

What Works Clearinghouse



Fluency Formula™

Program description *Fluency Formula™* is a supplemental curriculum designed to promote reading fluency for first- through sixth-grade students. The program emphasizes automatic recognition of words, decoding accuracy, and oral expressiveness as the foundation for building reading fluency. A daily 10- to 15-minute lesson is delivered in the classroom. Students participate in whole-class,

small-group, and individual practice activities using workbooks, read-aloud anthologies, library books, fluency activity cards, and audio CDs. The curriculum encourages at-home practice and includes a *Fluency Formula™ Assessment System*, which allows teachers to assess student fluency using one-minute grade-level passages and a timer.

Research One study of *Fluency Formula™* met the What Works Clearinghouse (WWC) evidence standards. The study findings are based on data from 128 second-grade students in two suburban school districts in the Northeast.¹ The WWC considers the extent

of evidence for *Fluency Formula™* to be small for fluency and comprehension. No studies that met WWC evidence standards with or without reservations addressed alphabetics or general reading achievement.

Effectiveness *Fluency Formula™* was found to have potentially positive effects on fluency and potentially negative effects on comprehension.

	Alphabetics	Fluency	Comprehension	General reading achievement
Rating of effectiveness	na	Potentially positive effects	Potentially negative effects	na
Improvement index ²	na	Average: +10 percentile points	Average: -11 percentile points	na

na = not applicable

1. The evidence presented in this report is based on available research. Findings and conclusions may change as new research becomes available.
 2. These numbers show the improvement indices based on the single finding in each domain in the study.

Additional program information

Developer and contact

Fluency Formula™ is distributed by Scholastic. Web: www.scholastic.com/fluencyformula. Telephone: (800) 724-6527 (customer service).

Scope of use

Fluency Formula™ has been implemented in eight states in the United States.

Teaching

Teachers use a variety of strategies during 15-minute daily lessons to promote students' knowledge and skills in phonics, vocabulary, fluency, and comprehension. The first two days of each instructional week are devoted to direct instruction and guided practice activities for the whole class with a focus on fluent reading, prosody (intonation and/or vocal stress), and oral comprehension. During the next two days of the week, students reading at and above grade level practice their reading fluency independently, while students reading below grade level receive supplemental instruction in small groups with an emphasis on phonics and word attack skills. On the fifth day, teachers use the *Fluency Formula*™ Assessment System to identify struggling students and then use the assessment handbook to set instructional goals based on student assessment scores. In addition, teachers monitor student fluency growth at the beginning, middle, and end of the school year.

During class lessons, teachers model fluent reading and ask students to practice through repeated readings, reading with

partners, and together in whole class (choral) reading. Students practice fluency, vocabulary, and comprehension individually using a program workbook and read library books while listening to an audio CD version of the book. Instructional practices also include review of sight word fluency and drills for reading speed and accuracy. Students can track their fluency progress on a class chart and receive bookmarks and certificates as rewards for progress. Students are encouraged to take the library books and workbooks home and read for at least 20–30 minutes daily at home or at school.

Professional development for teachers includes the *Fluency Formula*™ Professional Guide as well as online courses through Scholastic's "Scholastic Red" division, which include teaching simulations, structured feedback, information on research and theory, videos modeling instruction by expert practitioners, and materials that can be used in the classroom.

Cost

The *Fluency Formula*™ kit for one grade level costs \$625 and includes introductory materials, four student workbooks, four copies each of 24 library books and six audio CDs, fluency activity cards, original leveled reading passages, the *Fluency Formula*™ Assessment System with a student timer, and a fluency flip chart. The cost for six *Fluency Formula*™ Kits (one per grade for grades 1–6), a principal's guide, and a facilitator handbook is \$5,775. The cost of individual materials and courses is available on the publisher's website.

Research

Met evidence standards

One study examined the effects of *Fluency Formula*™. The study (Sivin-Kachala & Bialo, 2005) was a randomized controlled trial that met WWC evidence standards. The study began with 252 second-grade students from 12 classrooms in two suburban school districts in the Northeast. However, because the intervention targets lower-achieving students, the study authors

focused only on students scoring below the 75th percentile on the Oral Fluency Assessment at pretest. The final analysis sample involved 128 students who scored below this level. The intervention group received the school's standard reading/English language arts materials and the *Fluency Formula*™ supplemental curriculum. The comparison group received just the school's standard reading/English language arts materials.

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.³

The WWC considers the extent of evidence for *Fluency Formula*TM to be small for fluency and comprehension. No studies that met WWC evidence standards with or without reservations addressed alphabetics or 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.⁴ The Sivin-Kachala & Bialo (2005) study addressed outcomes in the fluency and comprehension domains.⁵ The findings below present the authors' and the WWC-calculated estimates of the size and statistical significance of the effects of *Fluency Formula*TM on students' performance.

Fluency. The Sivin-Kachala & Bialo (2005) study findings for fluency are based on the performance of *Fluency Formula*TM students and comparison students on the Edformation Oral Fluency Assessment (OFA). The WWC found no statistically significant difference between the groups, however, the effect was positive and substantively important according to WWC criteria (that is, an effect size of at least .25).⁶

Comprehension. The Sivin-Kachala & Bialo (2005) study findings for comprehension are based on the performance of *Fluency Formula*TM students and comparison students on the Woodcock-Johnson III Tests of Achievement: Passage Comprehension subtest. The WWC did not find a statistically significant difference between the groups. However, the effect was negative and substantively important (that is, an effect size of at least $-.25$).⁷

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,⁸ 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](#)).

3. 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.
4. For definitions of the domains, see the [Beginning Reading Protocol](#).
5. The study also examined data in the alphabetics domain, but complete data were not available in the study report or from the study authors.
6. The study only reported intervention effects by high- and low-ability student groups, based on the OFA pretest score. These results are shown in Appendix A4. The overall effects presented here were computed by the WWC. The study authors reported both raw and normal curve equivalent (NCE) scores. The WWC used the raw score results.
7. The study reported intervention effects on comprehension by each district in the study and for low-ability students. The overall effects presented here were computed by the WWC. The results for low-ability students are shown in Appendix A4.
8. 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 *Fluency Formula*TM, corrections for clustering were needed.

The WWC found *Fluency Formula™* to have potentially positive effects for fluency and potentially negative effects for 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 improvement index for fluency is +10 percentile points for the fluency outcome in the single study reviewed. The improvement index for comprehension is -11 percentile points for the comprehension outcome in the single study.

Summary

The WWC reviewed one study on *Fluency Formula™*. This study met WWC evidence standards. Based on this single study, the WWC found potentially positive effects in the fluency domain and potentially negative effects in the comprehension domain. The evidence presented in this report may change as new research emerges.

References

Met WWC evidence standards

Sivin-Kachala, J., & Bialo, E. (2005). *Fluency Formula second grade study, Long Island, New York 2003-2004: Evaluation research on the effectiveness of Fluency Formula*. Retrieved from Scholastic Education Web site: http://teacher.scholastic.com/products/fluencyformula/pdfs/FF_EffectivenessReport.pdf

Additional source:

Sivin-Kachala, J., & Bialo, E. (2005). *Fluency Formula second grade study, Long Island, New York 2003-2004: A summary of the effectiveness research for Fluency Formula*. Retrieved from Scholastic Education Web site: http://teacher.scholastic.com/products/fluencyformula/pdfs/FF_EffectivenessSummary.pdf

For more information about specific studies and WWC calculations, please see the [WWC Fluency Formula™ Technical Appendices](#).