What Works Clearinghouse

ies INSTITUTE OF EDUCATION SCIENCES

Dialogic Reading

Practice description

Dialogic Reading is an interactive shared picture book reading practice designed to enhance young children's language and literacy skills. During the shared reading practice, the adult and the child switch roles so that the child learns to become the storyteller with the assistance of the adult who functions as an active listener and questioner. Two related practices are reviewed in the WWC intervention reports on *Interactive Shared Book Reading* and *Shared Book Reading.*

Research

Four studies of *Dialogic Reading* met the What Works Clearinghouse (WWC) evidence standards and one study met the WWC evidence standards with reservations.[1] Together these five studies included over 300 preschool children and examined intervention effects on children's oral language and phonological processing. The majority of the children studied were from economically disadvantaged families. This report focuses on immediate posttest findings to determine the effectiveness of the intervention; however, follow-up findings provided by the study authors are included in the technical appendices.[2]

Effectiveness

Dialogic Reading was found to have positive effects on oral language and no discernible effects on phonological processing.

	Oral language	*Print knowledge*	*Phonological processing*	*Early reading/writing*	*Cognition*	*Math*
Rating of effectiveness	Positive effects	N/A	No discernible effects	N/A	N/A	N/A
Improvement index[3]	Average: +19 percentile points Range: –6 to +48 percentile points	N/A	Average: +9 percentile points Range: –7 to +40 percentile points	N/A	N/A	N/A

1. To be eligible for the WWC's review, the Early Childhood Education (ECE) interventions had to be implemented in English in center-based settings with children ages 3 to 5 or in preschool. One additional study is not included in the overall effectiveness ratings because the intervention included a combination of *Dialogic Reading* and *Sound Foundations,* which does not allow the effects of *Dialogic Reading* alone to be determined. See the section titled "Findings for *Dialogic Reading* plus *Sound Foundations*" and Appendix A4 for findings from this and a related document.
2. The evidence presented in this report is based on available research. Findings and conclusions may change as new research becomes available.
3. These numbers show the average and the range of improvement indices for all findings across the studies.

Absence of conflict of interest

The WWC ECE topic team works with two Principal Investigators (PIs): Dr. Ellen Eliason Kisker and Dr. Christopher Lonigan. The studies on *Dialogic Reading* reviewed by the ECE team included a number of studies on which Dr. Lonigan was either the primary or a secondary author and a number of studies on which Dr. Grover Whitehurst (Director, Institute for Education Sciences) was either a primary or a secondary author. Drs. Lonigan and Whitehurst's financial interests are not affected by the success or failure of *Dialogic Reading,* and they do not receive any royalties or other monetary return from the use of *Dialogic Reading.* In all instances where Drs. Lonigan and Whitehurst were study authors, they were not involved in the decision to include the study in the review, and they were not involved in the coding, reconciliation, or discussion of the included study. Dr. Kisker led all review activities related to those studies. The decision to review *Dialogic Reading* was made by Dr. Kisker, as co-PI, in collaboration with the rest of the ECE team following prioritization of interventions based on the results from the literature review. This report on *Dialogic Reading* was reviewed by a group of independent reviewers, including members of the WWC Technical Review Team and external peer reviewers.

Additional practice information

Developer and contact

Dialogic Reading is a practice that does not have a single developer responsible for providing information or materials. However, readers interested in using *Dialogic Reading* practices in their classrooms can refer to sources available through internet searches for information. A list of examples follows, although these sources have not been reviewed or endorsed by the WWC:

- Pearson Early Learning: http://www.pearsonearlylearning.com/products/curriculum/rttt/index.html;
- The Committee for Children: http://www.cfchildren.org/wwf/dialogic;
- Rotary Club of Bainbridge Island in Washington State: http://www.bainbridgeislandrotary.org/default.aspx?c=10052;
- Reading Rockets: http://www.pbs.org/launchingreaders/rootsofreading/meettheexperts_2.html;
- The American Library Association: http://www.ala.org/ala/alsc/alscresources/borntoread/bornread.htm.

Scope of use

Dialogic Reading was created in the 1980s and the first published study appeared in 1988 (Whitehurst, Falco, Lonigan, Fischel, DeBaryshe, Valdez-Menchaca, & Caulfield, 1988).[4] Information is not available on the number or demographics of children or centers using this intervention.

Teaching

In center-based settings, *Dialogic Reading* can be used by teachers with children individually or in small groups. Teachers can be trained on the principles of *Dialogic Reading* through videotape followed by role-playing and group discussion.

While reading books with the child, the adult uses five types of prompts (CROWD):

- **C**ompletion: child fills in blank at the end of a sentence.
- **R**ecall: adult asks questions about a book the child has read.
- **O**pen-ended: adult encourages child to tell what is happening in a picture.
- **W**h-: adult asks "wh-" questions about the pictures in books.
- **D**istancing: adult relates pictures and words in the book to children's own experiences outside of the book.

These prompts are used by the adult in a reading technique called PEER:

4. Whitehurst, G. J., Falco, F. L., Lonigan, C. J., Fischel, J. E., DeBaryshe, B. D., Valdez-Menchaca, M. C., & Caulfield, M. (1988). Accelerating language development through picture book reading. *Developmental Psychology, 24*(4), 552–559. This study was not reviewed because it fell outside the scope of the current ECE review (that is, the study was not center-based and children were younger than 3 years old).

Additional practice information *(continued)*

- **P**: adult prompts the child to say something about the book.
- **E**: adult evaluates the response.
- **E**: adult expands the child's response.
- **R**: adult repeats the prompt.

As the child becomes increasingly familiar with a book, the adult reads less, listens more, and gradually uses more higher level prompts to encourage the child to go beyond naming objects in the pictures to thinking more about what is happening in the pictures and how this relates to the child's own experiences.

Cost

Published *Dialogic Reading* procedures are freely available to the public. Information is not available about the costs of teacher training and implementation of *Dialogic Reading*.

Research

Eight studies reviewed by the WWC investigated the effects of *Dialogic Reading* in center-based settings. Four studies (Lonigan, Anthony, Bloomfield, Dyer, & Samwel, 1999; Lonigan & Whitehurst, 1998; Wasik & Bond, 2001; Whitehurst, Arnold, Epstein, Angell, Smith, & Fischel, 1994) were randomized controlled trials that met WWC evidence standards. One study (Crain-Thoreson & Dale, 1999) was a randomized controlled trial that met WWC evidence standards with reservations because of differential attrition. One additional study met the WWC evidence standards (Whitehurst, Epstein, Angell, Payne, Crone, & Fischel, 1994[5]) and is included in this report; however, the intervention included a combination of *Dialogic Reading* and *Sound Foundations,* which does not allow the effects of *Dialogic Reading* alone to be determined. Therefore, this study is discussed separately and the findings are not included in the intervention ratings. The remaining two studies did not meet WWC evidence screens.

Met evidence standards

Lonigan et al. (1999) included 95 two- to five-year-old predominantly low-income children from five child care centers in an urban area in Florida. Lonigan et al. compared two interventions—*Dialogic Reading* and typical shared book reading—to a no-treatment comparison group that participated in the standard preschool curriculum. This report focuses on the comparison of oral language and phonological processing outcomes between the *Dialogic Reading* group and the no-treatment comparison group[6] with a total of 66 children.

Lonigan and Whitehurst (1998) included 91 low-income three- to four-year-old children from four child care centers in Nashville, Tennessee. Lonigan and Whitehurst compared three intervention groups—*Dialogic Reading* at school, *Dialogic Reading* at home, and *Dialogic Reading* both at school and at home—to a no-treatment comparison group that did not participate in *Dialogic Reading.* This report focuses on the comparison of oral language outcomes between the combined school and school plus home group and the no-treatment comparison group[7] with a total of 75 children.

Wasik and Bond (2001) included 121 low-income three- to four-year-old children from a Title I early learning center in Baltimore, Maryland. Wasik and Bond compared oral language outcomes for children participating in *Dialogic Reading* plus reinforcement activities with outcomes for children in a

5. Zevenbergen, Whitehurst, & Zevenbergen (2003) reports additional results from the study first reported in Whitehurst, Epstein, et al. (1994) and was reviewed along with that study.
6. The comparison between the typical shared book reading group and the comparison group is included in the WWC *Shared Book Reading* intervention report.
7. The *Dialogic Reading* at home group is not included in the review because it is not center-based. The *Dialogic Reading* at school and the *Dialogic Reading* both at school and at home groups were combined for this review to reflect analyses conducted by the study authors. However, the data separated for these two groups are included in Appendix A5. The study authors divided centers into high and low compliance centers based on the frequency level (i.e., high and low) of *Dialogic Reading* sessions. The WWC report includes findings for the high and low compliance centers combined in the overall rating of effectiveness, and describes findings separated by high and low compliance in the findings section and in Appendix A5.

Research *(continued)*

comparison condition who were read the same books by teachers with no training in *Dialogic Reading*.

Whitehurst, Arnold, et al. (1994) included 67 low-income three-year-old children from five day care centers in Suffolk County, New York. Whitehurst, Arnold, et al. compared two intervention groups—*Dialogic Reading* at school and *Dialogic Reading* both at school and at home—to a comparison group who participated in small-group play activities. This report focuses on the comparison of oral language outcomes between the combined school and school plus home group and the comparison group.[8]

Met evidence standards with reservations

Crain-Thoreson and Dale (1999) included 32 three- to five-year-old children with mild to moderate language delays from five classrooms in three school districts in the Pacific Northwest. Crain-Thoreson and Dale compared two intervention groups—a staff-implemented *Dialogic Reading* group (staff/practice) and a parent-implemented *Dialogic Reading* group (parent/practice)—to a comparison group that did not receive one-on-one *Dialogic Reading*. This report focuses on the comparison of oral language outcomes between the staff/practice group and the comparison group[9] with a total of 22 children.

Effectiveness

Findings

The WWC review of interventions for early childhood education addresses children's outcomes in six domains: oral language, print knowledge, phonological processing, early reading/writing, cognition, and math.[10]

Oral language. Five studies examined outcomes in the domain of oral language: three studies showed statistically significant and positive effects and two studies showed indeterminate effects.

Lonigan et al. (1999) found a statistically significant difference favoring children in the *Dialogic Reading* intervention group on one of the four outcome measures (verbal expression subscale of the Illinois Test of Psycholinguistic Ability; ITPA-VE), and this effect was confirmed to be statistically significant by the WWC. The authors found no statistically significant differences between the intervention and comparison groups on the other three measures. In this study the effect was statistically significant and positive, according to WWC criteria.

Lonigan and Whitehurst (1998) analyzed group differences for the combined intervention groups (*Dialogic Reading* at school, *Dialogic Reading* both at school and at home, and *Dialogic Reading* at home) and the comparison group. Because WWC ECE does not review interventions implemented in the home, the WWC calculated group differences on the three outcome measures for the combined *Dialogic Reading* at school and both at school and at home intervention group versus the comparison group and did not find statistically significant differences on any measure in analyses using data combined for centers with high and low implementation. In this study the effect was indeterminate, according to WWC criteria.

Lonigan and Whitehurst (1998) also analyzed group differences for the combined intervention groups within high and low compliance centers. The WWC calculated group differences on the three outcome measures for the combined *Dialogic Reading* at school and both at school and at home intervention group versus the comparison group separately for high and low

8. The *Dialogic Reading* at school and the *Dialogic Reading* both at school and at home groups were combined for this review to reflect analyses conducted by the study authors. However, the data separated for these two groups are described in the findings section and included in Appendix A5.
9. The parent/practice group was not included in the review because it was not center-based.
10. The level of statistical significance was reported by the study authors or, where necessary, calculated by the WWC to correct for clustering within classrooms or schools and for multiple comparisons. For an explanation about the clustering correction, see the WWC Tutorial on Mismatch. See Technical Details of WWC-Conducted Computations for the formulas the WWC used to calculate the statistical significance. In the case of the *Dialogic Reading* report, corrections for clustering and multiple comparisons were needed.

compliance centers. For the high compliance centers, the WWC did not find statistically significant differences on any measure; however, the effect was large enough to be called substantively important and positive, according to WWC criteria. For the low compliance centers, the WWC did not find statistically significant differences on any measure and the effect was indeterminate, according to WWC criteria. These analyses suggest that level of implementation of *Dialogic Reading* has an impact on child outcomes in the oral language domain.

In addition, Lonigan and Whitehurst (1998) reported group differences separately for the *Dialogic Reading* at school group and the *Dialogic Reading* both at school and at home group within the high and low compliance centers. For the *Dialogic Reading* at school group in the high compliance centers, the WWC did not find any statistically significant differences between this group and the comparison group on any of the outcome measures. However, the effect was large enough to be called substantively important and positive, according to WWC criteria. For the *Dialogic Reading* both at school and at home group in the high compliance centers, the authors reported two statistically significant and positive differences favoring the *Dialogic Reading* group and the statistical significance of these effects was confirmed by the WWC. The effect was statistically significant and positive, according to WWC criteria. For the *Dialogic Reading* at school group in the low compliance centers, the authors reported a statistically significant and negative finding and the statistical significance of this effect was confirmed by the WWC. The effect was statistically significant and negative, according to WWC criteria. For the *Dialogic Reading* both at school and home group in the low compliance centers, the WWC found no statistically significant differences between the intervention and comparison groups, either positive or negative. However, the effect was large enough to be called substantively important and positive, according to WWC criteria.

Wasik and Bond (2001) found statistically significant differences favoring the *Dialogic Reading* children on two measures of oral language, and the WWC confirmed this statistical significance.[11] In this study the effect was statistically significant and positive, according to WWC criteria.

Whitehurst, Arnold, et al. (1994) found statistically significant differences favoring children in the combined intervention groups (*Dialogic Reading* at school and *Dialogic Reading* both at school and at home) on two of the four measures in this domain (EOWPVT-R and Our Word), but only the statistical significance for EOWPVT-R was confirmed by the WWC. The authors found no statistically significant differences on the other two measures.[12] In this study the effect was statistically significant and positive, according to WWC criteria.

Whitehurst, Arnold, et al. (1994) also analyzed group differences separately for the *Dialogic Reading* at school group and the *Dialogic Reading* both at school and at home group. For the *Dialogic Reading* at school group, the WWC did not find statistically significant differences between the intervention and comparison groups on any outcome measure and the effect was indeterminate, according to WWC criteria. For the *Dialogic Reading* both at school and home group, the WWC did not find statistically significant differences between the intervention and comparison groups. However, the effect was large enough to be called substantively important and positive, according to WWC criteria.

Crain-Thoreson and Dale (1999) analyzed findings for six measures in this outcome domain. The findings favored the intervention group for five of the measures and favored the comparison

11. The authors also reported findings on the Peabody Picture Vocabulary Test-III (PPVT-III), but there was not enough information to compute an effect size. Therefore, this measure was not included in the review.
12. The authors also reported results from the 6-month follow-up tests. Since the primary focus of this review is on the immediate posttest results, the follow-up results are not discussed here but are included in Appendix A5.

group for the sixth measure. None of these effects, however, were statistically significant; and the average effect was neither statistically significant nor large enough to be considered substantively important. In this study the effect was indeterminate, according to WWC criteria.

Phonological processing. Lonigan et al. (1999) found no statistically significant effects for any of the four outcome measures and the average effect across the four measures was not large enough to be considered substantively important. In this study the effect was indeterminate, according to WWC criteria.

Rating of effectiveness

The WWC rates the effects of an intervention in a given outcome domain as positive, potentially positive, mixed, no discernible effects, potentially negative, or negative. The rating of effectiveness takes into account four factors: the quality of the research design, the statistical significance of the findings,[10] the size of the difference between participants in the intervention and the comparison conditions, and the consistency in findings across studies (see the WWC Intervention Rating Scheme).

The WWC found *Dialogic Reading* to have positive effects for oral language and no discernible effects for phonological processing

Improvement index

The WWC computes an improvement index for each individual finding. In addition, within each outcome domain, the WWC computes an average improvement index for each study as well as an average improvement index across studies (see Technical Details of WWC-Conducted Computations). The improvement index represents the difference between the percentile rank of the average student in the intervention condition and the percentile rank of the average student in the comparison condition. Unlike the rating of effectiveness, the improvement index is entirely based on the size of the effect, regardless of the statistical significance of the effect, the study design, or the analysis. The improvement index can take on values between –50 and +50, with positive numbers denoting favorable results.

The average improvement index for oral language is +19 percentile points across the five studies, with a range of –6 to +48 percentile points across findings. The average improvement index for phonological processing is +9 percentile points for the one study, with a range of –7 to +40 percentile points across findings.

Findings for *Dialogic Reading* plus *Sound Foundations*

The study described below does not contribute to the overall rating of effectiveness because the intervention included a combination of *Dialogic Reading* and *Sound Foundations,* which does not allow the effects of *Dialogic Reading* alone to be determined. However, the WWC believes that the findings from this combined intervention may provide useful information to practitioners who are making a determination about the merits of combining *Dialogic Reading* with a supplemental phonological awareness curriculum *(Sound Foundations).* The WWC reports the individual study findings here and in Appendix A4.

Whitehurst, Epstein, et al. (1994) included 167 at-risk low-income four-year-old children from four Head Start centers in Suffolk County, New York. Whitehurst, Epstein, et al. compared oral language, print knowledge, phonological processing, and early reading/writing outcomes for children participating in *Dialogic Reading* combined with an adapted *Sound Foundations* curriculum to outcomes for children in a no-treatment comparison group participating in their regular Head Start services.

Oral language. Whitehurst, Epstein, et al. (1994) found no statistically significant difference between the intervention group and the comparison group on oral language as measured by the Language factor.[13] Zevenbergen, Whitehurst, and Zevenbergen (2003), a second report on the same study, reported findings on four additional oral language measures from the same study, none of which were statistically significant as calculated by the

13. The study authors conducted a principal components analysis on the 21 measures to reduce data. The WWC only presents results for the four factor scores (i.e., Language factor, Print concepts factor, Linguistic awareness factor, and Writing factor) because effect sizes could not be computed for the individual measures.

The WWC found *Dialogic Reading* to have positive effects for oral language and no discernible effects for phonological processing *(continued)*

WWC. The average effect across the five measures was neither statistically significant nor large enough to be considered substantively important, according to WWC criteria. The average improvement index for oral language is +6 percentile points with a range of –12 to +19 percentile points across findings.

Print knowledge. Whitehurst, Epstein, et al. (1994) reported a statistically significant difference favoring the intervention group on the Print concepts factor.[13] The statistical significance of this effect was confirmed by the WWC. The improvement index for print knowledge is +24 percentile points for the one print knowledge outcome in this study.

Phonological processing. Whitehurst, Epstein, et al. (1994) reported neither statistically significant nor substantively important effects on the Linguistic awareness factor.[13] The improvement index for phonological processing is +1 percentile point for the one phonological processing outcome in this study.

Early reading/writing. Whitehurst, Epstein, et al. (1994) reported a statistically significant difference favoring the intervention group on the Writing factor.[13] The statistical significance of this effect was confirmed by the WWC. The improvement index for early reading/writing is +20 percentile points for the one early reading/writing outcome in this study.

Summary

The WWC reviewed eight studies on *Dialogic Reading*. Four of the studies met WWC standards and one study met WWC standards with reservations. One additional study that met WWC standards is described in this report but is not included in the overall rating of effectiveness. The remaining two studies did not meet evidence screens. Based on the five studies included in the overall rating of effectiveness, the WWC found positive effects for oral language and no discernible effects for phonological processing. Findings from one study suggest that level of implementation of *Dialogic Reading* influences the impact of the practice on children's oral language skills. Based on the study that included a *Dialogic Reading* plus *Sound Foundations* intervention, the WWC found no discernible effects on oral language, potentially positive effects on print knowledge, no discernible effects on phonological processing, and potentially positive effects on early reading/writing. The evidence presented in this report may change as new research emerges.

References

Met WWC evidence standards

Lonigan, C. J., Anthony, J. L., Bloomfield, B. G., Dyer, S. M., & Samwel, C. S. (1999). Effects of two shared-reading interventions on emergent literacy skills of at-risk preschoolers. *Journal of Early Intervention, 22*(4), 306–322.

Lonigan, C. J., & Whitehurst, G. J. (1998). Relative efficacy of parent and teacher involvement in a shared-reading intervention for preschool children from low-income backgrounds. *Early Childhood Research Quarterly, 13*(2), 263–290.

Wasik, B. A., & Bond, M. A. (2001). Beyond the pages of a book: Interactive book reading and language development in preschool classrooms. *Journal of Educational Psychology, 93*(2), 243–250.

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., Epstein, J. N., Angell, A. L., Payne, A. C., Crone, D. A., & Fischel, J. E. (1994). Outcomes of an emergent literacy intervention in Head Start. *Journal of Educational Psychology, 86*(4), 542–555.

References *(continued)*

Additional sources:

Epstein, J. N. (1994). Accelerating the literacy development of disadvantaged preschool children: An experimental evaluation of a Head Start emergent literacy curriculum. *Dissertation Abstracts International, 55*(11), 5065B. (UMI No. 9510085)

Zevenbergen, A. A., Whitehurst, G. J., & Zevenbergen, J. A. (2003). Effects of a shared-reading intervention on the inclusion of evaluative devices in narratives of children from low-income families. *Journal of Applied Developmental Psychology, 24*, 1–15.

Met WWC evidence standards with reservations

Crain-Thoreson, C., & Dale, P. S. (1999). Enhancing linguistic performance: Parents and teachers as book reading partners for children with language delays. *Topics in Early Childhood Special Education, 19*(1), 28–39.

Did not meet WWC evidence screens

Hargrave, A. C., & Sénéchal, M. (2000). A book reading intervention with preschool children who have limited vocabularies: The benefits of regular reading and dialogic reading. *Early Childhood Research Quarterly, 15*(1), 75–90.[14]

Whitehurst, G. J., Zevenbergen, A. A., Crone, D. A., Schultz, M. D., Velting, O. N., & Fischel, J. E. (1999). Outcomes of an emergent literacy intervention from Head Start through second grade. *Journal of Educational Psychology, 91*(2), 267–272.[15]

For more information about specific studies and WWC calculations, please see the WWC *Dialogic Reading* Technical Appendices.

14. Confound: there was only one cluster (i.e., childcare center) in each study condition; therefore, the effects of the intervention could not be separated from the effects of the cluster.

15. Complete data were not reported: the WWC could not compute effect sizes based on the data reported.