

2018

## **Efficacy of a Dialogic Reading Intervention for Struggling First-Graders in Urban Schools**

Dina Moore

*Southern Connecticut State University, moored14@southernct.edu*

Cheryl C. Durwin

*Southern Connecticut State University, durwinc1@southernct.edu*

Deborah A. Carroll

*Southern Connecticut State University, carrolld1@southernct.edu*

Follow this and additional works at: <https://opencommons.uconn.edu/nera-2018>

---

### **Recommended Citation**

Moore, Dina; Durwin, Cheryl C.; and Carroll, Deborah A., "Efficacy of a Dialogic Reading Intervention for Struggling First-Graders in Urban Schools" (2018). *NERA Conference Proceedings 2018*. 11.

<https://opencommons.uconn.edu/nera-2018/11>

Efficacy of a Dialogic Reading Intervention for Struggling First-Graders in Urban Schools

Dina Moore, Cheryl C. Durwin and Deborah A. Carroll

Southern Connecticut State University

---

Poster presented at the annual meeting of the Northeastern Educational Research Association, Trumbull, CT, October 18, 2018. Correspondence may be sent to Dina Moore at [moored14@southernct.edu](mailto:moored14@southernct.edu)

### Abstract

The present study investigates the efficacy of dialogic reading (DR) intervention to improve reading comprehension with first-grade cohorts from two school years within one urban school. We adapted DR, a shared book reading technique, using a standard set of books for intervention and added an emphasis on vocabulary. Findings replicated our previous research in which DR intervention reduced the reading comprehension gap between at-risk readers and typically-achieving peers with a total intervention time of about 2 hours over 12 weeks. These results suggest that our intervention is a promising technique for struggling readers.

*Keywords:* intervention, at-risk readers, reading comprehension, literacy, urban schools

## Efficacy of a Dialogic Reading Intervention for Struggling First-Graders in Urban Schools

Children enter school with varying levels of vocabulary and reading readiness skills, and the gap between children of higher- and lower-socioeconomic backgrounds continues to widen through elementary school (Chall & Jacobs, 2003; Hart & Risley, 2003; Reardon, Valentino, & Shores, 2002). Only 21% of children from lower-SES families read at proficient levels compared to over 50 percent of children from higher-SES families (National Center for Education Statistics, 2015). To close this achievement gap, educators can ensure that children are given print exposure, reading experience, and readiness skills at school entry as a foundation for reading instruction.

Recently, we collaborated with urban schools to help improve reading skills of their at-risk readers. The schools successfully improved children's knowledge about print, phonological skills, word recognition, and decoding skills. However, our assessment data, and reports from staff, indicated that many of their struggling readers lacked adequate oral vocabulary and prior knowledge to support comprehension (Durwin, Carroll, & Moore, 2016). Therefore, we chose a research-based technique called dialogic reading (DR) to address these gaps. Research from Whitehurst and colleagues has shown that training adults to use DR with preschool children from lower socioeconomic backgrounds for about six weeks facilitated development of children's vocabulary and language skills (Lonigan, 1993; Valdez-Menchaca & Whitehurst, 1992; Whitehurst, Arnold, Epstein, Angell, Smith, & Fischel, 1994; Whitehurst, Falco, Lonigan, Fischel, Valdez-Menchaca, & Caufield, 1988).

We adapted DR for school-age beginning readers and trained research assistants (RAs) to use this approach. In one study with first graders from two urban schools serving large populations of lower-SES students, children who received DR along with school services

significantly improved reading comprehension from pretest to posttest with about 2 total hours of DR intervention over 6 weeks (Durwin, Carroll, & Moore, 2016). In a second study, first graders who received DR intervention improved from performance that was 1 standard deviation below average (compared to national grade-level norms) to performance within average range (Durwin, Carroll, & Moore, 2016).

Based on findings from our previous work, we made two improvements to our DR intervention: 1) using a standard set of books for intervention, and 2) focusing on vocabulary within the text (see Method section). The present study investigates the efficacy of DR intervention with first-grade cohorts from two school years within one urban school. We pretested first graders on vocabulary and comprehension and provided individual intervention to a subset of children identified as needing additional reading intervention based on the school's benchmark assessment and our own tests.

## **Method**

### **Participants**

Participants were 49 students from two first-grade classrooms during 2016-2017 and 2017-2018 school years in an urban, lower-socioeconomic public school (85.8% of students eligible for free/reduced lunch). Table 1 provides demographic data by cohort year. Children were classified as:

- control (typically-achieving),
- DR-only (only receiving DR),
- DR/school (DR *and* school intervention)
- school-only (only school intervention).

## **Assessments**

We used the Test of Silent Reading Efficiency and Comprehension (TOSREC) to assess comprehension and the Synonym and Antonym subtests of The Word Test-3 (WT3) as a measure of vocabulary. See Table 2 for descriptions and reliability and validity evidence.

## **Intervention**

DR is a shared book reading technique in which adults stop frequently during reading to ask open-ended questions (e.g. recall, distancing, and Wh-questions). They also praise correct responses, provide scaffolds, correct and expand children's responses (to model more complex language), and ask children to repeat expanded utterances. We made two modifications to the approach: 1) we simplified the original strategies; and 2) emphasized the importance of stopping to identify and discuss new vocabulary words with the child using open-ended questions. We chose vocabulary words from our books using Beck's notion of Tier 2 words—those that are interesting, useful, aid story comprehension, and that adults can explain in a way that children understand (Beck, McKeown, & Kucan, 2001). With these modifications, we refer to our intervention as Dialogic Reading with Integrated Vocabulary Enrichment (DRIVE) using strategies summarized as the acronym EMPOWERED, shown in Table 3.

## **Procedure**

RAs administered pretests during October/November. Tests, introduced as “reading games,” were individually administered on separate days. We selected children for intervention based on test data and school staff's professional judgment regarding who needed reading intervention. The intervention occurred over 12 weeks from January to April. Each reading session was 10-15 minutes. Treatment fidelity was monitored through checklists that RAs completed for each intervention session. Post-testing occurred during May-June.

## Results and Discussion

Table 4 displays TOSREC pretest and posttest scores for three groups: DR-only, DR/school, and control. The school-only group was not included as we were interested the efficacy of DR intervention. Because of the small sample and different distributions, we used Kruskal Wallis tests to examine pre-post differences in medians between groups. Separate analyses were performed for pretest and posttest scores with alpha set at .025 to correct for Type I error. A significant difference between median scores on TOSREC was obtained at pretest [ $\chi^2(2, N = 43) = 21.06, p < .001$ ] and at posttest [ $\chi^2(2, N = 43) = 12.88, p < .01$ ]. Post-hoc comparisons were done to examine differences between groups at pretest and posttest with alpha set at .008. Of these comparisons, there were significant differences between the DR-only group and control at pretest [ $U = 43.5, p = .005$ ] but not at posttest [ $U = 58, p = .025$ ]. Similarly, the DR/school group differed from control at pretest [ $U = 7, p < .001$ ] and at posttest [ $U = 34, p < .01$ ]. The DR groups were not significantly different from each other at pre- or posttest. Figure 1 shows a general pattern of the two DR groups narrowing the gap with the control group over time.

Our results suggest that DRIVE intervention using a standard set of books with an emphasis on vocabulary can improve children's reading comprehension. Both DR groups made gains in reading comprehension bringing them closer to the scores of their typically-achieving peers. While our sample size is small, which limits generalizability, DRIVE is a promising technique for struggling readers. The intervention we provided was free and yielded positive results in very little time. This is an important benefit for schools that lack the budget and resources to efficiently remediate children's reading problems.

## References

- Beck, I. L., McKeown, M., & Kucan, L. (2002). *Choosing words to teach. In bringing words to life: Robust vocabulary instruction*. New York, NY: Guilford Press.
- Chall, J. S., & Jacobs, V. A. (2003). The classic study on poor children's fourth-grade slump. Retrieved from <http://www.aft.org/newspubs/periodicals/ae/spring2003/hirschsclassic.cfm>.
- Durwin, C, Carroll, D.A., & Moore, D.L. (2016, March 5). *Dialogic reading: A theory-based approach to early reading intervention in urban schools*. Poster presented at the annual meeting of the Eastern Psychological Association, New York, NY.
- Hart, B., & Risley, T. R. (2003). The early catastrophe. The 30 million word gap. *American Educator*, 27(1), 4-9.
- Lonigan, C. J. (1993). Somebody read me a story: Evaluation of a shared reading program in low-income daycare. *Society for Research in Child Development Abstracts*, 9, 219.
- National Center for Education Statistics (2015). *The Nation's Report Card: 2015 Mathematics & Reading Assessments*. Institute of Education Sciences, U.S. Department of Education, Washington, D.C. Retrieved on February 23, 2018 from: [https://www.nationsreportcard.gov/reading\\_math\\_2015/#reading/acl?grade=4](https://www.nationsreportcard.gov/reading_math_2015/#reading/acl?grade=4).
- Reardon, S. F., Valentino, R. A., & Shores, K. A. (2002). Patterns of literacy among U.S. students. *The Future of Children*, 22(2), 17-37.
- Valdez-Menchaca, M. C, & Whitehurst, G. J. (1992). Accelerating language development through picture-book reading: A systematic extension to Mexican day-care. *Developmental Psychology*, 28, 1106-1114.

Whitehurst, G. J., Arnold, D. S., Epstein, J. N., Angell, A. L., Smith, M., & Fischel, J. E. (1994).

A picture book reading intervention in day care and home for children from low-income families. *Developmental Psychology*, 30(5), 679-689.

Whitehurst, G. J., Falco, F., Lonigan, C. J., Fischel, J. E., Valdez-Menchaca, M. C., & Caulfield,

M. (1988). Accelerating language development through picture-book reading. *Developmental Psychology*, 24, 552-558.

Table 1

*Demographic Data for First Grade Cohorts*

	<b>2016-2017 Cohort</b>	<b>2017-2018 Cohort</b>
Classroom		
Teacher A	14	14
Teacher B	14	7
Gender (% Female)	46.4	47.6
Mean Age (yrs)	6.46 (.322) <sup>a</sup>	6.29 (.351)
TOSREC Pretest Score	99.11 (15.04) a	95.67 (14.78)
Group		
Typically-achieving control	15 (53.6%)	8 (38.1%)
Dialogic Reading only	6 (21.4%)	4 (19.0%)
Dialogic reading with School Services	6 (21.4%)	4 (19.0%)
School Services Only	1 (3.6%)	5 (23.8%)

<sup>a</sup> Standard deviation (SD) in parentheses.

Table 2

*Description of Assessments*

	<b>The Test of Silent Reading Efficiency and Comprehension (TOSREC)</b>	<b>The Word Test-3 (WT3)</b>
<i>Administration</i>	<ul style="list-style-type: none"> <li>Examinees are given 3 minutes to read sentences from a grade-level test booklet and decide whether each sentence is true or false (e.g., “A cow is an animal.”).</li> </ul>	<ul style="list-style-type: none"> <li>Synonyms: Examiners orally present 15 individual words and say ‘Tell me another word for... (angry, street, etc.).’</li> <li>Antonym: Examiners orally present 15 individual words and say ‘Tell me the opposite of...’</li> </ul>
<i>Scoring</i>	<ul style="list-style-type: none"> <li>Raw scores are converted to grade-based standard scores with a mean of 100 and a SD of 15. Note that below average is a standard score of 89 and below.</li> </ul>	<ul style="list-style-type: none"> <li>Raw scores are converted to age-based standard scores with a mean of 100 and a standard deviation (SD) of 15.</li> </ul>
<i>Reliability</i>	<ul style="list-style-type: none"> <li>Alternate-forms reliability: .86-.95</li> <li>Test-retest (after 2 months) with alternate-forms reliability: .81-.87</li> <li>Inter-scorer reliability: values exceeding .99 across all forms and grades</li> </ul>	<ul style="list-style-type: none"> <li>Average test-retest for ages 6-7: .79 (n=42)</li> <li>Average internal consistency for ages 6-7: .76</li> <li>Inter-scorer reliability: median agreement of 94%</li> </ul>
<i>Validity</i>	<ul style="list-style-type: none"> <li>Strong concurrent and predictive correlations with oral reading fluency for Grades 1-5 (average coefficient of .734)</li> <li>Strong correlations with word recognition, passage comprehension, and silent reading fluency scores for Grades 6-8 (.70 to .83).</li> <li>Classification accuracy of 90% in predicting whether students met criterion on a state mastery test</li> </ul>	<ul style="list-style-type: none"> <li>Content validity</li> <li>Criterion-related validity: scores differentiate typically achieving students and those with language disorders</li> <li>Minimized racial bias</li> </ul>

Sources: Bowers, Huisinigh, LoGuidice, & Oman, 2014; Johnson, Pool, & Carter, 2011; Wagner, Torgesen, & Rashotte, 2010.

Table 3

*Dialogic Reading with Integrated Vocabulary Enrichment (DRIVE) Strategies*

<b>Strategy</b>		<b>Example</b>
<b><i>Encourage Vocabulary</i></b>	Discuss what vocabulary words mean in the context of the story using Wh-questions, expansion, encouraging repetition, and evaluation strategies.	Adult: What do you think <b>gaze</b> means? <ul style="list-style-type: none"> <li>• Child: (shrugs shoulders)</li> <li>• Adult: “Do we gaze with our ears (tugging ears) or our eyes (using binocular mime)?”</li> <li>• Child: “Our eyes!”</li> <li>• Adult: “So, what do we do when we gaze?”</li> <li>• Child: “We look with our eyes.”</li> <li>• Adult: “Yes! We look at something for a long time. (evaluation and expansion). Now you tell me what gaze means. (repetition)”</li> </ul>
<b><i>Make it fun</i></b>	Use an upbeat tone of voice, have fun reading, use mime and movements, and do not coerce children to read if they are disinterested, fatigued, etc.	Adult: What does <b>stomping</b> mean? <ul style="list-style-type: none"> <li>• Child: (shrugs shoulders)</li> <li>• Adult: “Can you show me stomping?”</li> <li>• Child moves feet in stomping motion.</li> <li>• Adult (miming stomping): “So, when we are stomping, we move our feet up and down loudly. Now you tell me what stomping is.”</li> </ul>
<b><i>Prompt frequently</i></b>	Prompt the child to label objects in the story and talk about the story	<ul style="list-style-type: none"> <li>• “What is this called?” (pointing to an object)—for younger children</li> <li>• “What does this word mean?” (for older children)</li> <li>• “Who is this person (pointing to a character)?”</li> </ul>
<b><i>Open-ended questions</i></b>	Encourage children to respond in their words using more than a one-word answer	<ul style="list-style-type: none"> <li>• “Now it’s your turn to tell about this page.”</li> <li>• “What’s happening in the story?”</li> <li>• “Why do you think she’s unhappy?”</li> <li>• “What will happen now?”</li> <li>• “How would you feel if you were...?”</li> </ul>
<b><i>Wh-Questions</i></b>	What, where, and why questions	<ul style="list-style-type: none"> <li>• “What do you think will happen next?”</li> <li>• “Why did Jack stay home from school?”</li> <li>• “Where do you think the family is going?”</li> </ul>
<b><i>Expand the child’s responses</i></b>	Model slightly more advanced language by repeating what the child says, but with a bit more information or in a more advanced form.	Adult: “What do you see on this page?” <ul style="list-style-type: none"> <li>• Child: “wagon.” Adult: “Yes, that’s a red wagon. Now you tell me what it is.”</li> <li>• Child: “That’s a dog.” Adult: “Yes, that’s a dog. It’s a kind of dog called a beagle. Can you say: ‘It’s a kind of dog called a beagle’?”</li> </ul>

<p>Encourage <b><i>Repetition</i></b></p>	<p>Encourage the child to <i>repeat</i> the expanded utterance</p>	<p>Adult: “Who do you think Mrs. Toggle is?” (question prompt from the story title and picture)</p> <ul style="list-style-type: none"> <li>• Child: “Teacher.”</li> <li>• Adult: “Yes, she could be a teacher. Can you say: ‘I think Mrs. Toggle is a teacher?’”</li> </ul>
<p><b><i>Evaluate</i></b> the child’s responses</p>	<p>Praise the child’s correct responses. Refrain from using non-specific praise such as “Good job!” Instead use specific praise (e.g., “That’s an interesting prediction!”). Gently offer alternative labels or answers for incorrect responses.</p>	<ul style="list-style-type: none"> <li>• “Well, it looks like a horse, but we would call that animal a cow.”</li> <li>• “Well, Joey might have wanted to go to the park, but remember that Joey went to the circus in the story?”</li> </ul>
<p><b><i>Distancing prompts</i></b></p>	<p>Personal connections of book to own life</p>	<ul style="list-style-type: none"> <li>• “Louis’ mom did not want him to keep the frog as a pet. Do you have any pets?”</li> <li>• “Tonya’s mom is preparing her lunch. What do you like to eat for lunch?”</li> <li>• “Have you ever been blueberry picking like Sal?”</li> </ul>

Table 4

*TOSREC Pretest and Posttest Standard Scores for DR Only, DR/School, and Control Groups*

	n	M	Pretest			Posttest			
			Mdn	SD	Skew	M	Mdn	SD	Skew
DR only	10	90.8	88.00	9.58	.741	91.80	93.00	10.47	-1.258
DR/School	10	84.50	85.00	4.67	.516	85.00	89.00	13.03	-.623
Control	23	107.00	104.00	14.89	.641	100.35	100.00	10.44	-.484

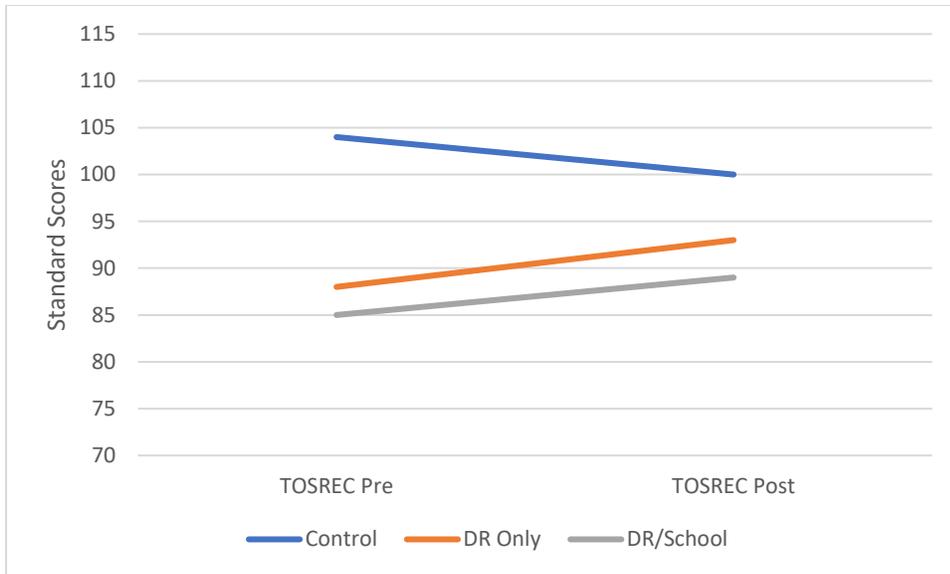


Figure 1. TOSREC Scores Over Time for DR-only, DR/School, and Control Groups