

What Works Clearinghouse



Waterford Early Reading Program™

Program description¹

Waterford Early Reading Program™ is a software-based curriculum for students in Kindergarten through second grade. The curriculum is designed to promote reading, writing, and typing, incorporating literacy skills such as letter mastery, language stories, spelling, basic writing skills, reading and listening development, and comprehension strategies. It can be used as a

supplement to the regular reading curriculum. Program materials include classroom lessons and take-home materials in addition to the Waterford software. *Waterford Early Reading Program™* offers pretest placement and posttest assessments, in addition to ongoing assessments throughout the program.

Research

One study of *Waterford Early Reading Program™* met the What Works Clearinghouse (WWC) evidence standards with reservations. The single study included more than 70 Kindergarten students from six schools in Ohio.² The WWC considers the

extent of evidence for *Waterford Early Reading Program™* to be small for alphabets and for comprehension. No studies that met WWC evidence standards with or without reservations addressed fluency or general reading achievement.

Effectiveness

Waterford Early Reading Program™ was found to have potentially positive effects on alphabets and no discernible effects on comprehension.

	Alphabets	Fluency	Comprehension	General reading achievement
Rating of effectiveness	Potentially positive effects	na	No discernible effects	na
Improvement index ³	Average: +19 percentile points Range: -26 to +37 percentile points	na	Average: +4 percentile points	na

na = not applicable

1. The descriptive information for this program was obtained from a publicly available document on the program's web site (<http://www.pearsondigital.com/pdfs/werp/researchsummary-werp.pdf>, downloaded April 2007). The WWC requests developers to review the program description sections for accuracy from their perspective. Further verification of the accuracy of the descriptive information for this program is beyond the scope of this review.
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 range of student-level improvement indices for all findings across the study.

Additional program information¹

Developer and contact

Developed by Dustin Heuston, Ph.D., at the Waterford Institute, *The Waterford Early Reading Program™* is distributed by Pearson Digital Learning. Address: 6710 East Camelback Road, Scottsdale, AZ 85251. Email: pdlinfo@pearson.com. Web: <http://www.pearsondigital.com/waterford>. Telephone: (888) 977-7900.

Scope of use

The program was initially developed in 1990, and the first level of the *Waterford Early Reading Program™* was launched in 1995. According to the developer, it is currently used in more than 13,000 sites across the United States and serves 350,000 students.

Teaching

Waterford Early Reading Program™ is divided into three levels, each designed for individualized, year-long instruction. The first level is taught in kindergarten and includes print concepts,

phonological awareness, and letter recognition. The second level is taught in first grade and includes letter sounds, word recognition, and beginning reading comprehension. The third level is taught in second grade and builds on levels one and two with an emphasis on content meaning of text and fluency in reading. Each level contains hundreds of songs and game-like activities with color graphics, digitized voices, and animation.

The *Waterford Early Reading Program™* curriculum includes the Waterford software, assessment materials, classroom lessons, homework materials, and classroom posters, as well as student take-home books, CDs, and handouts. On-site training and online “webinars” are available for initial training in addition to a detailed teacher’s guide.

Cost

Program materials for the *Waterford Early Reading Program™* cost approximately \$300 per student. Cost of training is not available.

Research

Thirty-six studies reviewed by the WWC investigated the effects of *Waterford Early Reading Program™*. One study (Hecht & Close, 2002) was a quasi-experimental design that met WWC evidence standards with reservations. The remaining 35 studies did not meet WWC evidence screens.

Hecht & Close (2002) included 42 students in four intervention schools and 34 students in two comparison schools. Students in the intervention schools received *Waterford Early Reading Program™* in addition to their regular curriculum. Students in the comparison schools received no supplement to their regular curriculum.

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 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.⁴

The WWC considers the extent of evidence for *Waterford Early Reading Program™* to be small for alphabets and for comprehension. No studies that met WWC evidence standards with or without reservations addressed fluency or general reading achievement.

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 the students’ demographics and the types of settings in which studies took place, are not taken into account for the categorization.

Effectiveness Findings

The WWC review of interventions for beginning reading addresses student outcomes in four domains: alphabets, fluency, comprehension, and general reading achievement.⁵ The study reported here included outcomes for alphabets and comprehension. Within alphabets, the studies reviewed cover four constructs: phonological awareness, letter knowledge, print knowledge, and phonics.

Alphabets. Hecht & Close (2002) examined nine student outcomes in the alphabets domain: four phonological awareness outcomes (the Elision, Phonemic Blending, Phonemic Segmenting, and Sound Matching subtests of the Comprehensive Test of Phonological Processing (CTOPP)); one letter identification outcome (a letter name knowledge test); one print awareness outcome (Stones—Concepts About Print test); and three phonics outcomes (the Letter Sound Knowledge and Letter Word Identification subtests of the Woodcock-Johnson Tests of Achievement—Revised and the Spelling subtest (with phonemic representation scoring)⁶ of the Wide Range Achievement Test (WRAT)). Hecht & Close (2002) reported statistically significant positive effects of the *Waterford*

*Early Reading Program*TM for all nine outcomes. However, the WWC analysis found that none of these effects were statistically significant. The average effect size across all nine outcomes was large enough to be considered substantively important according to the WWC criteria (that is, an effect size of at least 0.25).

Comprehension. The study authors examined one vocabulary development outcome (the Vocabulary subtest of Stanford-Binet, Fourth Edition) and reported no statistically significant effect. The effect size was neither statistically significant nor substantively important.

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,⁷ 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 *Waterford Early Reading Program*TM to have potentially positive effects on alphabets and no discernible effects on comprehension

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.

The average improvement index for alphabets is +19 percentile points for the single study, with a range of –26 to +37 percentile points across findings. The improvement index for the single outcome in the comprehension domain is +4 percentile points.

5. For definitions of the domains, see the [Beginning Reading Protocol](#).

6. Spelling is not typically counted as a WWC Beginning Reading outcome, but this subtest used a qualitative scoring method. See Appendix A2.1 for details.

7. 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 [Technical Details of WWC-Conducted Computations](#) for the formulas the WWC used to calculate the statistical significance. In the case of *Waterford Early Reading Program*TM, corrections for clustering and multiple comparisons were needed.

The WWC found *Waterford Early Reading Program*[™] to have potentially positive effects on alphabets and no discernible effects on comprehension *(continued)*

Summary

The WWC reviewed 36 studies on *Waterford Early Reading Program*[™]. One study met WWC evidence standards with reservations; the remaining studies did not meet WWC evidence

screens. Based on the one study, the WWC found potentially positive effects on alphabets and no discernible effects on comprehension. The evidence presented in this report may change as new research emerges.

References

Met WWC evidence standards with reservations

Hecht, S. A., & Close, L. (2002). Emergent literacy skills and training time uniquely predict variability in responses to phonemic awareness training in disadvantaged kindergartners. *Journal of Experimental Child Psychology, 82*(2), 93–115.

Additional citation for this study:

Hecht, S. A. (2000). *Waterford Early Reading program in Ohio: An evaluation*. (Available from the Waterford Institute, Inc., 55 West 900 South, Salt Lake City, UT 84101)

Did not meet WWC evidence screens

Alfaro, R. (1999). The technology-reading connection. *Educational Workshop, 56*(6), 48–51.⁸

Canedo, M., Smolen, L., & Pollard, J. (2000). *A study of the effectiveness of the Waterford Early Reading Program: Final evaluation results 1997–98*. Buffalo, NY: Buffalo Public Schools. (Available from the Waterford Institute, Inc., 55 West 900 South, Salt Lake City, UT 84101)⁹

Cassady, J. C., & Smith, L. L. (2003). The impact of a reading-focused integrated learning system on phonological awareness in kindergarten. *Journal of Literacy Research, 35*(4), 947–964.¹⁰

Cassady, J. C., & Smith, L. L. (2005). The impact of a structured integrated learning system on first grade students' reading gains. *Reading and Writing Quarterly, 21*(4), 361–376.¹¹

Cope, R., & Cummings, J. (2001). *Evaluation of the Waterford Early Reading Program in Madisonville Consolidated Independent School District*. Huntsville, TX: Sam Houston State University. (Available from the Waterford Institute, Inc., 55 West 900 South, Salt Lake City, UT 84101)¹²

Corbett, R. (2000). *An evaluation of the Waterford Early Reading Program in the Hillcrest Title I school in the Alpine School District*. (Available from the Waterford Institute, Inc., 55 West 900 South, Salt Lake City, UT 84101)⁸

Dunn, A. (1999). *Evaluation of the Waterford Early Reading Program in selected Utah public school for the 1997–98 school year*. Salt Lake City, UT: Waterford Institute, Inc. (Available from the Waterford Institute, Inc., 55 West 900 South, Salt Lake City, UT 84101)¹¹

Electronic Education. (2002). *Correlation. Put reading first: The research building blocks for teaching children to read*. (Available from the Waterford Institute, Inc., 55 West 900 South, Salt Lake City, UT 84101)⁸

Heuston, D. (1996). Power tools. *Phi Delta Kappan, 77*(10), 706.⁸

8. Does not use a strong causal design: this study did not use a comparison group.
9. Complete data are not reported: the WWC could not compute effect sizes because complete study details were not reported.
10. 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.
11. Does not use a strong causal design: a historical cohort was used as the comparison group. WWC conventions allow for historical control cohorts in studies that have a broad unit of analysis (school or higher). This study analyzed at the student level and therefore does not fulfill the WWC requirement.
12. Incomparable groups: this study was a quasi-experimental design that used achievement pretests but it did not establish that the comparison group was comparable to the treatment group prior to the start of the intervention.

References (continued)

- Hillsborough County Public Schools. (n.d.). *An evaluation of the Waterford Early Reading Program Bryan Elementary Hillsborough County, Florida 1997–98 school year*. Plant City, FL: Author. (Available from Waterford Institute, Inc., 55 West 900 South, Salt Lake City, UT 84101)⁸
- Jadali, F., & Wright, B. (n.d.). *A study of the effectiveness of the Waterford Early Reading Program at Commons Lane Elementary School*. (Available from the Waterford Institute, Inc., 55 West 900 South, Salt Lake City, UT 84101)⁸
- Kortz, W. J. (n.d.). *An evaluation of Waterford Early Reading Program*. (Available from the Waterford Institute, Inc., 55 West 900 South, Salt Lake City, UT 84101) (Study: Hempstead Independent School District, Hempstead, TX)⁸
- Murray-Ward, M. (2000). *El Centrito interim grant report for the period of July 1, 1999 to December 31, 1999 (Report No. 109)*. Thousand Oaks: California Lutheran University, Educational Research and Leadership Institute. (Available from the Waterford Institute, Inc., 55 West 900 South, Salt Lake City, UT 84101)¹³
- Nagel, R. J. (1999). *An evaluation of the Waterford Early Reading Program in Pittsburgh, PA Public School District*. (Available from the Waterford Institute, Inc., 55 West 900 South, Salt Lake City, UT 84101)¹⁴
- Obeso-Bradley, C., & Miller, B. (1999, December). *Early literacy and technology: The Waterford Early Reading Program (WERP) Level 2, Southside School District, Hollister, California*. Paper presented at the annual education conference of the California School Boards Association, San Francisco, CA. (Available from the Waterford Institute, Inc., 55 West 900 South, Salt Lake City, UT 84101)⁸
- Paterson, W. A., Henry, J. J., O'Quin, K., Ceprano, M. A., & Blue, E. V. (2003). Investigating the effectiveness of an integrated learning system on early emergent readers. *Reading Research Quarterly*, 38(2), 172–206.¹⁵
- Pukas, B. (1998, May). *A study of the effectiveness of the Waterford Early Reading Program: First-year evaluation reviews*. (Available from the Waterford Institute, Inc., 55 West 900 South, Salt Lake City, UT 84101) (**Study: New London Public Schools**)¹⁰
- Research, Assessment & Measurement, Inc. (1997). *A study of the effectiveness of the Waterford Program at Glenridge Elementary School*. Baltimore, MD: Author. (Available from the Waterford Institute, Inc., 55 West 900 South, Salt Lake City, UT 84101)¹⁰
- Research, Assessment & Measurement, Inc. (1999). *Evaluation of Waterford Early Reading Program Hacienda la Puente Unified School District Los Angeles County, CA Program Year 1997–98*. Baltimore, MD: Author. (Available from the Waterford Institute, Inc., 55 West 900 South, Salt Lake City, UT 84101)¹²
- Research, Assessment & Measurement, Inc. (2004). *Evaluation of Waterford Early Reading Program: Collins Garden and Nelson Elementary Schools San Antonio, Texas*. Baltimore, MD: Author. (Available from the Waterford Institute, Inc., 55 West 900 South, Salt Lake City, UT 84101)⁸
- Reynolds, C. (2001). *An evaluation of the Waterford Early Reading Program*. (Available from the Waterford Institute, Inc., 55 West 900 South, Salt Lake City, UT 84101) (**Study: Decatur School District 61**)¹⁴
- Roe, E. (2000). *An evaluation of the Waterford Early Reading Program in Scott Lane Elementary School Santa Clara Unified School District, Santa Clara, Calif., 1998–99 school year*. (Available from the Waterford Institute, Inc., 55 West 900 South, Salt Lake City, UT 84101)⁸

13. The sample is not appropriate to this review: the parameters for this WWC review specified that students should be in grades kindergarten through third grade during the time of the intervention; this study did not focus on the targeted grades.

14. Does not use a strong causal design: this study was a quasi-experimental design but did not use achievement pretests to establish that the comparison group was equivalent to the intervention group at baseline.

15. Does not use a strong causal design: this study was a quasi-experimental design but did not provide enough information to establish that the comparison group and the intervention group were composed of comparable students.

References (continued)

- Shapley, K. S. (1997). *Special report of the 1996–1997 Waterford Early Reading Program*. Dallas, TX: Dallas Public Schools.¹⁴
- Additional citation for this study:**
- Waterford Institute, Inc. (1998). *A preliminary report of the 1996–97 test results from elementary schools in the Dallas ISD on the effectiveness of the Waterford Early Reading Program*. (Available from the Waterford Institute, Inc., 55 West 900 South, Salt Lake City, UT 84101)
- Tracey, D. H. (n.d.). *The Waterford Early Reading Program: Research orientation, studies, and findings: Executive summary*. Retrieved from Pittsburgh Public Schools, Office of the Deputy Superintendent of Instruction, Assessment, and Accountability Web site: <http://www.pps.k12.pa.us/academicoffice/literacyplus/waterford/stuff/executive%20summary%20-%20diane%20traecy.doc>⁸
- Walberg, H. J. (2001). *Final evaluation of the reading initiative* (Report to the J. A. & Kathryn Albertson Foundation Board of Directors). Available from the Waterford Institute Web site: http://www.waterford.org/corporate_pages/IdahoStudy.pdf⁸
- Washington, S. T. (2003). Teachers' perceptions of the implementation of the Waterford Early Reading Program, a computer-based instruction program: A case study of the evidence from teachers' interviews and students' achievement data in selective Pennsylvania urban elementary schools. *Dissertation Abstracts International*, 64(07), 2341A. (UMI No. 3099994)⁹
- Waterford Institute, Inc. (1996). *Preliminary research: Waterford Institute's Early Reading Program—Utah and New York schools*. (Available from the Waterford Institute, Inc., 55 West 900 South, Salt Lake City, UT 84101)⁸
- Waterford Institute, Inc. (1998a). *A study of the correlation between test gains and time spend using the Waterford Early Reading Program*. (Available from the Waterford Institute, Inc., 55 West 900 South, Salt Lake City, UT 84101)⁸
- Waterford Institute, Inc. (1998b). *Preliminary research data on the effect of the Waterford early reading program based on daily use of computer materials for 15 minutes*. (Available from the Waterford Institute, Inc., 55 West 900 South, Salt Lake City, UT 84101) **(Study: Provo, Utah and New York City)**⁸
- Waterford Institute, Inc. (1998c). *Waterford Early Reading Program (Level 1)—Hillcrest Elementary School preliminary study*. (Available from the Waterford Institute, Inc., 55 West 900 South, Salt Lake City, UT 84101)⁸
- Waterford Institute, Inc. (2000). *Evaluation of the Waterford Early Reading Program Level 1 Norwalk Public Schools: Norwalk, CT 1998–99 school year*. (Available from the Waterford Institute, Inc., 55 West 900 South, Salt Lake City, UT 84101)¹⁰
- Waterford Institute, Inc. (2002). *Los Angeles Unified School District Waterford Early Reading Program initial implementation findings*. (Available from the Waterford Institute, Inc., 55 West 900 South, Salt Lake City, UT 84101)⁸
- Waterford Institute, Inc. (2004). *A study of the effectiveness of the Waterford Early Reading Program in academic alliance and intensive academic support classrooms in the Los Angeles Unified School District*. (Available from the Waterford Institute, Inc., 55 West 900 South, Salt Lake City, UT 84101)¹⁶
- Waterford Institute, Inc. (n.d.). *Waterford Early Reading Program implementation results 1996–97: Duncanville I.S.D.* (Available from the Waterford Institute, Inc., 55 West 900 South, Salt Lake City, UT 84101)⁸
- Young, J. W., & Tracey, D. H. (2004). *An evaluation of the Waterford Early Reading Program Newark, New Jersey 1997–98 school year*. Sandy, UT: Waterford Institute, Inc.¹⁷

For more information about specific studies and WWC calculations, please see the [WWC Waterford Early Reading Program™ Technical Appendices](#).

16. Confound: this study included *Waterford Early Reading Program™* but combined it with another intervention so the analysis could not separate the effects of the intervention from other factors.
17. Complete data are not reported: the WWC could not evaluate the design because complete data were not reported. Attempts to contact the authors for more information were unsuccessful.