#### **WWC Intervention Report**

#### **U.S. DEPARTMENT OF EDUCATION**

**PS** INSTITUTE OF EDUCATION SCIENCES

# **What Works Clearinghouse**

#### July 2, 2007

#### **Beginning Reading**

## Wilson Reading System<sup>®</sup>

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

Wilson Reading System<sup>®</sup> is a supplemental reading and writing curriculum designed to promote reading accuracy (decoding) and spelling (encoding) skills for students with word-level deficits. The program is designed to teach phonemic awareness, alphabetic principles (sound-symbol relationship), word study, spelling, sight word instruction, fluency, vocabulary, oral expressive language development, and comprehension. Students engage in a variety of activities in the classroom, including hearing sounds, practicing with syllable and word cards, listening to others read, and reading aloud and repeating what they have read in their own words. The program is designed to help children master new skills, with reviews reinforcing previous lessons. This program was designed for students in grade 2 and above. *Fundations®*, a related program not reviewed in this report, was recently developed with the same principle for students in Kindergarten through third grade. In the single study reviewed by the WWC for this report, only the word-level components of *Wilson Reading System®* were implemented.

**Research** One study of a modified version of *Wilson Reading System*<sup>®</sup> met the What Works Clearinghouse (WWC) evidence standards.<sup>2</sup> This one study included more than 70 third grade students in Pennsylvania.<sup>3</sup> The WWC considers the extent of evidence for *Wilson Reading System*<sup>®</sup> to be small for alphabetics, fluency, and comprehension. No studies that met WWC evidence standards with or without reservations addressed general reading achievement.

- 1. The descriptive information for this program was obtained from a publicly available sources: the program's web site (<u>www.wilsonlanguage.com</u>, down-loaded April, 2007) and the research literature (Torgesen et al., 2006). 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 fluency, comprehension, and vocabulary components of the *Wilson Reading System®* were eliminated from instruction at the request of Torgesen et al. for the purposes of the study. For further information about the program implemented, please see the research and findings sections in this report.
- 3. The evidence presented in this report is based on available research. Findings and conclusions may change as new research becomes available.

### **Effectiveness** Wilson Reading System<sup>®</sup> was found to have potentially positive effects on alphabetics and no discernible effects on fluency and comprehension.

	Alphabetics	Fluency	Comprehension	General reading achievement
<b>Rating of effectiveness</b>	Potentially positive	No discernible effects	No discernible effects	na
Improvement index <sup>4</sup>	Average: +13 percentile points Range: +6 to +22 percen- tile points	Average: +6 percentile points	Average: +7 percentile points Range: +3 to +11 percen- tile points	na
				na = not applicable

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

#### Developer and contact

Developed by Barbara Wilson, *Wilson Reading System*<sup>®</sup> is distributed by Wilson Language Training. Address: 47 Old Webster Road, Oxford, MA 01540. Email: <u>info@WilsonLanguage.com</u>. Web: <u>www.wilsonlanguage.com/w\_wrs.htm</u>. Telephone: (508) 368-2399.

#### Scope of use

The Wilson Reading System<sup>®</sup> was originally designed in 1988 to teach reading and writing to students who experienced difficulties with written language from upper elementary school through adulthood. Wilson Reading System<sup>®</sup> has been implemented in public and private schools, clinics, adult education classes, family literacy programs, and home school settings across the United States. In 2002 *Fundations<sup>®</sup>* was designed for students in Kindergarten through third grade, building on the principles of the Wilson Reading System<sup>®</sup>. The number of students and schools using the Wilson Reading System<sup>®</sup> is not available.

#### Teaching

The *Wilson Reading System*<sup>®</sup> has a daily 10-part lesson plan that builds on interaction between the teacher and student. It is divided into three blocks: parts one through five emphasize word study, parts six through eight emphasize spelling, and parts nine and 10 emphasize fluency and comprehension. The *Wilson*  *Reading System*<sup>®</sup> teaches the structure of words in the English language focusing first on basic word skills and then on more complex language structure, including morphological principles. The program provides two levels of vocabulary. Level A uses reading material appropriate for younger or ESL students, while Level B is for older students. The intervention model can be used in reading classes, small groups, or tutorials, for 45–90 minute daily lessons in general or special education classrooms. The intensive model of 60–90 minute instruction in small groups or individually is recommended for the most challenged readers. The *Wilson Reading System*<sup>®</sup> provides teachers and students with materials necessary to implement the program, including a *Wilson* instructors' manual that helps the teacher prepare the daily lesson.

Training for *Wilson Reading System*<sup>®</sup> includes a formal professional development process. Offerings include an intensive program certification, workshops, videos, online education, and onsite visits for feedback. In addition, ongoing support, during and after training, is provided by phone, email, an annual national conference, and resources posted on the online *Wilson Academy*.

#### Cost

The *Wilson Reading System*<sup>®</sup> instructional sets range from \$149 to \$500. Materials for the teacher include an instructor

4. These numbers show the average and range of student-level improvement indices for all findings across the study.

#### Additional program information (continued)

manual, rules notebook, dictation books, assessment materials, instructional videos, and manipulatives (including sound and word cards). For \$59, teachers can access additional lesson plans, demonstrations, and weekly current event stories with an annual subscription to *Wilson Academy*. Student materials are purchased separately and include text readers (Steps 1–12),

**Research** Nine studies reviewed by the WWC investigated the effects of *Wilson Reading System*<sup>®</sup>. One study (Torgesen et al., 2006) was a randomized controlled trial that met WWC evidence standards. The remaining studies did not meet evidence screens.

Torgesen et al. (2006) examined the effects of *Wilson Reading System*<sup>®</sup> on 71 third-grade students in eight school units<sup>5</sup> in Pennsylvania. Students in the comparison group participated in the regular reading program at their schools.<sup>6</sup>

workbooks, and a magnetic journal with letter tiles. *Wilson* provides different levels of professional development and support for teachers, offering in-service professional development to school districts as well as public workshops. A two-day public professional development course costs \$325.

#### Extent of evidence

The WWC categorizes the extent of evidence in each domain as small or moderate to large (see the <u>What Works Clearinghouse</u> <u>Extent of Evidence Categorization Scheme</u>). 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>7</sup>

The WWC considers the extent of evidence for *Wilson Read-ing System*<sup>®</sup> to be small for alphabetics, fluency, and comprehension. No studies that met WWC evidence standards with or without reservations addressed general reading achievement.

#### Effectiveness Findings

The WWC review of interventions for beginning reading addresses student outcomes in four domains: alphabetics, fluency, comprehension, and general reading achievement.<sup>8</sup> The study included in this *Wilson Reading System®* report covers three domains: alphabetics, fluency, and comprehension. Within the alphabetics domain, the study reported on one construct: phonics.

*Alphabetics.* Torgesen et al. (2006) analyzed the group differences on four phonics outcomes in the alphabetics domain (Woodcock Reading Mastery Test–Revised (WRMT–R) word identification and word attack subtests and the Test of Word Reading Efficiency (TOWRE) phonetic decoding efficiency and sight word efficiency subtests). The authors reported statistically significant effects of the *Wilson Reading System*<sup>®</sup> on two of these outcomes (WRMT–R word identification and word attack subtests). The statistical significance of these findings was confirmed by the WWC. The average effect size across the three outcomes was large enough to be considered substantively important according to WWC criteria (that is, an effect size at least 0.25).

*Fluency.* Torgesen et al. (2006) examined the effect of the intervention on one outcome in this domain (the Oral Reading

- 5. A school unit consists of several partnered schools so that the cluster included two third-grade and two fifth-grade instructional groups. Because of the age range defined by the Beginning Reading review, only data of the third graders were included in this review.
- 6. For the purposes of this study, only word-level skill components of *Wilson Reading System*<sup>®</sup> were implemented, but the study noted that the complete version contains instructional routines and materials that also focus on comprehension and vocabulary.
- 7. 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.
- 8. For definitions of the domains, see the Beginning Reading Protocol.

#### Effectiveness (continued)

Fluency test). They reported no statistically significant differences between groups for the outcome.

*Comprehension.* Torgesen et al. (2006) examined two outcomes in this domain (the WRMT–R passage comprehension subtest and the GRADE passage comprehension subtest) and reported no statistically significant effects. The average effect size across the two outcomes was neither statistically significant nor large enough to be considered substantively important.

#### Improvement index

The WWC found the modified version of the *Wilson Reading System*® used in this study to have potentially positive effects on alphabetics and no discernible effects on fluency and comprehension

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 <u>Technical</u> <u>Details of WWC-Conducted Computations</u>). 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 alphabetics is +13 percentile points across all findings in the single study, with a range

#### **References** Met WWC evidence standards

Torgesen, J., Myers, D., Schirm, A., Stuart, E., Vartivarian, S., Mansfield, W., et al. (2006). *National assessment of Title I interim report—Volume II: Closing the reading gap: First year* 

#### **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 effective-ness takes into account four factors: the quality of the research design, the statistical significance of the findings,<sup>9</sup> the size of the difference between participants in the intervention and the comparison conditions, and the consistency in findings across studies (see the <u>WWC Intervention Rating Scheme</u>).

of +6 to +22 percentile points. The improvement index for the fluency outcome is +6 percentile points in the single study. The average improvement index for comprehension is +7 percentile points across all findings in the study, with a range of +3 to +11 percentile points.

#### Summary

The WWC reviewed nine studies on *Wilson Reading System*<sup>®</sup>. One study met WWC evidence standards, and the remaining studies did not meet WWC evidence screens. Based on this one study, the WWC found potentially positive effects in alphabetics, and no discernible effects in fluency and comprehension. It should be noted, however, that the fluency, comprehension, and vocabulary components of the *Wilson Reading System*<sup>®</sup> were not used at the request of the researchers conducting the study. The evidence presented in this report is limited and may change as new research emerges.

findings from a randomized trial of four reading interventions for striving readers. Retrieved from Institute of Education Sciences, U.S. Department of Education Web site: <u>http://www.</u> ed.gov/rschstat/eval/disadv/title1interimreport/index.html

9. The level of statistical significance was reported by the study authors or, where necessary, calculated by the WWC to correct for clustering within class-rooms or schools and for multiple comparisons. For an explanation, see the <u>WWC Tutorial on Mismatch</u>. See the <u>Technical Details of WWC-Conducted</u> <u>Computations</u> for the formulas the WWC used to calculate the statistical significance. In the case of *Wilson Reading System*<sup>®</sup>, corrections for multiple comparisons were needed.

#### **References** (continued) **Did not meet WWC evidence screens**

- Banks, S. R., Guyer, B. P., & Guyer, K. E. (1993). Spelling improvement by college students who are dyslexic. *Annals of Dyslexia*, 43, 186–193.<sup>10</sup>
- Gustavson, K., & Watson, N. (1995). *Wilson Reading and Reading to Read.* Augusta, ME: Division of Adult & Community Education.<sup>10</sup>
- Guyer, B. P., Banks, S. R., & Guyer, K. E. (1993). Spelling improvement for college students who are dyslexic. *Annals of Dyslexia*, 43, 254–259.<sup>10</sup>
- Moats, L. C. (1998). Reading, spelling, and writing disabilities in the middle grades. In B. Wong (Ed.), *Learning about learning disabilities* (2nd edition) (pp. 1–19). Orlando, FL: Academic Press.<sup>10</sup>
- Wilson, B. A. (1998). Matching student needs to instruction: Teaching reading and spelling using the Wilson Reading System. In S. A. Vogel & S. Reder (Eds.), *Learning disabilities*,

*literacy, and adult education* (pp. 213–234). Baltimore, MD: Brookes Publishing.<sup>11</sup>

- Wilson, B. A., & O'Connor, J. R. (1995). Effectiveness of the Wilson Reading System used in public school training. In
  C. W. McIntyre & J. S. Pickering (Eds.), *Clinical studies of multisensory structured language education* (pp. 247–254).
  Salem, OR: International Multisensory Structured Language Education Council.<sup>11</sup>
- Wilson Language Training. (2002). [Evidence of Effectiveness: Wake Forest University, 2002: Data analysis]. Unpublished raw data. Retrieved from <u>http://www.wilsonlanguage.com/PDF/</u> <u>Evidence\_Data\_Analysis.pdf<sup>12</sup></u>
- Wilson Language Training Corporation. (2002). Wilson Literacy Solutions: Evidence of effectiveness Wilson Spelling results 2000. Retrieved from <u>http://www.wilsonlanguage.com/PDF/ Lynn\_Results.pdf<sup>12</sup></u>

For more information about specific studies and WWC calculations, please see the <u>WWC Wilson Reading System</u><sup>®</sup> <u>Technical Appendices</u>.

- 10. The sample is not appropriate to this review: the parameters for this WWC review specified that students should be in grades kindergarten through 3 during the time of the intervention; this study did not focus on the targeted grades.
- 11. The sample is not appropriate to this review: the parameters for this WWC review specified that students should be in grades kindergarten through 3; this study did not disaggregate students in the eligible range from those outside the range.
- **12.** Does not use a strong causal design: this study did not use a comparison group.