

Reading Corps Research Base – PreK Model

This document provides the evidence-base for the Reading Corps PreK model. Specifically, research supporting the assessment tools and strategies, early literacy interventions, and the importance of coaching, are presented within a Response To Intervention (RTI) framework.



Response To Intervention:

Response To Intervention (RTI) is an instructional framework that systematically utilizes assessment data to make instructional decisions, as well as decisions regarding resource allocation (Burns & Gibbons, 2008; Fuchs & Fuchs, 2006; Fuchs, Fuchs, & Compton, 2012). As such, RTI is placed within the general education context because it requires quality core instruction for all students (Tier 1), and calls for universal screening for all students. The assessment data collected in Tier 1 allows educators to determine whether students require additional support to reach proficiency in a particular academic skill area (i.e., reading and math). The Reading Corps model aligns well with the RTI framework because the data-based decision making model identifies which students need Tier 1, Tier 2 and/or Tier 3 support based on their screening data and provides a toolbox of early literacy interventions. Research has demonstrated the effectiveness of this approach at reducing special education referral rates (Marston, et al., 2003; Bollman, Silbergliitt, & Gibbons, 2007; Burns & Gibbons, 2008; VanDerHeyden, Witt, & Gilbertson, 2007), and improving reading outcomes (Callender, 2007; Gettinger & Stoiber, 2007; O'Connor, Harty, & Fulmer, 2005; Vellutino, et al., 2008).

Assessment:

Curriculum-based Measurement (CBM) is a general outcome measure that is accurate, efficient, and sensitive to growth (Deno, 1986; Deno, 2005; Deno, Mirkin, & Chiang, 1982). Over twenty years of research has found evidence for the validity and reliability of CBM tools (Baker, Smolkowski, Katz, Fien, Seeley, Kame'enui, et al., 2008; Burke & Hagan-Burke, 2007; Deno, 1986; Fuchs et al., 2004; Good, Simmons, & Kame'enui 2001; Hintz, Callahan, Matthews, & Williams, 2002; Howe, Scierka, Gibbons, & Silbergliitt, 2003; Marston & Magnusson, 1988; Shinn, Good, Knutson, Tilly, & Collins, 1992; Wayman, Wallace, Wiley, Ticha, & Espin, 2007).

The Reading Corps PreK model uses the Individual Growth and Developmental Indicators (IGDIs), Letter Naming Fluency, and Letter Sound Fluency assessments for benchmarking, three times per academic year. The IGDIs demonstrate moderate to strong reliability, and moderate evidence of validity (McConnell, Priest, Davis, & McEvoy, 2002; Missall & McConnell, 2004; Missall, 2007; Phaneuf & Silbergliitt, 2003). The Early Literacy and Language Classroom Observation (ELLCO) tool is also used to assess the quality of language and literacy interactions between the Reading Corps member and students (Smith, Brady, & Anastasopoulos, 2008).

Reading Acquisition:

The National Early Literacy Panel (NELP; 2008) identified emergent literacy skills that were predictive of later achievement in 'conventional literacy skills' (i.e., decoding, oral reading fluency, comprehension, writing, and spelling). Alphabetic knowledge, phonological awareness, rapid automatic naming (letters and digits; colors and objects), writing or writing name, and phonological memory were identified as

the six variables with the strongest relationship with conventional literacy skills. Concepts about print, print knowledge, reading readiness, oral language, and visual processing shared a moderate relationship with conventional literacy skills (NELP, 2008). Literacy experts on staff at the Minnesota Reading Corps thus identified these skills as the target of the program's interventions.

The Model:

In PreK settings, Reading Corps members assist teachers to create a literacy-rich environment for 3- to 5-year-olds as established by SEEDS of School Readiness, a research-based emergent literacy curriculum focused on the classroom environment (Horst & Passe, 2004), and measured by the Early Language and Literacy Classroom Observation tool (ELLCO; Smith, Brady, & Anastasopoulos, 2008). Reading Corps members collect data and provide evidence-based interventions with students in whole group, small group, and one-on-one settings.

Interventions:

These interventions were derived from published experimental research in which effective instructional practices in early literacy development were presented.

Oral Language is defined as the “ability to produce or comprehend spoken language” (NELP, 2008). The objective of all Oral Language interventions in this program is to increase skill in vocabulary and expressive language, while providing a model and practice in correct grammar and syntax. These interventions incorporate Rapid Automatic Naming skills to increase oral language fluency. In a meta-analysis, intervention studies that targeted oral language development, including both receptive and expressive vocabulary skills, had a moderate effect ($d = .63$; NELP, 2008). Thus, PreK programs that emphasize oral language (practicing active listening, providing multiple opportunities to respond, and demonstrating rich language) can significantly impact language development, as well as early reading skills (Wasik, Bond, & Hindman, 2006).

1. Vocabulary and Oral Language Intervention:

Objective: To increase oral language, vocabulary and fluency related to picture naming.

Visual Discrimination is defined as the “ability to match or discriminate visually presented symbols” (NELP, 2008). The objective of all Visual Discrimination interventions in this program is to increase skill in students' ability to visually discriminate objects, colors, and letter symbols. These interventions incorporate Rapid Automatic Naming skills to increase fluency in visual discrimination.

2. Visual Discrimination Intervention Level 1: Match

Objective: To increase visual discrimination through matching colors, shapes, or letters.

3. Visual Discrimination Level 2: Point

Objective: To increase visual discrimination through identifying items based on the name of the color, shape or letter.

4. Visual Discrimination Level 3: Say
Objective: To increase visual discrimination through identifying items based on the name of the color, shape or letter.
5. Visual Discrimination Level 4: Point to the letter based on its sound
Objective: To increase accuracy and fluency with letter sounds.
6. Visual Discrimination Level 5: Say letter sounds
Objective: To increase visual discrimination through identifying letters based on sounds.

Phonological Awareness (PA) is defined as the knowledge that individual sounds and parts of words (i.e., morphemes and syllables) make up oral language; it is predictive of, and has a strong correlational relationship with, early reading skills and overall reading achievement (Ball & Blachman, 1991; Brady, Fowler, Stone, & Winbury, 1994; Cunningham, 1990; Ehri, Nunes, Willows, Schuster, Yaghoub-Zadey, & Shanahan, 2001; Goswami, 2000; NELP, 2008; NRP, 2000; Snider, 1995; Stahl & Murray, 1994). Rhyming and alliteration interventions are implemented to increase skill to automaticity in auditory discrimination, including identifying letter sounds (Kirtley, Bryant, MacLean, & Bradley, 1989; Snider, 1995). Students who received explicit PA instruction that included rhyming and alliteration, performed better on measures of word identification and decoding (Brady et al., 1994).

7. Phonological Awareness **Environmental Sounds**: Matching environmental sound
Objective: To increase skill in auditory discrimination while providing practice that leads to automaticity, so that children will be able to expressively identify sounds over time.
8. Phonological Awareness **Rhyming** Level 1: Matching rhyming words
Objective: To increase skill in auditory discrimination while providing practice that leads to automaticity, so that children will be able to expressively identify sounds over time.
9. Phonological Awareness **Rhyming** Level 2: Pointing to rhyming words using pictures
Objective: To increase skill in auditory discrimination while providing practice that leads to automaticity, so that children will be able to expressively identify sounds over time.
10. Phonological Awareness **Alliteration** Level 1: Matching same beginning sound
Objective: To increase skill in auditory discrimination while providing practice that leads to automaticity, so that children will be able to expressively identify sounds over time.
11. Phonological Awareness **Alliteration** Level 2: Pointing to the same beginning sound
Objective: To increase skill in auditory discrimination while providing practice that leads to automaticity, so that children will be able to expressively identify sounds over time.

An explicit, **multi-component** approach to intervention development is supported in the literature (Chard Vaughn, & Tyler, 2002; Lyon, Alexander, & Yaffe, 1997).

12. Repeated Read Aloud Intervention
The Repeated Read Aloud intervention, in which members read a book aloud to

students, is one such multi-component approach that is beneficial to preschool-aged children. Oral language, expressive and receptive vocabulary, phonological awareness, listening comprehension, and concepts about print are all incorporated into the Reading Corps Repeated Read Aloud intervention methodology. Such a shared-reading intervention was found to have moderate effects on both oral language ($d = .73$) and concepts about print ($d = .50$; NELP, 2008). Some evidence suggested that there are potential positive effects on early reading and writing when this type of intervention is implemented (What Works Clearinghouse, 2007). This intervention provides further opportunity for exposure to print, which was found to share a reciprocal relationship with text comprehension, even when measured in 11th grade students in a longitudinal study (Cunningham & Stanovich, 1997). This again demonstrated the value of a strong literacy curriculum in early childhood education. At this time, there is limited research regarding the impacts of shared-reading on phonological awareness and alphabetic knowledge (NELP, 2008).

13. Sign-in Intervention

The Sign-in activity encourages **early writing** development, while also facilitating **oral language** development. The objective of the intervention is to increase fine motor coordination, letter formation, letter name and sound awareness and basic concepts of print.

Transition Activities

The transition activities presented in the PreK model align with those variables that shared a moderate relationship with conventional literacy skills (NELP, 2008). These activities are utilized throughout the school day; not only do they provide for seamless transitions between activities, but they are wisely employed during typical lapses in instruction that may occur in many classrooms. The list of targeted skills found within the transition activities are listed below.

1. **Vocabulary and Oral Language**

- *What is it? Song, Rapid Automatic Naming Song, Throw the Bean Bag at the Theme-Related Picture, Using Actions to Help Learn New Words, Hopscotch*

2. **Phonological Awareness**

Listening:

- *Simon Says, You Clap and You Clap, Repeat the Pattern, Follow Multiple Step Directions, Sequencing Sounds, What Sound Was Missing?*

Syllable Segmenting:

- *Pass the Bucket, Line Time, Drumming to the Beat, Sorting Objects/Names, Syllables Song, Hickity-Pickity Bumble Bee*

Sentence Segmenting:

- *Counting Words, Words are Parts I & II, Roll Along Words*

Rhyming:

- *Name Riddles, We Are Going to Rhyme With Your Name Song; Rhyming Objects Song, These Two Rhyme Song, Willaby Wallaby, Mystery Objects, Fill in the Blank, Beanbag Toss, Nursery Rhymes, Echo Song, Rhyming Transition, Thumbs Up or Thumbs Down*

Alliteration:

- *Alliteration Game Song, Erasable Rhymes or Beginning Sounds, My Fun Friends, Thumbs Up or Thumbs Down, Sound Match Game*

3. Phonics

Letter-Sounds Correspondence:

- *Letter Song, Letter Sounds, A-Z Song, Letters in Spanish, Alphabet Song, Name Game, Teaching Letter Sounds, Name Bingo, Name Scramble, LeapFrog Letter Factory Song*

Coaching and Fidelity:

Reading Corps members receive multiple layers of support (e.g., coaching) to ensure model fidelity, including fidelity to assessment administration and intervention implementation (Bradley, Danielson, & Doolittle, 2007; Burns & Gibbons, 2008; Kame'enui, 2007; Vaughn, Cirino, Wanzek, Wexler, Fletcher, Denton, et al., 2010). Including a coaching component increases the likelihood of implementing a given skill correctly to 95%, as compared to just 5% when a skill is simply demonstrated (Fixsen & Blase, 2006; Fixsen, Blase, Naoom, Van Dyke, & Wallace, 2009). In the Reading Corps, members are directly observed by both the Internal Coach and the Master Coach, using a standardized, objective observation tool to provide corrective feedback (see AIRS; Burns & Gibbons, 2008). Implementation integrity must be observed in order to attribute the student's response to the intervention. Without implementation integrity, it is not clear whether progress is a response to the intervention (Burns & Gibbons, 2008; Fuchs, Fuchs, Compton, Bouton, Caffrey, & Hill, 2007), or whether other factors are contributing to the outcomes (whether positive or negative). Fidelity checks within the Reading Corps model are conducted at least bi-weekly by the Internal Coach, and monthly by the Master Coach for new sites.

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