

What Works Clearinghouse



Ready, Set, Leap![®]

Program description²

Ready, Set, Leap![®] is a preschool curriculum that focuses on early reading skills, such as phonemic awareness, letter knowledge, and letter-sound correspondence, using multisensory technology that incorporates touch, sight, and sound. Teachers

may adopt either a theme-based or a literature-based teaching approach, and for each approach, the curriculum provides lesson plans, learning objectives, and assessment tools.

Research

Two studies of *Ready, Set, Leap!*[®] meet the What Works Clearinghouse (WWC) evidence standards.³ The two studies included 540 preschool children enrolled in 38 preschools in New Jersey.⁴

language, print knowledge, and phonological processing, and small for early reading/writing and math. No studies that meet WWC evidence standards with or without reservations examined the effectiveness of *Ready, Set, Leap!*[®] in the cognition domain.

Based on these two studies, the WWC considers the extent of evidence for *Ready, Set, Leap!*[®] to be medium to large for oral

Effectiveness

Ready, Set, Leap![®] was found to have no discernible effects on oral language, print knowledge, phonological processing, early reading/writing skills, and math.

	Oral language	Print knowledge	Phonological processing	Early reading/writing	Cognition	Math
Rating of effectiveness	No discernible effects	No discernible effects	No discernible effects	No discernible effects	na	No discernible effects
Improvement index⁵	Average: +1 percentile points Range: -4 to +6 percentile points	Average: +2 percentile points Range: -3 to +8 percentile points	Average: +2 percentile points Range: -4 to +11 percentile points	Average: +3 percentile points	na	Average: -2 percentile points Range: -9 to +3 percentile points

na = not applicable

1. This report has been updated to include reviews of two studies that have been released since 2005. A complete list and disposition of all studies reviewed is provided in the references.
2. The descriptive information for this program was obtained from a publicly-available source: the program's website (www.leapfrogschoolhouse.com, downloaded July 2008). 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.
3. 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 years to five years, or in preschool.
4. The evidence presented in this report is based on available research. Findings and conclusions may change as new research becomes available.
5. These numbers show the average and range of student-level improvement indices for all findings across the studies.

Absence of conflict of interest

The PCER Consortium (2008) study summarized in this intervention report had numerous contributors, including staff of Mathematica Policy Research, Inc. (MPR). Because the principal investigator for the WWC early childhood education review is also

an MPR staff member, the study was rated by staff members from Chesapeake Research Associates, who also reviewed the intervention report. The report was then reviewed by MPR staff and external peer reviewers.

Additional program information

Developer and contact

Ready, Set, Leap![®] was developed and distributed by LeapFrog SchoolHouse. Address: 6401 Hollis Street, Suite 100, Emeryville, CA 94608. Email: info@LeapFrogSchoolHouse.com. Web: www.leapfrogschoolhouse.com. Telephone: (800) 883-7430.

Scope of use

Information is not available on the number or characteristics of children or centers using this program.

Teaching⁶

Ready, Set, Leap![®] can be implemented in varied settings, and with children taught individually or in small groups. Teachers may adopt either a theme-based or literature-based teaching approach; both options are included with the curriculum. Each approach includes lesson plans, learning objectives, and assessment tools. In addition to language and literacy, the curriculum addresses other academic, music, visual arts, and social/emotional development skills. The program components include books, music, and multisensory technology, such as the LeapPad[®] books, LeapMat[™], and the LeapDesk[™] workstations. The 19 LeapPad[®] interactive books provide opportunities for read-alouds and shared reading. The

LeapMat[™] is a pliable electronic surface that displays the alphabet and can be used on the floor, wall, or table to teach letter names and letter-sound recognition. The LeapDesk[™] workstation is a compact desktop system with components such as letter manipulatives, headphones, and various system cards that teach spelling and decoding. The workstation also assesses student progress and offers customized lessons based on student need.

Cost

The complete *Ready, Set, Leap!*[®] program (English edition) costs \$1,995 per class and includes two teacher's manuals, a teacher's resource guide, 20 teaching strategy cards, four Big books, 19 read-aloud books, 19 interactive LeapPad[®] books, one colorful flip book, 14 poem and alphabet posters, four plush interactive learning aids, the Link to Lessons software, one LeapDesk[™] workstation, 110 LeapDesk[™] teaching and assessment system cards, three LeapPad[®] personal learning tools, one LeapMat[™] learning surface, three Imagination Desk[®] learning centers, 12 Imagination Desk[®] interactive coloring books, and one phonemic awareness music CD and cassette. Pricing for the English and Spanish editions and the School and Home editions is also available on the website (see www.leapfrogschoolhouse.com).

Research

Three studies reviewed by the WWC investigated the effects of *Ready, Set, Leap!*[®]. Two of these studies (RMC Research Corporation, 2003; PCER Consortium, 2008) were randomized controlled trials that meet WWC evidence standards. The remaining study did not meet WWC evidence standards.

Meets evidence standards

RMC Research Corporation (2003) included 254 preschool children from 17 inner-city schools in Newark, New Jersey. The study compared oral language, print knowledge, phonological processing, and early reading/writing outcomes for children in

6. According to the developer, *Ready, Set, Leap!*[®] is being phased out and replaced by The Literacy Center.

Research *(continued)*

the intervention group that participated in *Ready, Set, Leap!*[®] in addition to the standard preschool curriculum (High/Scope) to a comparison group that participated only in High/Scope.⁷

The PCER Consortium (2008) study included 286 preschool children from 39 classrooms in 21 full-day preschools. All of the preschools were in an urban area of New Jersey. The study compared oral language, print knowledge, phonological processing, and math outcomes for children in the intervention group that participated in *Ready, Set, Leap!*[®] to a comparison group that participated in classrooms using a High/Scope approach.⁸

Extent of evidence

The WWC categorizes the extent of evidence in each domain as small or medium 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 meet WWC evidence standards with or without reservations.⁹

The WWC considers the extent of evidence for *Ready, Set, Leap!*[®] to be medium to large for oral language, print knowledge, and phonological processing, and small for early reading/writing and math. No studies that meet WWC evidence standards with or without reservations examined the effectiveness of *Ready, Set, Leap!*[®] in the cognition domain.

Effectiveness Findings

The WWC review of interventions for Early Childhood Education addresses student outcomes in six domains: oral language, print knowledge, phonological processing, early reading/writing, cognition, and math. The studies included in this report address five domains: oral language, print knowledge, phonological processing, early reading/writing, and math. The findings below present the authors' estimates and WWC-calculated estimates of the size and the statistical significance of the effects of *Ready, Set, Leap!*[®] on students.¹⁰

Oral language. RMC Research Corporation (2003) reported no significant effect of *Ready, Set, Leap!*[®] on oral language as measured by the Peabody Picture Vocabulary Test-III (PPVT-III). PCER Consortium (2008) also reported no significant effect on

oral language when measured using the PPVT-III and Test of Language Development-Primary, Third Edition (TOLD-P:3) Grammatical Understanding subtest. The average effect sizes within and across studies were not large enough to be considered substantively important according to the WWC standards (that is, at least 0.25).

Print knowledge. RMC Research Corporation (2003) reported no significant effect of *Ready, Set, Leap!*[®] on print knowledge when measured using the Woodcock-Johnson III (WJ III) Letter-Word Identification subtest and the Dynamic Indicators of Basic Early Literacy Skills (DIBELS) Letter Naming Fluency subtest. PCER Consortium (2008) reported no significant effect of *Ready, Set, Leap!*[®] on print knowledge as measured by the Test of Early Reading Ability, Third Edition (TERA-3); WJ III Letter-Word Identification

7. According to the developer's website (www.highscope.org), High/Scope is a flexible framework for setting up and managing a preschool classroom. "Active learning" is a central tenet of the approach, in which children are encouraged to learn through direct, hands-on experiences. Adults support that learning through scaffolding and interaction, using techniques such as focusing on children's strengths and problem solving.
8. No other information on the comparison condition is provided.
9. 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. Information about how the extent of evidence rating was determined for *Ready, Set, Leap!*[®] is in Appendix A6.
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, see the [WWC Tutorial on Mismatch](#). For the formulas the WWC used to calculate the statistical significance, see [Technical Details of WWC-Conducted Computations](#). For the PCER Consortium (2008) study, a correction for multiple comparisons was needed.

Effectiveness *(continued)*

subtest; and the WJ III Spelling subtest. The average effect sizes within and across studies were not large enough to be considered substantively important according to the WWC standards.

Phonological processing. RMC Research Corporation (2003) reported no significant effect of *Ready, Set, Leap!*[®] on phonological processing when measured using the Comprehensive Test of Phonological Processing (CTOPP) Blending Words subtest; DIBELS Initial Sound Fluency subtest; and WJ III Sound Awareness-Rhyming subtest. PCER Consortium (2008) reported no significant effect of *Ready, Set, Leap!*[®] as measured by the Preschool Comprehensive Test of Phonological and Print Processing, (Pre-CTOPPP) Elision subtest. The average effect sizes within and across studies were not large enough to be considered substantively important according to the WWC standards.

Early reading/writing. RMC Research Corporation (2003) reported no significant effect of *Ready, Set, Leap!*[®] on early reading/writing when measured using the WJ III Passage Comprehension subtest, with an effect size not large enough to be considered substantively important according to the WWC standards.

The WWC found *Ready, Set, Leap!*[®] to have no discernible effects for oral language, print knowledge, phonological processing, early reading/writing, or math

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 +1 percentile points, with a range of -4 to +6 across findings. The average improvement index for print knowledge is +2 percentile

Math. PCER Consortium (2008) showed that *Ready, Set, Leap!*[®] had a negative and statistically significant effect on math when measured using Building Blocks, Shape Composition task. In WWC calculations, this negative effect was not statistically significant nor substantively important according to WWC criteria. PCER Consortium (2008) also used two other measures in the math domain—WJ III Applied Problems subtest and the Child Math Assessment Abbreviated (CMA-A) Composite—and showed no significant effects for either measure.

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, 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](#)).

points, with a range of -3 to +8 percentile points across findings. The average improvement index for phonological processing is +2 percentile points, with a range of -4 to +11 percentile points across findings. The improvement index for early reading/writing is +3 percentile points for the single outcome in one study. The average improvement index for math is -2, with a range of -9 to +3 across findings in one study.

Summary

The WWC reviewed three studies on *Ready, Set, Leap!*[®]. Two of these studies meet WWC evidence standards and the other did not meet WWC evidence standards. Based on the two studies, the WWC found no discernible effects for oral language, print knowledge, phonological processing, early reading/writing, and math. The conclusions presented in this report may change as new research emerges.

References **Meet WWC evidence standards**

RMC Research Corporation. (2003). *Ready, Set, Leap! program: Newark prekindergarten study 2002-2003 final report*. Retrieved from LeapFrog SchoolHouse website: http://www.leapfrog-schoolhouse.com/content/research/RMC_RSLreport.pdf

Preschool Curriculum Evaluation Research (PCER) Consortium. (2008). *Effects of preschool curriculum programs on school readiness* (NCER 2008-2009). Washington, DC: National Center for Education Research, Institute of Education Sciences, US Department of Education. Washington, DC: US Government Printing Office.

Studies that fall outside the Early Childhood Education protocol or do not meet WWC evidence standards

Abt Associates Inc. (2007). *Evaluation of child care subsidy strategies: findings from Project Upgrade in Miami-Dade County*. Retrieved from US Department of Health and Human Services, Administration for Children and Families website: http://www.acf.hhs.gov/programs/opre/cc/upgrade_miami_dade/reports/upgrade_miami_dade/upgrade_miami_dade.pdf. The study did not meet WWC evidence standards because the intervention and comparison groups are not shown to be equivalent and the overall attrition rate exceeds WWC standards for this area.

For more information about specific studies and WWC calculations, please see the [WWC Ready, Set, Leap!](#)[®] **Technical Appendices.**