

# What Works Clearinghouse



## Early Intervention in Reading®

**Program description**

*Early Intervention in Reading (EIR)*® is a program designed to provide extra instruction to groups of students at risk of failing to read. The program uses picture books to stress instruction in phonemic awareness, phonics, and contextual analysis, along with repeated reading and writing. In grades K–2, the program includes whole-class instruction followed by small-group

instruction for students who score low on oral reading and literacy skills. In grades 3 and 4, the program consists of small group instruction for 20 minutes, four days a week. Teachers are trained for nine months using workshops and an Internet-based professional development program.

**Research**

One study of *Early Intervention in Reading*®<sup>1</sup> met the What Works Clearinghouse (WWC) evidence standards. The one study included 12 teachers and 59 students in first grade from one Midwestern state.<sup>2</sup>

The WWC considers the extent of evidence for *Early Intervention in Reading*® to be small for alphabetics and comprehension. No studies that met WWC standards with or without reservations addressed fluency or general reading achievement.

**Effectiveness**

*Early Intervention in Reading*® was found to have potentially positive effects in alphabetics and comprehension.

	Alphabetics	Fluency	Comprehension	General reading achievement
<b>Rating of effectiveness</b>	Potentially positive effects	na	Potentially positive effects	na
<b>Improvement index<sup>3</sup></b>	Average: + 36 percentile points Range: +29 to +42 percentile points	na	+18 percentile points	na

na = not applicable

- Early Intervention in Reading*® has also been adapted into Houghton Mifflin’s *Early Success*™ program. Both programs are available for purchase. This report focuses solely on *Early Intervention in Reading*®.
- The evidence presented in this report is based on available research. Findings and conclusions may change as new research becomes available.
- These numbers show the average and range of improvement indices for all findings across the study.

## Additional program information

### Developer and contact

Developed by Dr. Barbara Taylor, *Early Intervention in Reading*<sup>®</sup> is distributed by the *Early Intervention in Reading* Program. Address: EIR<sup>®</sup> Professional Development Program, c/o Ceil Critchley, 11293 Hastings Street NE, Blaine, MN 55449. Email: [ccritchley@comcast.net](mailto:ccritchley@comcast.net). Web: [www.earlyinterventioninreading.com](http://www.earlyinterventioninreading.com). Telephone: (763) 785-0701.

### Scope of use

*Early Intervention in Reading*<sup>®</sup> was developed in 1989–90. Information is not available on the number or demographics of students, schools, or districts using the program.

### Teaching

Instruction involves 15–20 minutes of daily supplemental instruction to the whole class or to groups of five to seven struggling readers. In kindergarten, activities address listening to stories, creative dramatics, and literacy development (concepts of print, rhyme, phonemic segmentation and blending, letter and sound recognition). In first and second grades, the lessons include repeated reading of familiar stories, coached reading of a new story, phonemic awareness training and systematic phonics instruction, as well as guided sentence writing, vocabulary, and comprehension instruction. The third and fourth grade programs use narrative and informational picture books and focus on

attacking multi-syllabic words and fluency, vocabulary, and comprehension strategies. The study reviewed here focused on first grade students.

*EIR*<sup>®</sup> has a number of teacher training modules. Modules cover how to use the program, the research and background of the program, routines for the various grade levels, and use of assessments. Other topics include involving parents, training one-on-one coaches, taking running records, and evaluating *EIR*<sup>®</sup> implementation. The training program lasts nine months and consists of two-hour Internet sessions conducted once a month, along with telephone support from an *EIR*<sup>®</sup> trainer. Typically, 45 minutes is spent in a large group session, during which an on-site facilitator leads the group through the Internet program. Then 45 minutes is spent in small groups with teachers sharing videos of their own practice. For the last half hour of the session, an *EIR*<sup>®</sup> trainer meets with the cohort via conference call to answer questions and highlight appropriate concepts and procedures. Trainers also speak with the teachers by phone between meetings. On-site technical assistance can be requested by program developers.

### Cost

Currently, the *EIR*<sup>®</sup> Internet training program costs \$500 per teacher. One or more site visits by the *EIR*<sup>®</sup> trainer can be arranged at an additional cost. Discounts are available for groups of 10 or more teachers.

## Research

Five studies reviewed by the WWC investigated the effects of *EIR*<sup>®</sup>. One study (Taylor, Frye, Short, & Shearer, 1991) was a randomized controlled trial that met WWC evidence standards. The remaining four studies did not meet WWC evidence screens.

room, five or six of the lowest achieving students participated in the study. In all, 31 students in six classrooms were in the treatment group, and 28 students in six classrooms were in the comparison group.

### Met evidence standards

Taylor, Frye, Short, & Shearer (1991) conducted a randomized controlled trial of first grade teachers in two schools located in a Midwestern suburban school district. In each first grade class-

### Extent of evidence

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

## Research (continued)

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 *Early Intervention in Reading*<sup>®</sup> to be small for alphabetics and comprehension. No studies that met WWC standards with or without reservations addressed fluency or general reading achievement.

## Effectiveness Findings

The WWC review of interventions for beginning reading addresses student outcomes in four domains: alphabetics, reading fluency, comprehension, and general reading achievement.<sup>5</sup> The study included in this *EIR*<sup>®</sup> report covers two domains: alphabetics and comprehension. Within alphabetics, results for two constructs, phonological awareness and phonics, are reported. The findings present the authors' estimates and WWC-calculated estimates of the size and the statistical significance of the effects of *EIR*<sup>®</sup> on students.

*Alphabetics.* The Taylor et al. (1991) study findings for this domain are based on students' performance on two measures of alphabetics: (1) segmentation and blending and (2) vowel sounds. When the *EIR*<sup>®</sup> group was compared with the comparison group, the study authors found and the WWC confirmed statistically significant positive effects on both measures.

*Comprehension.* The Taylor et al. (1991) study findings for the comprehension domain are based on the performance of *EIR*<sup>®</sup> students and comparison students on a standardized reading test (Gates-MacGinitie). The study authors did not find statistically significant effects of *EIR*<sup>®</sup> but the effect was positive and large enough to be considered substantively important according to WWC criteria (that is, an effect size at least 0.25).

## 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,<sup>6</sup> 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 *Early Intervention in Reading*<sup>®</sup> to have potentially positive effects for the alphabetics and comprehension domains

## 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 [Technical Details of WWC-Conducted Computations](#)). 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.

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](#).
6. 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, see the [WWC Tutorial on Mismatch](#). See the [WWC Intervention Rating Scheme](#) for the formulas the WWC used to calculate the statistical significance. In the case of *Early Intervention in Reading*<sup>®</sup>, corrections for clustering and for multiple comparisons were needed.

**The WWC found *Early Intervention in Reading*<sup>®</sup> to have potentially positive effects for the alphabets and comprehension domains** *(continued)*

The average improvement index for alphabets is +36 percentile points in the one study, with a range of +29 to +42 percentile points across findings.

The improvement index for comprehension is +18 percentile points in the one study with only one outcome measured.

## References

### Met WWC standards

Taylor, B. M., Frye, B. J., Short, R., & Shearer, B. (1991). *Early Intervention in Reading: Preventing reading failure among low-achieving first grade students*. Minneapolis: University of Minnesota, Center for Urban and Regional Affairs and Office of the Vice President of Academic Affairs.

#### **Additional sources:**

Taylor, B. M. (2001). *The Early Intervention in Reading Program (EIR)<sup>®</sup>: Research and development spanning twelve years* (Tech. Rep.). Boston: Houghton Mifflin Company.

Taylor, B. M., Short, R., Frye, B., & Shearer, B. (1992). Classroom teachers prevent reading failure among low achieving first-grade students. *The Reading Teacher*, 45(8), 592–597.

### Did not meet WWC evidence screens

Chard, D. J. (1997). *Final evaluation report AY 1996-97: Early Reading Intervention Project, Springfield Public Schools, Springfield, Massachusetts*. Retrieved from Houghton Mifflin Company, Education Place Web site: <http://www.eduplace.com/intervention/readintervention/pdfs/springfield.pdf><sup>7</sup>

## Summary

The WWC reviewed five studies on *Early Intervention in Reading*<sup>®</sup>. One of these studies met WWC standards; the others did not meet WWC evidence screens. Based on this one study, the WWC found potentially positive effects in the alphabets and comprehension domains. The evidence presented in this report is limited and may change as new research emerges.

Taylor, B. M., Critchley, C., Paulsen, K., MacDonald, K., & Miron, H. (2002). *Learning to teach an early reading intervention program through Internet-supported professional development*. Retrieved from Early Intervention in Reading Program Web site: [http://www.earlyinterventioninreading.com/pdfs/taylor\\_research2.pdf](http://www.earlyinterventioninreading.com/pdfs/taylor_research2.pdf)<sup>8</sup>

Taylor, B. M., Hanson, B. E., Justice-Swanson, K., & Watts, S. (1997). Helping struggling readers: Linking small-group intervention with cross-age tutoring. *The Reading Teacher*, 51(3), 196–208.<sup>9</sup>

#### **Additional source:**

Taylor, B. M., Watts, S. M., & Hanson, B. E. (1997). *Teachers working together to help struggling readers: Linking second grade reading intervention with fourth grade tutoring in urban elementary school*. (Available from Barbara Taylor, Ed.D., University of Minnesota, 1517 Goodrich Avenue, St. Paul, MN 55105)

Wing, M. A. (1994). The effects of a supplemental literacy program on students in a developmental first-grade classroom using cross-age tutors. *Dissertation Abstracts International*, 56(01), 151A. (UMI No. 9514687)<sup>10</sup>

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**For more information about specific studies and WWC calculations, please see the [WWC EIR<sup>®</sup> Technical Appendices](#).**

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7. Confound: this study included EIR but combined it with another intervention so the analysis could not separate the effects of the intervention from other factors.
8. Confound: the intervention condition was largely assisted by an aide, while the control condition was not. Therefore, the study could not separate the effects of the intervention from the effect of aides.
9. Does not use a strong causal design: there was only one intervention and one comparison unit, so the analysis could not separate the effects of the intervention from other factors.
10. Does not use a strong causal design: for the sample of interest to this WWC review, there was only one intervention, so the analysis could not separate the effects of the intervention from other factors.