

# What Works Clearinghouse



## Waterford Early Reading Level One™

**Program description<sup>1</sup>**

*Waterford Early Reading Level One™* is an emergent literacy curriculum that uses computer-based technology to prepare children for reading. It begins with a tutorial to familiarize the child with the computer and mouse and a reading placement evaluation to assess and determine whether a child should

work on Level One objectives: capital letters, lowercase letters, or beginning decoding skills. The computerized instruction is supplemented by activities for phonological and phonemic awareness, letter recognition, knowledge of story and print concepts, and general readiness skills.

**Research**

One study of *Waterford Early Reading Level One™* met the What Works Clearinghouse (WWC) evidence standards.<sup>2</sup> The study included 27 classrooms in six Head Start centers in southeastern New York. This report focuses on immediate posttest findings to determine the effectiveness of the intervention.<sup>3</sup> The WWC

considers the extent of evidence for *Waterford Early Reading Level One™* to be small for oral language and for print knowledge. No studies that met WWC evidence standards with or without reservations addressed phonological processing, early reading/writing, cognition, or math.

**Effectiveness**

*Waterford Early Reading Level One™* was found to have no discernible effects on oral language or on print knowledge.

	Oral language	Print knowledge	Phonological processing	Early reading/writing	Cognition	Math
<b>Rating of effectiveness</b>	No discernible effects	No discernible effects	na	na	na	na
<b>Improvement index<sup>4</sup></b>	Average: 0 percentile points Range: -3 to +3 percentile points	Average: +7 percentile points Range: -4 to +13 percentile points	na	na	na	na

na = not applicable

1. The descriptive information for this program was obtained from publicly available sources: the program's web site (<http://www.waterford.org>, downloaded April 18, 2007) and the research literature (Fischel, Bracken, Fuchs-Eisenberg, Spira, Katz, & Shaller, in press). 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. To be eligible for the WWC's review, the Early Childhood Education (ECE) intervention had to be implemented in English in center-based settings with children aged three to five or in preschool.
3. The evidence presented in this report is based on available research. Findings and conclusions may change as new research becomes available.
4. These numbers show the average and range of student-level improvement indices for all findings across the study.

## Additional program information<sup>1</sup>

### Developer and contact

Developed by Waterford Research Institute, *Waterford Early Reading Level One™* is distributed by Pearson Digital Learning. Address: 6710 East Camelback Road, Scottsdale, Arizona 85251. Email: [pdinfo@pearson.com](mailto:pdinfo@pearson.com). Web: <http://www.pearsondigital.com/waterford/>. Telephone: (888) 977-7900.

### Scope of use

According to the developer, more than 500,000 children across the United States use the various programs provided by *Waterford*.

### Teaching

*Waterford Early Reading Level One™* provides individualized, year-long instruction in daily 15-minute sessions. Teachers are advised to review both class and individual reports at least once

a month to monitor progress and guide classroom instruction. Based on the students' performance, the teacher can reassign activities to ensure mastery of objectives. The curriculum includes the *Waterford* software, assessment materials, books, and videos. These are used in conjunction with take-home student books, CDs, and handouts. On-site training and online training webinars are available for initial training in addition to a detailed teacher guide. On-site teacher training could include a mid-year visit to review class progress using data from the computerized program.

### Cost

For program costs, contact the Pearson representative in your area (see <http://www.pearsondigital.com/waterford>). Information about the cost of professional development is not available.

## Research

Three studies reviewed by the WWC investigated the effects of *Waterford Early Reading Level One™* in center-based settings. One study (Fischel, Bracken, Fuchs-Eisenberg, Spira, Katz, & Shaller, in press) was a randomized controlled trial that met WWC evidence standards. The remaining two studies did not meet WWC evidence screens.

Fischel et al. (in press) included 27 full-day Head Start classrooms over a three-year period in southeastern New York and compared oral language and print knowledge outcomes for children participating in a *Waterford Early Reading Level One™* intervention group, a *Let's Begin with the Letter People®* intervention group, or a business-as-usual comparison group.<sup>5</sup> Children in all three conditions received the *High/Scope* curriculum as their base condition. The *Waterford Early Reading Level One™* intervention group used the studied intervention in conjunction with the *High/Scope* curriculum, which was the standard curriculum used by the classrooms prior to the study. The WWC includes the data from children participating in classrooms that had not participated in previous waves (that is,

children from unique classrooms) because including all instances of classrooms involved a confound of past study involvement with assignment and the possible effects of this confound could not be tested because no business-as-usual comparison classrooms were studied for a second year.

### 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.<sup>6</sup>

The WWC considers the extent of evidence for *Waterford Early Reading Level One™* to be small for oral language and for print knowledge. No studies that met WWC evidence standards with or without reservations addressed phonological processing, early reading/writing, cognition, or math.

5. For the rating of effectiveness in this WWC intervention report, the WWC includes only the results comparing the *Waterford Early Reading Level One™* intervention group to the business-as-usual comparison group; however, results for the comparison between the curricula are included in a separate section of this report and Appendices A4.1–A4.2. The WWC includes the *Let's Begin with the Letter People®* versus business-as-usual comparison in a separate WWC *Let's Begin with the Letter People®* intervention report.
6. 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 early childhood education addresses children's outcomes in six domains: oral language, print knowledge, phonological processing, early reading/writing, cognition, and math. Fischel et al. (in press) addressed outcomes in the oral language and print knowledge domains. The findings below present the authors' and the WWC-calculated estimates of the size and statistical significance of the effects of *Waterford Early Reading Level One*<sup>TM</sup> on children's performance.<sup>7</sup>

*Oral language.* Fischel et al. (in press) analyzed the differences between the *Waterford Early Reading Level One*<sup>TM</sup> and business-as-usual comparison groups for two measures in this outcome domain [the Peabody Picture Vocabulary Test-III (PPVT-III) and Comprehension] and found no significant effects; the WWC confirmed this. Furthermore, the average effect size was neither statistically significant nor large enough to be considered substantively important according to the WWC criteria (that is, at least 0.25).

*Print knowledge.* Fischel et al. (in press) analyzed the differences between the *Waterford Early Reading Level One*<sup>TM</sup> and business-as-usual comparison groups for six measures in this

outcome domain [Get Ready to Read! Screen<sup>8</sup>, Letters Known, Woodcock Johnson-Revised (WJ-R) Letter Word Identification subtest, the WJ-R Dictation subtest, Book Knowledge, and Print Conventions] and found significant differences favoring *Waterford Early Reading Level One*<sup>TM</sup> on one measure, Get Ready to Read! Screen. The WWC could not confirm statistically significant findings for any outcomes in this domain. Furthermore, the average effect size was neither statistically significant nor large enough to be considered substantively important according to the WWC criteria (that is, 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>7</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 *Waterford Early Reading Level One*<sup>TM</sup> to have no discernible effects on oral language or on print knowledge**

### 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 oral language is 0 percentile points for the study, with a range of -3 to +3 percentile points across findings. The average improvement index for print knowledge is +7 percentile points for the study, with a range of -4 to +13 percentile points across findings.

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 Level One*<sup>TM</sup>, a correction for clustering was needed. Fischel et al. (in press) included children from all classes in the analyses. The WWC focused on intervention effects for children in the unique classes only (i.e., those classes that had not previously participated in the study).
8. The WWC placed this measure in the print knowledge domain because the majority of the items are about print knowledge and the measure correlates most highly with other measures of alphabet knowledge.

**The WWC found *Waterford Early Reading Level One™* to have no discernible effects on oral language or on print knowledge (continued)**

**Findings for comparisons between *Waterford Early Reading Level One™* and *Let's Begin with the Letter People®***

The data for the comparison described below were included in the Fischel et al. (in press) study, but they do not contribute to the overall rating of effectiveness because the WWC included the comparison of *Waterford Early Reading Level One™* with the business-as-usual comparison group in the rating for the same study, which provides the most direct evidence of *Waterford's* effects. However, the WWC believes that the findings from this comparison provide useful information to practitioners who may be interested in comparing the effects of different curricula. The WWC reports the findings for comparisons of *Waterford Early Reading Level One™* and *Let's Begin with the Letter People®* here and in Appendices A4.1 and A4.2.

*Oral language.* Fischel et al. (in press) included data for two measures in this outcome domain. The differences between the *Waterford Early Reading Level One™* and *Let's Begin with the Letter People®* groups were not statistically significant for either measure as calculated by the WWC, and the average effect size was neither statistically significant nor large enough to be considered substantively important according to the WWC criteria (that is, at least 0.25). The average improvement index for oral language is -1 percentile point (*Waterford Early Reading Level One™* is the intervention group and *Let's Begin with the Letter People®* is the comparison group), with a range of -2 to +1 percentile points across findings.

*Print knowledge.* Fischel et al. (in press) included data for six measures in this outcome domain. The difference between the *Waterford Early Reading Level One™* and *Let's Begin with the Letter People®* groups was not statistically significant for any of these measures as calculated by the WWC, and the average effect size was neither statistically significant nor large enough to be considered substantively important according to the WWC criteria (that is, at least 0.25). The average improvement index for print knowledge is -3 percentile points (*Waterford Early Reading Level One™* is the intervention group and *Let's Begin with the Letter People®* is the comparison group), with a range of -13 to +2 percentile points across findings.

**Summary**

The WWC reviewed three studies on *Waterford Early Reading Level One™*. One of these studies met WWC evidence standards; the remaining studies did not meet WWC evidence screens. Based on this study, the WWC found no discernible effects on oral language and print knowledge. Additional findings that were not considered for the rating of effectiveness indicated that *Waterford Early Reading Level One™* and *Let's Begin with the Letter People®* affect children's outcomes similarly in the oral language and print knowledge domains. The evidence presented in this report may change as new research emerges.

**References**

**Met WWC evidence standards**

Fischel, J. E., Bracken, S. S., Fuchs-Eisenberg, A., Spira, E. G., Katz, S., & Shaller, G. (in press). Evaluation of curricular approaches to enhance preschool early literacy skills. *Journal of Literacy Research*.

**Did not meet WWC evidence screens**

Cope, R., & Cummings, J. (2001). *Evaluation of the Waterford Early Reading Program in Madisonville Consolidated Independent School District*. Huntsville, TX: Sam Houston State University.<sup>9</sup>  
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.<sup>10</sup>

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

9. Does not use a strong causal design: the study did not use a comparison group.

10. Incomparable groups: the intervention and comparison groups cannot be considered equivalent at baseline, even with the use of covariates in the analysis.