017-18 1st DORA	2017-18 Final DORA	2018-19 1st DORA	2018-19 Final DORA
Series1	2.55	3.88	4.11	4.92	5.18	5.95

$y = 0.6195x + 2.2619$

Figure 2: The progress of the Non-Sonday System students

A gap-improvement analysis of the Sonday students ($n = 257$) and non-Sonday students ($n = 279$) students was conducted (Figure 3). A gap-improvement analysis is achieved by subtracting a post-test score from a baseline score and dividing the difference by the baseline score. The result is a percentage of improvement within the gap between the two scores. In this study, the gap-improvement analysis for each group included three levels: (a) 2016-2017 Final DORA minus 2016-2017 1st DORA divided by 2016-2017 1st DORA (Sonday = 47%; non-Sonday = 83%), (b) 2017-2018 Final DORA minus 2016-2017 1st DORA divided by 2016-2017 1st DORA (Sonday = 108%, non-Sonday = 155%), and (c) 2018-2019 Final DORA minus 2016-2017 1st DORA divided by 2016-2017 1st DORA (Sonday = 198%, non-Sonday = 218%).
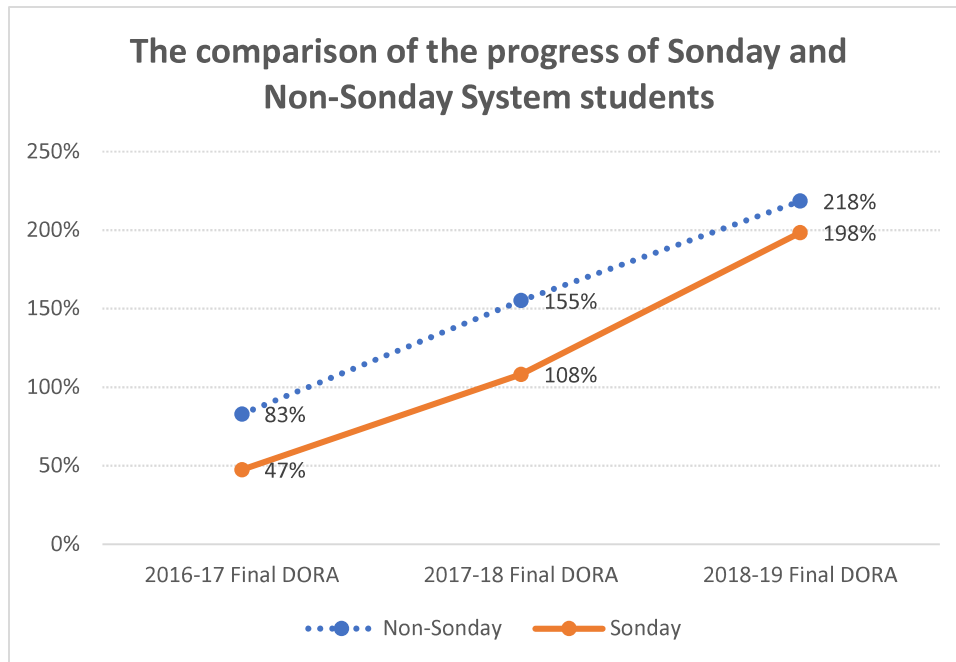
Figure 3: The comparison of the progress of Sonday and non-Sonday System students

Importantly, there was a reduction in the gap between students who were typically developing and those who were considered struggling readers over the three years studied. Struggling readers who participated in the Sonday System intervention showed greater gains in reading scores that narrowed the gap between their scores and those of typically developing readers who did not use the Sonday System.

LIMITATIONS

Although correlational research can suggest a relationship between two variables, it cannot prove a causal effect of one variable on the other. The data for this study were collected by school personnel and not controlled by the researchers. Missing data prevented some cases from being counted in this study. Correlational studies only allow for the use of complete data sets. Further, correlational studies are useful for descriptive statistics and for making inferences, but do not control other outlying variables.

SUMMARY

Significant correlation was found between use of the Sonday System for reading intervention and improved reading achievement scores. The improvement narrowed the reading achievement gap between typically developing readers who did not use the Sonday system and struggling readers who did. The mean score for the students who used the Sonday System for reading intervention increased by 32% over the scores of a comparison group of students participating in the general reading curriculum only. The findings indicate that the increased scores were associated with the use of the Sonday System for reading intervention. The promising evidence found in this study meets the Tier 3 level of the *Every Student Succeeds Act* (ESSA, 2015).

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Reading Research and the Sonday System®

How the Sonday System® aligns with reading research and how Winsor Learning programs and professional development help schools apply evidence-based strategies in their classrooms.

Reading Research and the Sonday System®

Linking reading research, Orton-Gillingham and the Sonday System®

The National Reading Panel (NRP) conducted meta-analysis on over 2500 reading studies conducted since 1966 (*National Reading Panel: Report of the subgroups, 2000*). Based on this analysis, the panel identified five elements of instruction (phonological awareness, phonics instruction, fluency, vocabulary and comprehension) that need to be included in reading programs for them to be successful with struggling students. The National Reading Panel and the National Institute of Child Health and Human Development worked with organizations like the University of Oregon and the Florida Center for Reading Research to provided tools to evaluate instructional programs for the five elements.

Educational experts in industry leading organizations such as the National Center for Learning Disabilities, the International Dyslexia Association and Reading First offices in several states have evaluated the Sonday System® and deemed that the program contained the required elements identified by the NRP. Information on how to access the analysis reports from NCLD and IDA are attached to this document.

Reading research studies conducted over the past 70 years have included the Orton-Gillingham method. Studies sited were in 1940, 1956, 1969, 1979 and 1984. NRP identified Orton-Gillingham as one of the effective methodologies that address the needs of struggling students (*National Reading Panel, Report of the subgroups, 2000*).

Careful analysis shows that the Sonday System® follows the teaching methodology of Orton-Gillingham closely. The Author of the Sonday System®, Arlene Sonday is a Founding Fellow and first president of the Academy of Orton-Gillingham Practitioners and Educators, the only Orton-Gillingham credentialing organization. She is an adjunct professor at Hamline University and Fairleigh Dickinson University, two institutions that are leaders in Orton-Gillingham instruction training.

Ms. Sonday tutored students, consulted with schools, and authored as well as taught Orton-Gillingham courses over 35 years and found that competent teachers and tutors were experiencing difficulty transitioning into classroom settings. They did not have time to write the learning plans and create the curriculum. For this reason she wrote the lesson plans and, with Winsor Learning, created the Sonday System®. Providing these tools enables teachers to shorten training time and continue the learning process while delivering quality instruction.

References

Report of the National Reading Panel: Teaching Children to Read. Report of the Subgroups. National Institute of Child Health and Human Development, National Institutes of Health, U.S. Department of Health and Human Services, NIH Pub. No. 00-4754, April 2000.

The Sonday System® and the Reading Research

The Sonday System® has been successful because the materials and training have been carefully crafted to underline incorporate the essential components of reading. For example, phonological awareness is necessary for children to be able to manipulate phonemes used in rhyming, segmenting, and blending words—a skill that must be automatic for later reading comprehension to occur (Samuels, 1994). Phonological awareness can be fostered by engaging children in such activities as listening games, rhyming games, syllable clapping, and sentence segmentation that engage children in playing with verbal language and help build the foundation for mapping sounds to letters and words and learning the purpose and form of print (Fernandez-Fein & Baker, 1997; Adams et al, 1988; Pressley, 1998). The Winsor Learning training consultants ensure phonological awareness knowledge by showing teachers, with the strategies in the instructional materials, how to directly teach students to develop phonological listening skills, recognize onset sounds and rimes, segment and combine sounds into words, separate sentences into words and words into syllables and sounds, and begin to manipulate speech sounds. Sonday System® materials include flash cards, songs, listening activities, and games to help students master these skills.

Systematic synthetic phonics instruction has been shown to produce a significant impact on reading growth (National Reading Panel, 2000). In the Winsor Learning training, activities are provided to teach students to develop the sound-symbol correspondences needed for basic word reading. Through the structured and systematic use of tools in the Sonday System® such as flash cards, words lists, word games, phrase and sentence reading, and short stories, teachers are able to teach students to effectively blend phonemes and letters, master the sound-symbol relationships needed for basic reading, and apply effective word reading strategies to unfamiliar and sight words.

The system integrates a systematic spelling component throughout the program so that students routinely practice spelling the words they read. This reading-spelling connection is critical because when "reading and spelling are taught together progress is faster, learning is more secure, and the learner becomes a writer as well as a reader. It offers an opportunity for kinesthetic/tactile practice through tracing and writing and it provides immediate diagnostic information regarding which sounds, rules and concepts have been learned" (Sonday, 2002). This intentional integration between spelling and reading reinforces the reading-writing connection, allows students to become more proficient at spelling, and strengthens students' confidence in writing. Teachers can then expand the spelling activities to extended writing assignments for students. Furthermore, reading phrases, sentences, and stories allow students to apply the phonics skills they are learning to meaningful contexts rather than relying exclusively on isolated word reading.

Teachers can also integrate the materials into word walls, pocket charts, or other language-based strategies that are currently a part of their school program.

For reading to be meaningful, children must be able to read fluently. This automaticity is critical for later reading comprehension (LaBerge and Samuels, 1974). Teachers are trained to incorporate fluency into instruction by using Rapid Naming, single word reading, sentence reading, and repeated oral reading of text. <u>Fluency</u> is introduced systematically, first with automaticity exercises (Rapid Naming), sometimes requiring the simplicity of shapes, colors, numbers, letter names, and letter sounds particularly in Early Childhood instruction. Then students start <u>fluency</u> practice for sounds and words at Level 1 of Sonday System® 1. Beginning in Level 5 of Sonday System® 2, the teachers are trained to use repeated oral reading to practice and monitor reading fluency. In addition, teachers are trained to use the Mastery Check for reading and spelling, used with every third level of instruction as an in-classroom benchmark or progress monitoring tool. Students practice guided reading, choral reading, partner reading, and monitored oral reading on controlled texts and leveled readers to build student success and ensure mastery. In order to build fluency, automaticity skill drills are incorporated in the program.

Students need to be able to understand the <u>vocabulary</u> they read to obtain meaning from the text. Research shows students learn vocabulary best when they have repeated exposures to new words (Senechal, 1997; Daniels, 1994, 1996) and when these words are learned in appropriate contexts (Beck, McKeown, Beck, Hamilton, & Kugan, 1988; Dole, Sloan, & Trathen, 1995). Vocabulary is stressed in on-site follow-up coaching (National Reading Panel, 2000). Winsor Learning coaches train teachers to use both direct and indirect instructional strategies and help teachers know when to restructure vocabulary tasks for low-achieving readers. Indirect methods for students include listening to text, engaging in daily oral language, and reading books, stories, or word lists. Direct methods include teaching word meanings through prefixes, roots, suffixes, and understanding of language origins, e.g. Latin, Greek, Anglo-Saxon, and Germanic. Additional strategies covered in the training model include: analysis of word parts, comparison, opposites, synonyms, multiple meanings, semantic and relational categories, word relatedness, visualizing and game playing. Winsor Learning understands, practices, and recommends using a combination of strategies rather than relying on one strategy for teaching vocabulary.

Finally, teachers need to include <u>comprehension strategies</u> to help children become independent readers. Winsor Learning coaches, by means of ongoing, sustained professional development, train teachers to use a variety of strategies through explanation, demonstration, and role-play. These strategies are covered in the initial training and progress throughout follow-up coaching sessions. These explicitly taught strategies include cooperative learning, mnemonics and mental imagery, question generating and question answering, psycholinguistic strategies and summarization, defining picture and listening comprehension, developing critical thinking skills,

retelling, clarifying, predicting, and story structure. These strategies are consistent with those recommended by the National Reading Panel (2000).

Written response to reading can greatly enhance comprehension, but poor readers must have their writing skills developed sequentially and cumulatively. Writing improves when students practice answering specific question types, elaborating subjects and predicates, combining simple sentences, constructing clauses, and linking sentences into organized paragraphs. These are the building blocks of clear writing (Moats, 2001). Winsor Learning provides instructional materials and training for systematic, explicit writing instruction. The writing instruction is incorporated into lesson plans early to reinforce writing skills, vocabulary and comprehension. Even as students develop the building blocks for writing, shared and modeled writing helps them transcend the daunting challenges of generating and organizing their thoughts. Rather than turning students loose to face a blank piece of paper, the instructor models and demystifies the composition process. Students are thus guided to compose independently.

The Winsor Learning methods and materials have been compiled to support teachers to effectively use all of these strategies and to bring students to grade level. The methods are based on Orton-Gillingham instruction principles that have been well documented over time in raising student achievement.

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Research Memo

Topic: Programs Referenced in the National Reading Panel Report

Issue Statement: Proven Instructional Practices as per the Reading Research.

BACKGROUND

Report of the National Reading Panel: Teaching Children to Read. Report of the Subgroups. National Institute of Child Health and Human Development, National Institutes of Health, U.S. Department of Health and Human Services, NIH Pub. No. 00-4754, April 2000. This is a 480-page report.

- (There is also a 35- page summary report of the National Reading Panel: *Report of the National Reading Panel: Teaching Children to Read.* National Institute of Child Health and Human Development, National Institutes of Health, U.S. Department of Health and Human Services, NIH Pub. No. 00-4769, April 2000.)

- "In 1997, Congress asked the 'Director of the National Institute of Child Health and Human Development (NICHD), in consultation with the Secretary of Education, to convene a national panel to assess the status of research-based knowledge, including the effectiveness of various approaches to teaching to read.'" (Summary report, p. 1)

- "An examination of a variety of public databases by Panel staff revealed that approximately 100,000 research studies on reading have been published since 1966, with perhaps another 15,000 appearing before that time. . . .Selection of prioritized topics was necessitated by the large amount of published reading research literature relevant to the Panel's charge to determine the effectiveness of reading instructional methods and approaches." (Summary report, p 1)

- Following the regional hearings [where the Panel received oral and written testimony from approximately 125 individuals or organizations representing citizens], the Panel considered, discussed, and debated several dozen possible topic areas and then settled on the following topics for intensive study: **(1) Alphabetics** (Phonemic Awareness Instruction and Phonics Instruction),**(2) Fluency (3) Comprehension** (Vocabulary Instruction, Text Comprehension Instruction, Teacher Preparation and Comprehension Strategies Instruction), **(4) Teacher Education and Reading Instruction,** and **(5) Computer Technology and Reading Instruction.** (Summary report, pp 2 - 3).

- "**Findings and Determination-**The meta-analysis revealed that systematic phonics instruction produces significant benefits for students in kindergarten through 6th grade and for children having difficulty learning to read. . . . Systematic synthetic phonics instruction [teaching students explicitly to convert letters into sounds (phonemes) and then blend the sounds to form recognizable words.] . . .had a positive and significant effect on disabled readers' reading skills.
    - "Moreover, systematic synthetic phonics was significantly more effective in improving low socioeconomic status (SES) children's alphabetic knowledge and

word reading skills than instructional approaches that were less focused on these initial reading skills."(Summary report, p. 9)

- o "The conclusion drawn is that specific systematic phonics programs are all more effective than non-phonics programs and they do not appear to differ significantly from each other in their effectiveness although more evidence is needed to verify the reliability of effect sizes for each program." (*Report of the Subgroups*, p. 2-132**)**

SPECIFIC READING PROGRAMS EVALUATED BY RESEARCH GROUPS

"**Methodology**": The following phonics programs ". . . were evaluated in at lease three different studies (Direct Instruction; Lippincott; Orton Gillingham; Sing Spell Read and Write; Benchmark Word ID; New Primary Grades Reading System)" (*Report of the Subgroups*, p. 2-91)

- "In the database were seven phonics programs whose effectiveness was assessed in at least three different treatment-control group comparisons. All but one of the programs, Lovett's analogy program, taught synthetic phonics. These programs together with the dates of publications are listed below:

  - o Direct Instruction, also referred to as DISTAR and Reading Mastery (1969, 1978, 1979, 1980, 1987, 1988)
  - o Lovett's adaptation of Direct Instruction (1994)
  - o Lovett's adaptation of the Benchmark Word Identification program (1994)
  - o The Lippincott Basic Reading program (1963, 1981)
  - o Beck and Mitroff's New Primary Grades Reading System (1972)
  - o Orton Gillingham programs (1940, 1956, 1969, 1979, 1984)
  - o Sing, Spell, Read, and Write (1972)"
    (*Report of the Subgroups*, p. 2-105)

- "The conclusion drawn is that specific systematic phonics programs are all more effective than non-phonics programs and they do not appear to differ significantly from each other in their effectiveness although more evidence is needed to verify the reliability of effect sizes for each program." (*Report of the Subgroups*, p. 2-132**)**

- "Findings provided solid support for the conclusion that systematic phonics instruction makes a more significant contribution to children's growth in reading than do alternative programs providing unsystematic or no phonics instruction." (*Report of the Subgroups*, p. 2-132)

National Center for Learning Disabilities Report

Research Roundup

Early Reading Instruction:
So What Exactly am I Supposed to Do?

By Dr. Sheldon H. Horowitz
NCLD Director of Professional Services

Back in October 2004 my column introduced "CBM" (Curriculum-Based Measurement) as a way for educators to gather precise information about what their students know; record (chart) these data, and measure their learning progress over time. The good news about CBM is that by targeting and sampling performance in specific skill areas, teachers can choose instructional materials and implement teaching strategies that attack students' areas of need. Less guesswork, more purposeful instruction, better results. Sounds like a plan, right?

So let's take the next step together and ask some guiding questions:

- Once we've identified skills that are lacking, what exactly are we supposed to do?
- How do we select materials (from the thousands of choices available) that have the best likelihood of helping students learn?
- What conditions (in school and at home) are likely to enhance the acquisition and retention of newly learned skills?

The answers to these questions are your keys to success:

- Decide what your students need to learn and let this be your explicit focus of attention.
- Select appropriate materials, provide systematic and explicit instruction, and use data to monitor progress.
- Engage EVERYONE who is close to these children in opportunities to provide practice and reinforcement and support.

Let's decide, for example, that reading in pre-kindergarten and the early grades is your explicit area of focus. A good place to start might be to address the five components of reading identified by the National Reading Panel (NRP) as "necessary" (but not sufficient) to the reading process. Once you know where children are in their mastery of skills in the areas of *phonemic awareness (PA), systematic phonics (PH), fluency (F), vocabulary (V), and text comprehension (C)*, you can begin to select materials and instructional approaches that will assist you in helping students develop competencies in these essential areas.

Here are a few research-based strategies and approaches to teaching reading that have been mentioned in the professional literature. They are offered as possible options as you search for products and programs to assist you in achieving your goals with students in your classrooms. These products are not endorsed or recommended by NCLD. That's your decision to make based on your individual classroom needs. And be sure to reach out to others including:

- Professionals in your local school community (i.e. reading specialists, psychologists, special educators, speech-language pathologists, school administrators and counselors).
- Experts who have published studies or presented at conferences. (They are often available by e-mail with contact information found on the Web.)
- Educational publisher representatives. (They are usually eager to provide information and technical assistance about their products.)

National Center for Learning Disabilities Report (cont.)

Program or Strategy	NRP Components					For More Information
	PA	PH	F	V	C	
Earobics	✔					http://www.earobics.com
Fundations		✔	✔	✔		http://www.fundations.com
Great Leaps			✔	✔		http://www.greatleaps.com
Language!	✔	✔	✔	✔	✔	http://www.language-usa.net
Let's Play Learn	✔	✔	✔	✔	✔	http:www.winsorlearning.com/winsorshop/10Expand.asp?ProductCode=sslpl_kit
LIPS: The Lindamood Phoneme Sequencing Program	✔	✔				http://www.agsnet.com/Group.asp?nMarketInfoID=42&nCategoryInfoID=2659&nGroupInfoID=a11420
Open Court	✔	✔			✔	http://www.sraonline.com/index.php/home/curriculumsolutions/reading/ocr/622
Orton - Gillingham Institute for Multi-Sensory Education	✔	✔				http://www.orton-gillingham.com
Project Read		✔			✔	http://www.projectread.com
Reading Recovery			✔	✔	✔	http://www.readingrecovery.org
Read, Write & Type!			✔	✔	✔	http://www.readwritetype.com
Reading Mastery Plus	✔	✔	✔	✔	✔	http://www.sraonline.com/index.php/home/curriculumsolutions/di/rmplus/101
REWARDS		✔	✔			http://www.rewardsreading.com
The Slingerland Approach		✔	✔			http://www.slingerland.org
The Sonday System	✔	✔	✔	✔	✔	http://www.sondaysystem.com/products/ss1.shtml
The Spaulding Method		✔	✔		✔	http://www.spalding.org
Voyager Passport	✔	✔	✔	✔	✔	http://www.voyagerlearning.com/passport/index.jsp
The Wilson Reading System	✔	✔	✔	✔	✔	http://www.wilsonlanguage.com/w_wrs.htm

Other helpful resources:
Birsh, Judith R. (1999). Multisensory Teaching of Basic Language Skills. Paul H. Brookes Publishing. Baltimore, MD.
Henry, Marcia K. (2003). Unlocking Literacy: Effective Decoding & Spelling Instruction. Paul H. Brookes Publishing. Baltimore, MD.
Moats, Louisa Cook, (2000). Speech to Print: Language Essential for Teachers. Paul H. Brookes Publishing. Baltimore, MD.
Shaywitz, Sally. (2003). Overcoming Dyslexia: A New and Complete Science-Based Program for Reading Problems at Any Level. Alfred A. Knopf. New York, NY.
Wood, Tracey. (2004). Teaching Kids to Read for Dummies. Wiley Publishing. New York, NY.
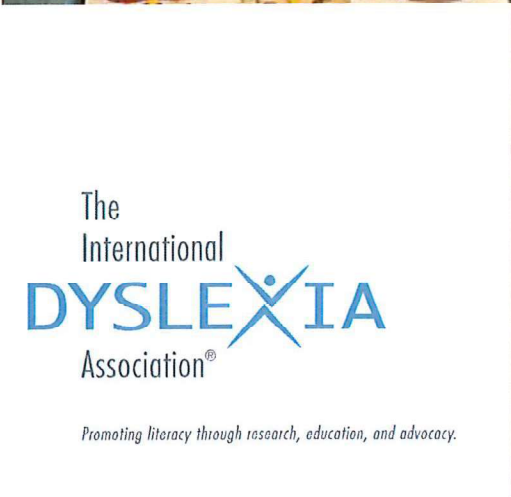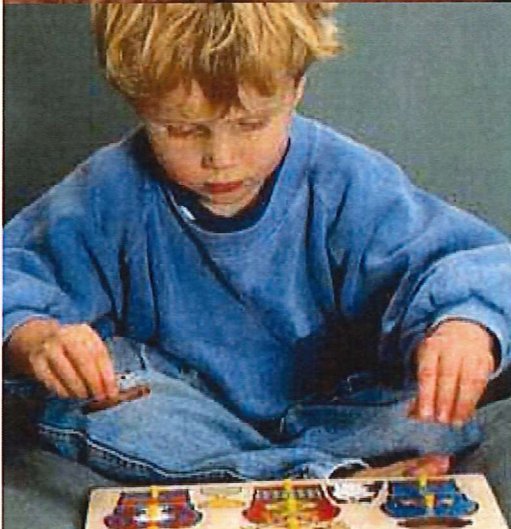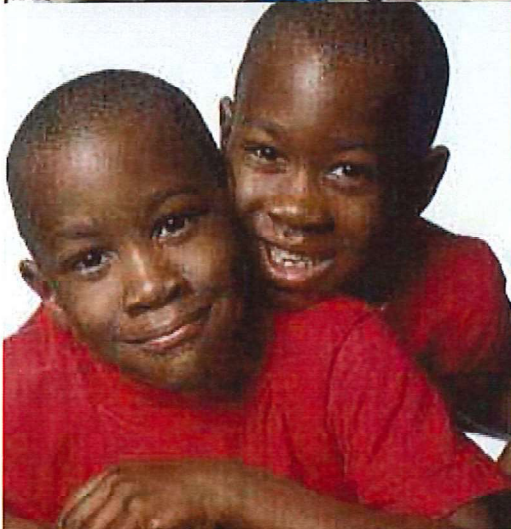
International Dyslexia Association Report

Matrix of Multisensory Structured Language Programs
The document is available at the following internet address:
http://www.interdys.org/InsInt.htm

Framework for Informed Reading and Language Instruction

Matrix of Multisensory Structured Language Programs

The International **DYSLEXIA** Association®

Promoting literacy through research, education, and advocacy.

This comparison matrix of multisensory, structured language (MSL) programs enables consumers to see the similarities and differences among various approaches that are widely used throughout the United States.

Why was the Matrix Developed?

The International Dyslexia Association (IDA) works diligently to provide information to the public regarding informed, evidence-based reading instruction and professional development for teachers and intervention specialists. IDA fully supports the work of The Alliance for Accreditation and Certification of Structured Language Education, Inc. (The Alliance, www.allianceaccreditation.org), the International Multisensory Structured Language Education Council (IMSLEC, www.imslec.org) and The Academy of Orton Gillingham Practitioners and Educators (AOGPE, www.ortonacademy.org). These organizations represent institutes and agencies that design and provide instructional materials and training regarding language-based learning problems. IDA's Board, in turn, includes the Professional Development for Informed Practice (PDIP) Committee, which supports informed instruction of children and adults who experience difficulty learning to read and write. IDA intends to help school decision-makers, practicing educators, and parents gain access to one or more of the many effective sequential, multisensory, structured language programs.

Why These Programs?

These programs were chosen for inclusion in the matrix because they have a long history of use in clinics and classrooms. Over many years of development in clinical and classroom settings, these programs, when properly implemented, have been successful in teaching students to read, write, and use language. Each program has been repeatedly tested by practitioners who have met the training standards required for implementation. Each has been refined over many years of clinical and classroom use. Each embodies similar principles of instructional design. And each places strong emphasis on the necessity for teacher knowledge and teacher training. Programs vary, however, in the extent to which they have been included in scientifically conducted intervention studies. Additional materials and programs may be added to the matrix, or included in a similar matrix in the future, as evidence permits.
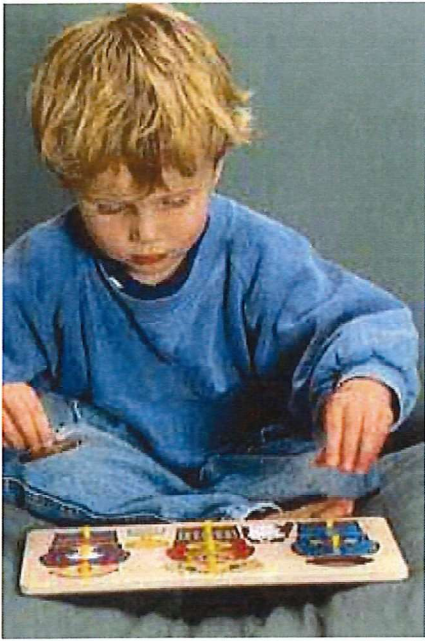
Who are the Programs For?

Current policies regarding the allocation of instructional resources in schools are promoting the idea of a "three-tier" system of instruction. In the three-tier system, students who are falling behind are placed in small groups for remediation (tier two). After progress monitoring, those who are not responding well to classroom or small group instruction are considered to be "treatment resisters," or students with potential learning disabilities (tier three).

Approaches included in the matrix are those used at every "tier" of student ability. Some are designed for whole class instruction and are used preventatively to keep children from experiencing academic failure (tier one). Some are designed for small group intervention (tier two). And some provide more intensive instruction and are favored by clinicians who work with students with severe reading disabilities.

Are These the Only Programs for Treatment of Reading and Language Problems?

This matrix of widely used programs does not include all of the programs that have been proven effective in remediating reading disabilities or preventing reading problems in "at risk" children. Research on early intervention and prevention of reading disabilities has been conducted with many other instructional materials and programs that are not included in the matrix (see references). Additional reviews of instructional and intervention programs can be found on the website of the Florida Center for Reading Research (www.fcrr.org).

Are These Programs Research-Based or Evidence-Based?

The best studies of program effectiveness report the characteristics of the students in the study, the duration and intensity of the intervention, the training and skill of the teachers, the fidelity of program implementation, and the exact methods that were used. They also measure student outcomes multiple times during intervention with several valid, accepted assessments. Such research is expensive and complex, and many effective, clinically tested programs exist that have not been included in rigorous comparison studies. Some programs in the matrix are in that category. Other programs, not on the matrix, have been proven effective for teaching specific skills to certain kinds of children at particular stages of reading development, but do not identify themselves as MSL programs. Each program will provide the existing evidence for effectiveness on request. In summary, the effectiveness of some of the programs on the matrix is established by scientific standards, and the effectiveness of others is established through clinical use over time. The matrix does not include all programs with demonstrated effectiveness.

What Program Characteristics Are Most Important?

Intervention and remediation researchers report over and over that the most effective programs of instruction, at all ages, explicitly address multiple components of oral and written language learning in an integrated manner. These components include: phonological awareness; vocabulary development; reading comprehension skills and strategies; beginning and advanced decoding skills, with spelling included; reading fluency; handwriting; grammar; written composition; and strategies for learning. Certain programs that have been validated by research target some of these components, but the strongest contain lesson formats in which these components are interrelated and taught in parallel strands. In addition to teaching the content strands, effective approaches are explicit, systematic, multisensory, and cumulative.

Interested consumers should contact program websites or program offices for specific information on research supporting the approach, and for other key information. Many of these programs provide websites, videos or DVDs explaining their unique characteristics.
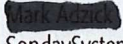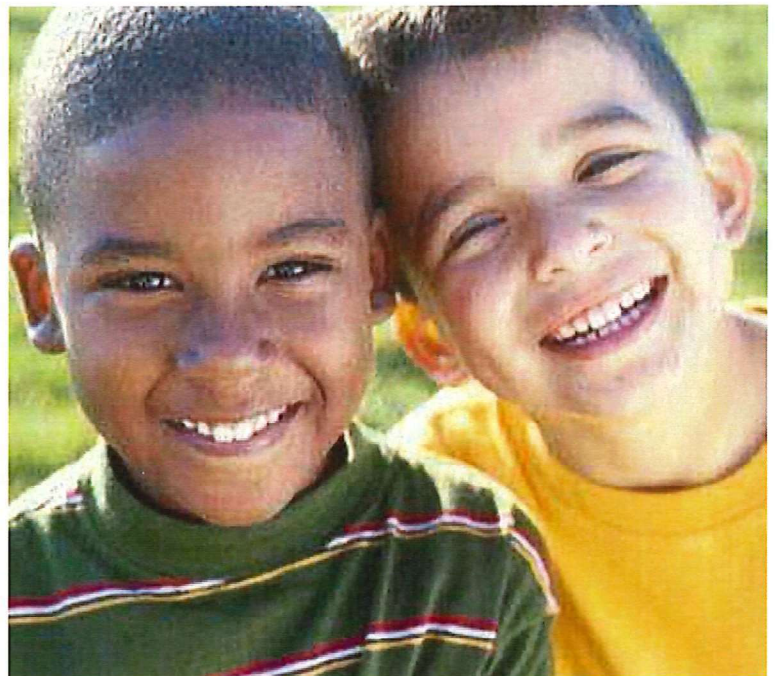
Codes Used in the Matrix
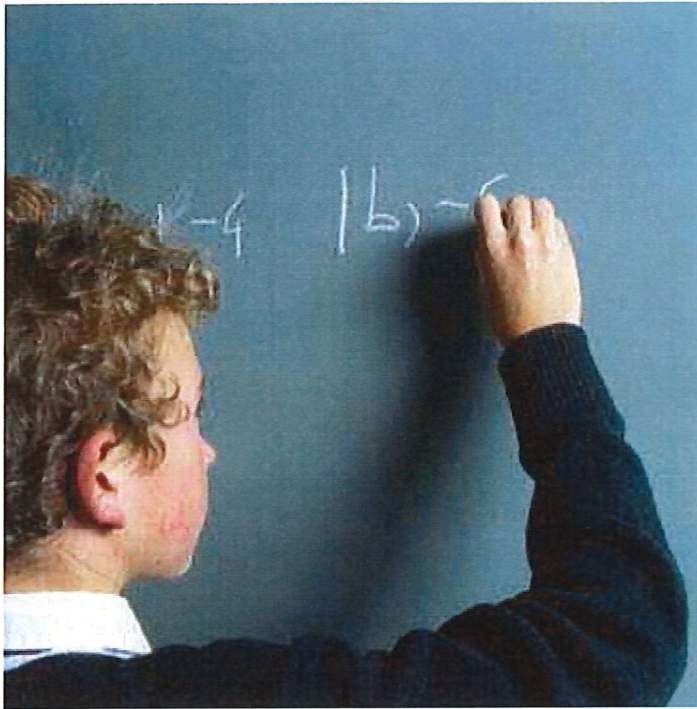
The matrix contains codes regarding the following program characteristics: type of program (prevention, intervention/ remediation, or general); type of delivery (1-1, small group, or classroom instruction); intensity; multi-sensory drill procedures; components of instruction, (phonemic awareness, phonics [including spelling], fluency, comprehension [including vocabulary], written expression [hand-writing and constructing text]); level of professional development provided; research evidence of program-efficacy; and contact information.

Key to Alphabetic Symbols

Type of Program: **P** Prevention, **R** Intervention/Remediation, **G** General Instruction

Type of Delivery: **I** Individual, **G** Small Group, **C** Classroom
____ Intensity
(# of hours per week)

Multisensory Drill Procedures: **A** Auditory, **V** Visual, **K-t** Kinesthetic-tactile Reinforcement **B** Card Blending

Instruction:
Phonemic Awareness: **PA**

Phonics: **D** Decoding, **S** Syllables, **M** Morphemes, **I** Irregular Words, **Sp** Spelling

Fluency: **W** Words, **P** Phrases, **T** Connected Text

Comprehension: **V** Vocabulary, **T** Text Comprehension, **N** Narrative Text **E** Expository Text
____ Text levels (range of grade levels)

Written Expression:
Handwriting: **M** Manuscript, **C** Cursive

Constructing Text: **S** Sentence Level, **P** Punctuation, **N** Narrative Composition, **E** Expository Composition

Professional Development: **C** Certification

Levels of Training: **I** Introductory, **A** Advanced, **F** Follow-up for teachers

Levels of Trainers: **C** Coaching, **A** Area Trainer, **N** National Trainer, **T** Trainer of Trainers

Supervised Practicum: Yes or No

Distance Learning: **O** Online Courses, **W** Webcast

Research Evidence: **R** Response to Intervention, **QE** Quantitative/ Empirical Research **QC** Qualitative/Case Study Research

Lindamood-Bell	Project Read	Slingerland	Sonday System	Sounds In Syllables	Spalding Method	Starting Over	Wilson Fundations & Wilson Reading
P, R, G	P, R, G	P, R, G	P, R, G	P, R, G	P, R, G	P, R	P (fdns), R, G
I, G, C	I, G (2-10)	I, G, C (1-25)	I, G, C		I, C, G	I, C, G (1-30)	I, G, C (1-15)
5X, 20 min.- 6hr.	2-5X wk.	Daily lang. arts	2-5X wk.	1 hr. 4-5X wk.	2 hrs. 5X wk.	Opt. 45 min./day Min. 1.5 hrs./wk.	Fdns: 5X wk., 30 min. WR: 5X wk., 90 min. opt. Min. 2X wk., 60 min.
	A, V, K-t, B	A, V, K-t, B	A, V, K-t, B	A, V, K-t, B	A, V, K-t, B	A, V, K-t, B	A, V, K-t, B
PA	PA	PA	PA	PA	PA	PA	PA
D, S, M, I, Sp	D, S, M, I, Sp	D, S, M, I, Sp	D, S, M, I, Sp	D, S, M, I, Sp	D, S, M, I, Sp	D, S, M, I, Sp	D, S, M, I, Sp
W, P, T	W, P, T	W, P, T	W, P, T	W, P, T	W, P, T	W, P, T	W, P, T
V, T, N, E gr. preK-12	V, T, N, E gr. preK-12	V, T, N, E	V, T, N, E grades K-12	V, T, N, E	V, T, N, E	V, T, N, E	Fun: V, T, N WR: V, T, N, E
M, C	M, C	M, C	M, C	M if nec., C	M, C	M, C	M, C
S, P, N, E	S, P, N, E	S, P, N, E	S, P Gen. Writing	S, P, N, E	S, P, N, E	S, P, N, E	S, P
C - 4 levels	C	C	C	C - 2 levels	C	C	C (WR) - 3 levels
I, A, F	I, A, F	I, A, F	I, A, F	I, A, F	I, A, F	I, A, F	I, A, F
C, A, N, T	C, A, N, T	IMSLEC Instructor	C, A, N, T	Therapy Level			Trainer Level
Yes		Yes	Yes	Yes	Yes	Yes	Yes
W		Pilot Project					O
R, QE, QC Ck Lindamood-Bell	R, QE, QC Ck Project Read	R, QC Ck Slingerland	R, QE, QC Ck Sonday	R, QC Ck SIS	R, QC Ck Spalding	R, QC Ck Starting Over	R, QC, QE Ck Wilson
Paul Worthington Lindamoodbell.com	Greene/Wright Projectread.com	Slingerland.org	Mark Adzick SondaySystem.com	Sandra Dillon	Mary E. North Spalding.org	Joan R. Knight	Barbara Wilson wilsonlanguage.com
805-541-3836	952-884-4880	425-453-1190	800-321-7585	505-881-0026	602-866-7801	212-769-2760	800-899-8454, x401
Lindamood-Bell 416 Higuera St. San Luis Obispo, CA 93401	Project Read PO Box 20631 Bloomington, MN 55420	Slingerland ® Inst. For Literacy 1 Bellevue Ctr. 411 108th Ave. NE Bellevue, WA 98004	Winsor Learning 1620 W. 7th St. 3001 Metro Dr. St. Paul, MN 55102 ste 480 Bloomington MN 55104	SIS 3915 Carlisle Blvd. N.E. Albuquerque, NM 87107	Spalding 2814 W. Bell Rd. Suite 1405 Phoenix, AZ 85053	Starting Over 317 W. 89th St. #9E New York, NY 10024	Wilson Language 124 High St. Newburyport, MA 01950
LiPS Program® Nancibell ® Seeing Stars ® Visualizing & Verbalizing ® for Language Comp. and Thinking ®	Complete Lang. Arts program; Staff Dev. K-12 curriculum; effective w/ reg. & spec. needs learners	Designed for classroom; strong hand-writing component Slingerland ® Screening Tests; no spec. mat'ls	All mat'ls inc.; recommended for ELL; on-going, in-class, assessment; student driven pacing	Strong emphasis on syllable unit for rdg. & sp.; mat'ls appropriate all ages inc. adult	Precise hand-writing for establ. letter-sound relationships; sequence goes from PA to wrtg/ spelling to rdg.	IMSLEC accred.; Curricula K-Adult; also program for children 6-16 w/ their parents	Fundations: Geared to children K-3; Wilson Reading: upper elementary & adult with extensive controlled text for older students

	Orton-Gillingham Approach	Alphabetic Phonics	Association Method	Language!	Lexia-Herman Method
Type of Program	P, R	R	R	P, R, G	R
Type of Delivery	I, G	I, G (up to 10)	I, G, C	I, G, C (1-20)	I, G
Intensity	2-5X, 2hrs.	4-5X, 45-60 min.	Min. 2 hrs./wk. Max. 35 hrs./wk.	5X, 1-2 hr.	50 min. 5X wk.
Multisensory Procedures - Drills	A, V, K-t, B	A, V, K-t, B	A, V, K-t, B	A, V, K-t, B	A, V, K-t, B
INSTRUCTION Phonemic Awareness	PA	PA	PA	PA	PA
Phonics	D, S, M, I, Sp	D, S, M, I, Sp	D, S, M, I, Sp	D, S, M, I, Sp	D, S, M, I, Sp
Fluency	W, P, T	W, P, T	W, P, T	W, P, T	W, P, T
Reading Comprehension Text Level	V, T, N, E	V, T, N, E	V, T, N, E	V, T, N, E primer- gr. 10	V, T, N, E 2-adult
Written Expression					
Handwriting	M, C	C	C	M, C	C
Constructing Text	S, P, N, E	S, P, N, E	S, P, N, E	S, P, N, E	S, P, N, E
PROFESSIONAL DEVELOPMENT	C - 3 levels	C - 4 levels	In Process	C	C
Levels of Training	I, A, F	I, A, F	I, A, F	I, A, F	I, A, F
Levels of Trainers	Ck AOGPE	C, A, N, T	IMSLEC Levels	C, A, N, T	C, A, N, T
Supervised Practicum	Yes	Yes	Yes	Yes, in-class	Yes
Distance Learning	O-G subscriber level	At some centers	In development		O, W
Research Evidence for Efficacy	QC, QE Ck AOGPE	R, QE Ck ALTA	R, QE, QC Ck Assoc.	R, QE, QC Ck L!	R, QC Ck Lexia-Herman
Contact Information www.	Priscilla Hoffman OrtonAcademy.org	Nancy Coffman ALTAread.org	Maureen Martin usm.edu/dubard	S. Ashmore SoprisWest.com	R. F. Reinhert Hermanmethod.com
Phone	845-373-8919	214-559-7800	601-266-5223	800-547-6747	800-435-3942
Address	AOGPE PO Box 234 Amenia, NY 12501-0234	Nancy Coffman TSRH/LWCDC 2222 Wellborn Dallas, TX 75219	USM Dubard SLD 188 College Dr. #10035 Hattiesburg, MS 39406	Sopris West 4093 Specialty Pl. Longmont, CO 80504	LexiaHerman PO Box 466 Lincoln, MA 01773
Unique Features	Original MSL program for dyslexic learners; most other MSL programs are based on Orton-Gillingham	ALTA certifies individuals, ALTA Centers accredits centers	Precise artic of phonemes; cursive script; ext. auditory training; delayed use of phonetic rules	Comprehensive literacy curric., inc. reading, writing, spelling, grammar; ESL included	Blind writing, behind back writing; sight word rdg to metronome; practice software

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THE UNIVERSITY OF ARIZONA

RE: The Sonday System

As a researcher and author, I consult with school districts around the country on a regular basis. I have often been approached with the following question: Is the Sonday System an evidence-based reading intervention? Based on my understanding of reading development and reading difficulties, the Sonday System is an evidence-based program that is derived from the principles of the Orton-Gillingham approach. The Sonday System provides explicit, systematic, direct, multisensory instruction to students, all of which are considered the essential elements of evidence-based reading instruction. We provide a more detailed presentation of these findings in our book *Essentials of Dyslexia Assessment and Intervention* published by John Wiley & Sons (Mather & Wendling, 2012).

Sincerely,

Nancy Mather

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DR. NANCY MATHER is a Professor of Special Education at the University of Arizona in the Department of Disability and Psychoeducational Studies. She has served as a learning disabilities teacher, a diagnostician, a university professor, and an educational consultant. She has published numerous articles and books and conducts workshops on assessment and instruction both nationally and internationally. Dr. Mather is a co-author of the Woodcock-Johnson IV Assessment and has co-authored two books on interpretation and application of the WJ IV. Other recent books are Essentials of Dyslexia: Assessment and Intervention (Mather & Wendling, 2012), and Learning Disabilities and Challenging Behaviors (Mather, Goldstein, & Eklund, 2015).