WWC Intervention Report U.S. DEPARTMENT OF EDUCATION

## **What Works Clearinghouse**



Beginning Reading April 23, 2007

## **Little Books**

#### **Program description**

The *Little Books* are a set of books designed for interactive book reading between parents and children or teachers and students. The books use thematic topics familiar to children. They are

written with high-frequency words and use simple phrases and sentences. They also have strong links between illustrations and text.

#### Research

One study of *Little Books* met the What Works Clearinghouse (WWC) evidence standards. The study included 325 kindergarten students from 12 rural and urban schools in Newfoundland, Canada. Three variations of using *Little Books* (at home only, at school only, and both at home and school) were compared to a comparison condition that did not use *Little Books*.<sup>1</sup>

The WWC considers the extent of evidence for *Little Books* to be small for general reading achievement. No studies that met WWC standards with or without reservations addressed alphabetics, fluency, or comprehension.

#### **Effectiveness**

Little Books was found to have potentially positive effects on general reading achievement.

	Alphabetics	Fluency	Comprehension	General reading achievement
Rating of effectiveness	na	na	na	Potentially positive effects
Improvement index <sup>2</sup>	na	na	na	Average: +12 percentile points

na = not applicable

1. The evidence presented in this report is based on available research. Findings and conclusions may change as new research becomes available.

<sup>2.</sup> These numbers show the average and range of improvement indices for all findings across the study.

## Additional program information

#### **Developer and contact**

Little Books—Decodable Little Books by Christine McCormick, Little Books from A to Z by Christine McCormick and Jana Mason, and Little Books 123 by Christine McCormick—are published by Good Year Books. Address: PO Box 91858, Tucson, AZ 85752. Email: sales@goodyearbooks.com. Web: www.goodyearbooks.com. Telephone: (888) 511-1530.

#### Scope of use

Information is not available on the number or demographics of students, schools, or districts using *Little Books*.

#### **Teaching**

Little Books are sold as sets of reproducible little books, designed to be colored and read at home or at school.

#### Cost

Sets of 20 to 26 reproducible books are available for \$11.95.

from one small community), rural collector (drawing students

from a number of small communities), and small urban

#### Research

Two studies reviewed by the WWC investigated the effects of the *Little Books* program. One study (Phillips, Norris, Mason, & Kerr, 1990) was a randomized controlled trial that met WWC evidence standards. The other did not meet evidence screens for the Beginning Reading topic.

#### Extent of evidence

communities.3

The WWC categorizes the extent of evidence in each domain as small or moderate to large (see the What Works Clearinghouse Extent of Evidence Categorization Scheme). The extent of evidence takes into account the number of studies and the total sample size across the studies that met WWC evidence standards with or without reservations.<sup>4</sup>

The WWC considers the extent of evidence for *Little Books* to be small for general reading achievement. No studies that met WWC standards with or without reservations addressed alphabetics, fluency, or comprehension.

#### Met evidence standards

Phillips et al. (1990) included 325 kindergartners in 12 schools and presented final results for 314 students. The schools were randomly assigned to one of four conditions: those that used Little Books at home only, used Little Books at home and school, used Little Books at school only, or did not use Little Books but continued using the prescribed language development program (comparison group). Schools were distributed across three types of geographic areas: rural (drawing students

#### **Effectiveness**

#### **Findings**

The WWC review of beginning reading addresses student outcomes in four domains: alphabetics, reading fluency,

comprehension, and general reading achievement.<sup>5</sup> The single *Little Books* study reviewed in this intervention report (Phillips

- 3. The study authors presented data separately for each condition by geographic setting. The WWC combined effects across the geographic settings because there was only one of each of the intervention conditions and one comparison group within each geographic setting, making it difficult to separate the effects of the intervention from other characteristics of the schools.
- 4. The Extent of Evidence categorization was developed to tell readers how much evidence was used to determine the intervention rating, focusing on the number and size of studies. Additional factors associated with a related concept, external validity, such as students' demographics and the types of settings in which studies took place, are not taken into account for the categorization.
- 5. For definitions of the domains, see the Beginning Reading Protocol.

#### **Effectiveness** (continued)

et al., 1990) addresses student outcomes in the general reading achievement domain.<sup>6</sup>

General reading achievement. On the Metropolitan Readiness Test, Phillips et al. (1990) found a statistically significant effect for all three treatment groups (home only, school only, and home and school) compared to the comparison group. These effects were substantively important but not statistically significant, according to WWC criteria (effect sizes of at least 0.25).

The single study reviewed for this report had a strong design and was categorized as having potentially positive effects on general reading achievement.

#### Rating of effectiveness

# The WWC found *Little Books* to have potentially positive effects for general reading achievement

#### 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 and an average improvement index across studies (see <a href="Technical Details of WWC-Conducted Computations">Technical Details of WWC-Conducted Computations</a>). The improvement index represents the difference between the percentile rank of the average student in the intervention condition versus the percentile rank of the average student in the comparison condition. Unlike the rating of effectiveness, the improvement index is based entirely on the size of the effect, regardless of the statistical significance of the effect, the study design, or the analyses. The improvement index can take on values between

-50 and +50, with positive numbers denoting results favorable to the intervention group.

The improvement index across the three variations of *Little Books* for general reading achievement was +12 percentile points for each group, resulting in an average of +12 percentile points for the study.

#### **Summary**

The WWC reviewed two studies on the *Little Books* program and one study met WWC evidence standards. The WWC categorized the study as having potentially positive effects on general reading achievement with kindergartners. The evidence presented in this report may change as new research emerges.

#### References

#### Met WWC evidence standards

Phillips, L. M., Norris, S. P., Mason, J. M., & Kerr, B. M. (1990). Effect of early literacy intervention on kindergarten achievement (Tech. Rep. No. 520). Champaign: University of Illinois at Urbana-Champaign, Center for the Study of Reading.

#### Did not meet WWC evidence screens

McCormick, C. E., & Mason, J. M. (1989). Fostering reading for Head Start children with Little Books. In J. Allen & J. M. Mason (Eds.), *Risk makers, risk takers, risk breakers:* Reducing the risks for young literacy learners (pp. 154–177). Portsmouth, NH: Heinemann.<sup>7</sup>

- 6. The level of statistical significance was calculated by the WWC and, where necessary, corrects for clustering within classrooms or schools and for multiple comparisons. For an explanation, see the <a href="https://www.wwc.nummarch.com/wwc-conducted-computations">www.wwc.nummarch.com/wwc-conducted-computations</a> for the formulas the WWC used to calculate the statistical significance. In the case of <a href="https://www.wwc.nummarch.com/www.wwc.nummarch.com/wwc-conducted-computations">https://www.wwc.nummarch.com/wwc-conducted-computations</a> for the formulas the WWC used to calculate the statistical significance. In the case of <a href="https://www.wwc.nummarch.com/wwc-conducted-computations">https://www.wwc.nummarch.com/wwc-conducted-computations</a> for the formulas the WWC used to calculate the statistical significance. In the case of <a href="https://www.wwc.nummarch.com/www.wwc.nummarch.com/wwc-conducted-computations">https://www.wwc.nummarch.com/wwc-conducted-computations</a> for the formulas the WWC used to calculate the statistical significance. In the case of <a href="https://www.www.wwc.nummarch.com/www.wwc.num
- 7. The sample is not appropriate to this review: the parameters for this WWC review specified that students should be in grades K through 3 during the time of the intervention; this study did not focus on the targeted grades.

#### **References** (continued)

#### Additional source:

McCormick, C. E., & Mason, J. M. (1986). *Use of Little Books at home: A minimal intervention strategy that fosters early reading* (Tech. Rep. No. 338). Champaign: University of Illinois at Urbana-Champaign, Center for the Study of Reading. (ERIC Document Reproduction Service No. ED314742)

For more information about specific studies and WWC calculations, please see the <u>WWC Little Books Technical Appendices</u>.

### **Appendix**

#### **Appendix A1** Study characteristics: Phillips, Norris, Mason, & Kerr, 1990 (randomized controlled trial)

Characteristic	Description
Study citation	Phillips, L. M., Norris, S. P., Mason, J. M., & Kerr, B. M. (1990). Effect of early literacy intervention on kindergarten achievement (Technical report no. 520). Champaign, IL: Center for the Study of Reading, University of Illinois at Urbana-Champaign.
Participants	The study sample included 40 Newfoundland schools divided into three groups: rural (drawing students from one small community), rural collector (drawing students from a number of small communities), and small urban communities. From each of these groups, four schools were randomly selected to participate in the study, each randomly assigned to one of four study conditions: those that used <i>Little Books</i> at home, used <i>Little Books</i> at home and school, used <i>Little Books</i> at school only, and did not use <i>Little Books</i> (comparison group). The study began with 325 students attending 18 kindergarten classes at 12 schools. The analysis sample included 314 students. The area in which the study was conducted has the highest rate of basic and functional illiteracy in Canada and consistently scores below the Canadian national norm on standardized tests.
Setting	This study was conducted in kindergarten classrooms across rural and urban locations in Newfoundland, Canada.
Intervention	Three variations of the <i>Little Books</i> intervention were studied, those that used the program at home only, at school only, or both at home and at school. All three used the <i>Little Books</i> , which use high-frequency words, simple sentences, and thematic topics with which children are familiar. For the home group, school staff gave a new book to each child at the start of each week for the child to take home and read with parents. For the school group, a different book was introduced by teachers each week, and approximately 10–15 minutes each day were devoted to the materials. For the school and home group, the school-only procedures were followed and at the end of each week the teachers sent the <i>Little Book</i> home.
Comparison	The control condition used the standard language development program for Newfoundland, Canada.
Primary outcomes and measurement	This review focuses on the results for the Metropolitan Readiness Test (see Appendix A2.1 for a more detailed description of outcome measures). Results for the Emergent Literacy Concepts Test, a test designed for the study, are not included in this review because of unequal testing conditions between the interventions and comparison groups. The posttest included a section that asked students to read words that came from the <i>Little Books</i> , so students in the intervention condition had exposure to these words before the posttest was administered. It is unknown whether or not the comparison condition students had exposure to the words. The authors also used the CIRCUS Listen to the Story test, which is an assessment of oral comprehension and thus falls outside the domains included in the WWC beginning reading review. <sup>3</sup>
Teacher training	Parents and teachers were trained to use the <i>Little Books</i> . Parents were shown a video in which a parent and child worked with several books. Guidelines were provided by the developers, which gave suggestions about setting up a comfortable reading arrangement, discussing the main idea of the book, reading the book aloud, and eliciting the child to read. Suggestions were also made for use of particular books. Teachers attended a workshop in which they were encouraged to spend 10–15 minutes each day with the <i>Little Books</i> . They were given a specific instructional procedure that involved an opening, modeling, tryouts, and a closing. They were asked to introduce and read the book to the whole class, then work with smaller groups of children reading the book for the next three days. The last day, they were to ask each child to read the <i>Little Book</i> .

<sup>1.</sup> The study authors presented data separately for each condition by geographic setting. The WWC combined effects across the geographic settings because there was only one of each of the intervention conditions and one comparison group within each geographic setting, making it difficult to separate the effects of the intervention from other characteristics of the schools.

<sup>2.</sup> The study relied on an analysis sample of 309 students because the authors included the Circus outcome measure and some students were missing this measure. The WWC did not use the Circus measure for its analysis (see Primary outcomes and measurement row).

<sup>3.</sup> For further details about the scope of the beginning reading topic review, see the Beginning Reading Protocol.

#### **Appendix A2** Outcome measures in the general reading achievement domain

Characteristic	Description
Metropolitan Readiness Test (MRT)	The MRT, a standardized test published by Harcourt, is a group-administered test. It assesses literacy skills of pre-K to first-grade students, measuring auditory memory, letter recognition, and language and listening. The test has two levels of difficulty: MRT-1, which was used as the pretest, and MRT-2, which was used as the posttest (as cited in Phillips, Norris, Mason, & Kerr, 1990).

#### Appendix A3 Summary of study findings for the general reading achievement domain<sup>1</sup>

			Authors' findings from the study, aggregated by the WWC <sup>2</sup> Mean outcome (standard deviation <sup>3</sup> )		- WWC calculations			
Outcome measure	Study sample	Sample size (students/ schools)	Little Books group <sup>4</sup>	Comparison group	Mean difference <sup>5</sup> ( <i>Little Books</i> – comparison)	Effect size <sup>6</sup>	Statistical significance <sup>7</sup> (at $\alpha = 0.05$ )	Improvement index <sup>8</sup>
		Phillips, I	Norris, Mason, & Kei	r, 1990 (randomize	ed controlled trial) <sup>9</sup>			
Home-only group vs. compa	arison group <sup>10</sup>							
Metropolitan Reading Readiness Test	Kindergarten students	165/6	41.93 (13.20)	37.91 (12.25)	4.02	0.31	ns	+12
Home and school group vs.	comparison group <sup>10</sup>							
Metropolitan Reading Readiness Test	Kindergarten students	156/6	41.91 (14.71)	37.91 (12.25)	4.00	0.30	ns	+12
School-only group vs. comp	oarison group <sup>10</sup>							
Metropolitan Reading Readiness Test	Kindergarten students	157/6	42.17 (14.44)	37.91 (12.25)	4.26	0.32	ns	+12
Domain average for general	reading achievement	11				0.31	ns	+12

#### ns = not statistically significant

- 1. This appendix reports findings considered for the effectiveness rating and the average improvement indices.
- 2. The study authors presented data separately for each condition by geographic setting. The WWC combined effects across the geographic settings because there was only one of each of the intervention conditions and one comparison group within each geographic setting, making it difficult to separate the effects of the intervention from other characteristics of the schools.
- 3. The standard deviation shows how dispersed the participants' outcomes are: a smaller standard deviation on a given measure would indicate that participants had more similar outcomes.
- 4. The Little Books group mean equals the comparison group mean plus the mean difference. The computation of the mean difference took into account the pretest difference between the study groups.
- 5. Positive differences and effect sizes favor the intervention group; negative differences and effect sizes favor the comparison group.
- 6. For an explanation of the effect size calculation, see Technical Details of WWC-Conducted Computations.
- 7. Statistical significance is the probability that the difference between groups is a result of chance rather than a real difference between the groups.
- 8. The improvement index represents the difference between the percentile rank of the average student in the intervention condition versus the percentile rank of the average student in the comparison condition. The improvement index can take on values between -50 and +50, with positive numbers denoting results favorable to the intervention group.
- 9. The level of statistical significance was calculated by the WWC and, where necessary, corrects 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 statistical significance. In the case of Phillips, Norris, Mason, and Kerr (1990), a correction for clustering was needed, so the significance levels differ from those reported in the original study.
- 10. The WWC combined effects across the three geographic settings. For the formula used to aggregate results across groups, see Technical Details of WWC-Conducted Computations.
- 11. This row provides the study average, which, in this instance, is also the domain average. The WWC-computed domain average effect size is a simple average rounded to two decimal places. The domain improvement index is calculated from the average effect size.

#### Appendix A4 Little Books rating for the general reading achievement domain

The WWC rates an intervention's effects in a given outcome domain as positive, potentially positive, mixed, no discernible effects, potentially negative, or negative. For the outcome domain of general reading achievement, the WWC rated *Little Books* as having potentially positive effects. It did not meet the criteria for positive effects because only one study met WWC evidence standards. The remaining ratings (mixed effects, no discernible effects, potentially negative effects, negative effects) were not considered, as Little Books was assigned the highest applicable rating.

#### **Rating received**

Potentially positive effects: Evidence of a positive effect with no overriding contrary evidence.

Criterion 1: At least one study showing a statistically significant or substantively important positive effect.

Met. Little Books had one study showing substantively important positive effect.

• Criterion 2: No studies showing a statistically significant or substantively important *negative* effect and fewer or the same number of studies showing *indeterminate* effects than showing statistically significant or substantively important *positive* effects.

Met. No studies showed a statistically significant or substantively important negative effect.

#### **Other ratings considered**

Positive effects: Strong evidence of a positive effect with no overriding contrary evidence.

- Criterion 1: Two or more studies showing statistically significant positive effects, at least one of which met WWC evidence standards for a strong design.
  - Not met. Little Books has only one study and it did not show statistically significant positive effects.
- Criterion 2: No studies showing statistically significant or substantively important negative effects.
  - Met. No studies showed a statistically significant or substantively important negative effect.

#### Appendix A5 Extent of evidence by domain

	Sample size					
Outcome domain	Number of studies	Schools	Students	Extent of evidence <sup>1</sup>		
Alphabetics	0	0	0	na		
Fluency	0	0	0	na		
Comprehension	0	0	0	na		
General reading achievement	1	6	314	Small		

#### na = not applicable/not studied

<sup>1.</sup> A rating of "moderate to large" requires at least two studies and two schools across studies in one domain and a total sample size across studies of at least 350 students or 14 classrooms. Otherwise, the rating is "small."