

# Outcomes for Reading Group Instruction in Patients with LLD

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## INTRODUCTION / LITERATURE REVIEW

**Fluency:** Fluency is described as the ability to read text quickly, accurately, and with proper expression (NICHD, 2000 as cited by Silliman & Wilkinson, 2004). Fluent reading provides freedom from word identification problems that might hinder comprehension (Harris & Hodges, 1995 p. 85).

- Therapeutic strategies targeting reading fluency that were used during the reading groups (discussed below) are supported in the professional literature.
- Developing an anticipatory set ("setting the stage" by activating prior knowledge) helps students predict text content (Hook, conference 8/2005).
- Evidence supports the use of repeated readings to improve reading fluency (Rasinski, 1989) (Dowhower, 1987; Herman, 1985; Samuels, 1979) (National Reading Panel, 2000 as cited by Silliman & Wilkinson, 2004).
- Repeated Readings improve reading speed as measured by number of words per minute (Rasinski, 1990; Faulkner & Levy, 1994).
- Marking phrase boundaries with pencil slashes / vertical lines has proven to aid in reading fluency (Weiss, 1983).
- Chunking / Scooping (breaking sentences into phrase units) paired with repeated readings improves reading fluency (Hook, conference 8/2005).
- Evidence supports the teacher as the primary model of fluent reading, thus the teacher should read aloud to model fluency (Rasinski, 1989)
- Scaffolding or support while reading is critical to the development of reading fluency. Choral reading is a form of support reading in which students read a selected passage in unison with the teacher as the lead.
- The use of tape-recorded passages (while students read along simultaneously) provides support during oral reading and allows students to practice their fluency independently (Carbo, 1978).
- Fluency is best promoted when students are able to read a passage accurately and automatically, as they are able to focus on reading with expression, versus struggling to decode (Rasinski, 1989).
- Research has demonstrated that fluency instruction can be an effective means of enhancing students' understanding of text (Vaughn, 2000). In fact, Sedita 2001 states that fluency is essential for reading comprehension.
- The theory of automatic information processing (Samuels, 1979) states that fluent decoding allows the reader to direct cognitive resources towards comprehension (Vaughn, 2000).
- According to Vaughn 2000, an increase in fluent reading leads to an increase in comprehension & vice versa.

**Comprehension:** Comprehension is “intentional thinking during which meaning is constructed through interactions between text and the reader” (Harris & Hodges, 1995).

- Therapeutic strategies targeting reading comprehension that were used during the reading groups (discussed below) are supported in the professional literature.
- **Exposure and Opportunity:**
  - Increasing the frequency of reading (amount of time spent reading) improves reading comprehension (Anderson, Wilson & Fielding, 1988).
- **Activating Prior Knowledge:**
  - Activating and adding to readers knowledge base increases text understanding (Beck, Omanson, & McKeown, 1982, Hansen & Pearson, 1983).
- **Formulating Questions Based on Knowledge and Predictions:**
  - Student generated questions lead to increased level of text processing (Craik & Lockhart, 1972); (Andre & Anderson, 1978-1979 as cited in Dole, Duffy, Roehler, Pearson, 1991).
  - Instruction to promote student-generated questions results in improved text comprehension (Brown & Palinscar, 1985; Yopp, 1988, both cited in Pearson & Duke, 2002).
- **Vocabulary & Context Clues:**
  - Instruction in vocabulary increases comprehension skills (National Reading Panel, 2000; RAND Reading Study Group, 2002 both as cited by Silliman & Wilkinson, 2004); (Stahl & Fairbanks, 1986).
  - Vocabulary instruction needs to be targeted both directly (repetition, multiple exposures, highlighting, discussion) and indirectly (incidental exposure in context)(NRP, 2000 as cited by Silliman & Wilkinson, 2004).
- **Inferencing:**
  - Students must fill in details missing in text (draw inferences) and elaborate on what they read to construct meaning (Dole, Duffy, Roehler, & Pearson, 1991).
- **Monitoring for Comprehension:**
  - There are two components to comprehending while reading: 1) being aware of the quality and degree of understanding and 2) knowing what to do when comprehension fails. Students must be taught strategies for when comprehension fails (Dole, Duffy, Roehler, & Pearson, 1991).

- Teaching strategies that enable students to monitor and take specific actions to improve their reading comprehension is an effective means of facilitating understanding text (Vaugh, 2000 as cited by Meyer & Felton, 1999); (Pressley et. al., 1992).
- Research supports utilizing a strategy for recognizing and identifying difficult parts of passages and engaging in discussion to facilitate improved comprehension (Dole, Duffy, Roehler, & Pearson, 1991).
- Students benefit from instruction to look back at text. Evidence supports a relationship between the “looking back strategy” and increased reading comprehension (Garner, 1987 as cited by Dole, Duffy, Roehler, & Pearson, 1991).

## SUBJECTS

- Jailyln is a bilingual (English/Spanish) female, age 13;3 at the beginning of this study. Jailyln was diagnosed with a pervasive language based learning disability in October 2003. She began receiving individual written language therapy at an outpatient facility 1-2x/week for 45-minute sessions in November 2003, continuing through the summer of 2005. Jailyln participated in a weekly 60-90 minute reading group at this facility during the summer of 2004 and the summer of 2005. In the fall of 2005, she transitioned to only 1 weekly 60-90-minute group session. These services continue to the present time. Jailyln currently attends the public schools and participates in a sub-separate classroom. She does receive special education services as part of an Individualized Education Plan (IEP).
- Christine is a white female, age 12;1 at the beginning of this study. Christine was diagnosed with a language based learning disability and cognitive variability in September 2003. She began receiving individual written language therapy at an outpatient facility 2x/week for 45-minute sessions during the summer of 2004, continuing through the summer of 2005. Christine participated in a weekly 60-90-minute reading group at this facility during the summers of 2004 and 2005. In the fall of 2005, Christine transitioned to only 1 weekly 60-90 minute group session. These services continue to the present time. Christine currently attends the public schools and participates in a sub-separate classroom. She does receive special education services as part of an Individualized Education Plan (IEP).
- Maria is a white female, age 11;10 at the beginning of this study. Test findings documented in October 2003 are consistent with a diagnosis of a language-based learning disability. This profile exists in the presence of average cognitive functioning, (as documented in testing dated April 2003). She participated in individual written language therapy at an outpatient facility twice weekly for 45-minute sessions from October 2003 - April 2005. Individual written language therapy resumed in the fall of 2005 at a frequency of 1x weekly for 45-minute sessions. Maria began receiving

outpatient reading group therapy once weekly for 60-90 minute sessions during the summer of 2005. She resumed participation in group therapy during January 2006, continuing through the present time. Maria attends the 7<sup>th</sup> grade at a private school. She does not receive support services through the school.

## METHODOLOGY

- Each subject was administered standardized assessment measures by a certified speech language pathologist. The Gray Oral Reading Test -4 was utilized to evaluate reading fluency (rate and accuracy) and oral reading comprehension. Subtests from the Woodcock Reading Mastery Tests - Revised were administered including: *Word Attack*, *Word Identification* and *Passage Comprehension*. The *Word Attack* subtest was utilized to assess application of sound symbol correspondences to decode non-words. The *Word Identification* subtest was administered to determine recognition of sight words. The *Passage Comprehension* subtest results were utilized to measure comprehension of short paragraphs read silently.
- Subjects participated in 20 group treatment sessions over a time period of 6-9 months. Sessions were once weekly for 60-90 minutes. No more than 7 members were present for each group. Two certified speech language pathologists who specialize in written language conducted each session.
- Group treatment strategies utilized are documented in research as effective means to facilitate improvement in fluency and reading comprehension. Reading fluency and reading comprehension techniques included the following:
  - Reading Fluency - Treatment strategies to improve reading fluency included previewing reading material (including emphasis of vocabulary and current running theme/topic) to facilitate predictions of upcoming text. Students performed repeat readings of texts with passages that were decoded at 90-95% accuracy to promote increased speed while maintaining accuracy. During repeat readings, chunking and scooping techniques were implemented to develop appropriate pausing and intonation when reading aloud. Speech-Language Pathologists provided oral reading models of text selections to exemplify inflection while reading and provide additional exposure to text.
  - Reading Comprehension - Treatment included multiple opportunities for practice of specific strategies taught via explicit instruction. The repertoire of strategies employed included the following: activation of prior knowledge, making predictions, formulating questions based on knowledge and predictions, and vocabulary instruction. Vocabulary was addressed by previewing text for identified instructional level (Tier 2) vocabulary words

(Beck, McKeown, & Kucan, 2002 as cited by Pikulski & Chard, 2005). Context clues were utilized to determine meaning, and words were then applied to meaningful examples within functional situations. Multiple exposures to targeted vocabulary words were provided throughout each session, and subsequent sessions included a spiral back review. Additional strategies included: inferencing and monitoring for comprehension.

## RESULTS

### Jailyn - Improvements noted in:

- Application of sound-symbol correspondences to decode non-words (WRMT-R *Word Attack*). Standard Score increased by 5 Standard Score points.
- Silent reading comprehension (WRMT-R *Passage Comprehension*). Standard Score increased by 3 Standard Score points.
- Scores remained stable in:
  - Speed of reading connected text (GORT-4 *Rate*).
  - Precision of reading connected text (GORT-4 *Accuracy*).
  - Speed and precision of reading connected text (GORT-4 *Fluency*).
  - Sight word recognition (WRMT-R *Word Identification*).
- Noted decline in:
  - Oral reading comprehension (GORT-4 *Comprehension*). Standard Score declined by 1 Standard Score point.

### Christine - Improvements noted in:

- Application of sound-symbol correspondences to decode non-words (WRMT-R *Word Attack*). Standard Score increased by 4 Standard Score points.
- Scores remained stable in:
  - Precision of reading connected text (GORT-4 *Accuracy*).
  - Oral reading comprehension (GORT-4 *Comprehension*).
- Noted decline in:
  - Speed of reading connected text (GORT-4 *Rate*). Standard Score declined by 2 Standard Score points.
  - Speed and precision of reading connected text (GORT-4 *Fluency*). Standard Score declined by 1 Standard Score point.
  - Silent reading comprehension (WRMT-R *Passage Comprehension*). Standard Score decreased by 4 Standard Score points.

- Sight word recognition (WRMT-R *Word Identification*). Standard Score decreased by 1 Standard Score point.

**Maria - Improvements noted in:**

- Speed of reading connected text (GORT-4 *Rate*). Standard Score improved by 1 Standard Score point.
- Precision of reading connected text (GORT-4 *Accuracy*). Standard Score improved by 1 Standard Score point.
- Speed and precision of reading connected text (GORT-4 *Fluency*). Standard Score improved by 2 Standard Score points.
- Scores remained stable in:
  - Oral reading comprehension (GORT-4 *Comprehension*).
- Noted decline in:
  - Silent reading comprehension (WRMT-R *Passage Comprehension*). Standard Score decreased by 1 Standard Score point.

**DISCUSSION**

- Numerous skills were targeted throughout the group sessions. Subjects demonstrated improvement in at least one area of their individual need.
- Jailyn demonstrated gains in application of sound-symbol correspondence and in silent reading comprehension.
- Christine demonstrated gains in application of sound-symbol correspondence to decode non-words.
- Maria demonstrated gains in her weakest areas: reading rate, accuracy, and fluency.
- Scores that remain stable are recognized as gains given the subjects' increase in age and in turn increased performance expectations.
- At this time, findings did not support that an increase in reading fluency resulted in an increase in reading comprehension (Maria). However, results were likely impacted by the time constraints of this study.
- In addition, the tests utilized may not have been best measure for marginal gains.
- Additional questions (raised by this study):
  - Is there a hierarchy of skills that will improve in consecutive order? E.g. Will subjects first improve in word identification and word attack (if they demonstrate needs in these areas), then improve in reading

fluency, and ultimately demonstrate gains in comprehension? This possibility is supported by the data gathered in this study. Specifically, Maria started at the beginning of the study with relatively strong word identification and word attack skills, thus she was able to demonstrate progress in a higher-level skill such as reading fluency. Christine on the other hand, exhibited difficulties across all areas (upon baseline testing), thus her progress was noted only in the more basic skill of word attack.

- Given additional time for treatment, will subjects begin to improve in the area of reading comprehension?

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