

# Long-Term Effects of Print Referencing on Literacy Achievement

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In a randomized-controlled trial, researchers found that preschool teachers' use of a print referencing approach to shared storybook reading had significant impacts on children's early literacy skills (reading, spelling, and comprehension) one and two years after completion of the approach.

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**P**rint knowledge is an umbrella term describing young children's emerging knowledge of the specific forms and functions of written language. This knowledge includes understanding letters, rules governing print organization (for example, left-to-right directionality of print), and the concept of word (that is, written words as meaningful, discrete units corresponding to spoken words). Print knowledge has been identified as a central component of emergent literacy development and a worthy goal of primary prevention efforts. Increasing young children's contact with print during shared reading has been found in research to be an effective approach to fostering children's short-term gains in print knowledge.

Researchers have discovered that adults—whether parents, teachers, or day-care providers—seldom draw children's attention explicitly to print within storybooks. They rarely make comments or ask questions about print and only seldom point to or track print.

In recent years, researchers have found that adults can make simple adjustments to increase children's attention to print during shared storybook reading. These simple adjustments are typically referred to as making verbal and nonverbal "print references." These print references include talking about or pointing to print within the text or asking questions, such as "Where should I read on this page?" "Do you know this letter?" and "This word is 'danger.'"

When adults make these print references, children experience significant gains on assessments of

print knowledge in the immediate term. Researchers believe that as adults make references to print, whether verbal, nonverbal, or a combination of both, they directly increase the sheer volume of time children spend attending to and presumably processing the specific forms and functions of print in books.

## The Study

Researchers from Ohio State University and the Center for Advanced Study of Teaching and Learning at the University of Virginia undertook the first study investigating long-term impacts of the print referencing approach. Data were collected from children who participated in Project STAR (Sit Together and Read), a 30-week program during which preschool teachers systematically referenced print during shared reading.

Eighty-five preschool classrooms were randomly assigned to one of three study conditions at the start of the 2004–2005 or 2005–2006 school years.

Teachers were invited to volunteer for a study of shared reading practices. All teachers taught in classrooms prioritizing enrollment for children considered at risk for future reading difficulties due to socio-economic disadvantage (for example, Head Start programs).

A total of 550 children participated in the study. Each teacher in the study was provided with a set of 30 commercially available children's storybooks and was asked to read one book per week as a whole-class shared-reading session. These whole-class reading

### Print Referencing Intervention Objectives

1. Print Organization
  - Page Order
  - Author
  - Page Organization
  - Title of Book
  - Print Direction
2. Print Meaning
  - Print Function
  - Environmental Print
  - Metalinguistic Concept of Reading
3. Letters
  - Upper- and Lower-Case Letters
  - Names of Letters
  - Metalinguistic Concept of Letter
4. Words
  - Word Identification
  - Short vs. Long Words
  - Letters vs. Words
  - Concept of Word in Print

For additional information see Justice et al. (2009). Accelerating preschoolers' early literacy development through classroom-based teacher-child storybook reading and explicit print referencing. *Language, Speech, and Hearing Services in Schools, 40*, 67-85.

sessions each involved an average of 17 children. Classrooms were divided into three conditions:

- "High-dose" print reference condition. Children experienced four reading sessions per week for 30 weeks (120 sessions total).
- "Low-dose" print reference condition. Children experienced two reading sessions per week (60 sessions total).
- "Control" condition. Children experienced four reading sessions per week for 30 weeks (as in the high-dose condition), but their teachers were told to use their normal style of reading.

Assessments of children's literacy skills included early reading skill, early spelling skill, and comprehension skill, using three subtests of the Woodcock-Johnson Tests of Achievement III.

### Findings

The children were assessed in the fall of preschool and then one year later and two years later:

**One Year Later:** Children in the high-dose print

reference condition had higher early reading, spelling, and comprehension outcomes than did children in the regular reading control condition. There were no significant differences between children's outcomes in the high- and low-dose conditions or between the low-dose and control conditions.

**Two Years Later:** Children in the high-dose condition had higher early reading, spelling, and comprehension outcomes than did children in the control condition. These children also had significantly higher outcomes than did those in the low-dose condition on early reading and on comprehension. There were no significant differences between children in the high- and low-dose conditions on spelling outcomes. Children in the low-dose condition had significantly higher spelling outcomes than those in the comparison condition but no higher outcomes on the early reading or comprehension outcomes.

### Discussion

The results of the study are the first to suggest causal links between print referencing and later literacy achievement. The implication is that using the print reference approach at the high dosage rate in preschool programs—before formal literacy instruction begins—can boost children's literacy skills early in their careers, possibly closing achievement gaps before they begin to widen.

The print reference approach used in this study offers a potential preventive mechanism for reducing the incidence of reading difficulties.

From a practical standpoint, a particularly welcome finding is that teachers' use of print references during whole-class shared reading has long-term impacts on literacy achievement that are similar to other, more resource- and time-intensive educational interventions. Also, this approach requires only subtle shifts in teacher behavior during shared reading rather than global shifts in practice that may require considerable training and material investments. Making print references places minimal demands on teachers regarding planning and instructional time allocations within the school day.

It represents a slight tweak to what teachers are already doing in the classroom, but it led to a sizable improvement in reading for kids.

This brief is based on the following published study:

Piasta, S. B., Justice, L. M., McGinty, A., & Kaderavek, J.N. (2012). Increasing young children's contact with print during shared reading: Longitudinal effects on literacy achievement. *Child Development, 83*(3), 810-820.

For more information the Center for Advanced Study of Teaching and Learning, visit <http://curry.virginia.edu/castl>