What Works Clearinghouse

INSTITUTE OF EDUCATION SCIENCES

Elementary School Math | September 2010[1]

Everyday Mathematics®

Program Description[2]

Everyday Mathematics®, published by Wright Group/McGraw-Hill, is a core curriculum for students in prekindergarten through grade 6.[3] At each grade level, the *Everyday Mathematics*® curriculum provides students with multiple opportunities to learn concepts and practice skills. Across grade levels, concepts are reviewed and extended in varying instructional contexts. The distinguishing features of *Everyday Mathematics*® are its focus on real-life problem solving, student communication of mathematical thinking, and appropriate use of technology. This curriculum also emphasizes balancing different types of instruction (including collaborative learning), using various methods for skills practice, and fostering parent involvement in student learning.

Research[4]

One study of *Everyday Mathematics*® that falls within the scope of the Elementary School Math review protocol meets What Works Clearinghouse (WWC) evidence standards with reservations.[5] The study included 3,436 elementary students in third through fifth grades in a large urban school district in Texas. The district used the first edition of *Everyday Mathematics*®.

Based on this study, the WWC considers the extent of evidence for *Everyday Mathematics*® on elementary students to be small for math achievement.

1. This report has been updated to include reviews of 11 studies that have been released since 2005. Of the additional studies, ten were not within the scope of the Elementary School Math protocol, and one (Cummins-Colburn, 2007) was within the scope of the protocol but did not meet evidence standards. Additionally, three studies that met standards with reservations in the previous version no longer meet evidence standards. In Carroll (1998) and Riordan and Noyce (2001), the intervention and comparison groups are not shown to be equivalent at baseline. (The protocol for the Elementary School Math area was revised to specify that groups must be equivalent on the pretest for a quasi-experimental design.) Woodward and Baxter (1997) was previously included as meeting standards with reservations, though the results from the study cannot be solely attributed to the intervention as there was only one comparison school. A complete list and disposition of all studies reviewed are provided in the references.
2. The descriptive information for this program was obtained from publicly available sources: the distributor's website (http://www.wrightgroup.com) and http://ucsmp.uchicago.edu/, both downloaded June 2010. 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. The literature search reflects documents publicly available by August 2008.
3. This review refers to studies of *Everyday Mathematics*® in kindergarten through fifth grade. Studies of *Everyday Mathematics*® conducted in prekindergarten or sixth grade were out of the scope of the Elementary School Math protocol.
4. The studies in this report were reviewed using WWC Evidence Standards, Version 1.0 (see the WWC Standards), as described in protocol Version 1.1.
5. The evidence presented in this report is based on available research. Findings and conclusions may change as new research becomes available.

Effectiveness

Everyday Mathematics® was found to have potentially positive effects on math achievement for elementary students.

	Math achievement
Rating of effectiveness	Potentially positive
Improvement index[6]	+11 percentile points

Additional program information

Developer and contact

Developed by the University of Chicago School Mathematics Project, *Everyday Mathematics*® is distributed by Wright Group/McGraw-Hill. Address: 220 East Danieldale Road, DeSoto, TX, 75115. Email: WrightGroup@McGraw-Hill.com. Web: http://www.wrightgroup.com. Telephone: (800) 648-2970.

Scope of use

Curriculum development for the *Everyday Mathematics*® elementary curriculum began in 1985. The developer reports that the curriculum is used in more than 175,000 classrooms by approximately three million students. A second edition of the curriculum became available in 2001–02 (with an update in 2004), and a third edition became available in 2007. The second and third editions are both available for purchase.[7]

Teaching

The third edition of *Everyday Mathematics*® is structured around 15 Program Goals, identical across all grades, which articulate the mathematical content that students are expected to master. The goals are derived from research, as well as state and national standards, and are set within the following topic headings: numbers and numeration; operations and computations; data and chance; measurement and reference frames; geometry; and patterns, functions, and algebra. For every grade, teachers are offered lesson plans, resource materials for teachers and parents, assessments, student assignments, and Minute Math activities for transition periods or quick practice. For grades K–6, there is also a differentiation handbook that helps teachers tailor lessons to a diverse group of students, as well as online tools that allow teachers to plan lessons and track student assessments and performance.

Finally, the publisher offers multiple professional development options, such as user conferences and institutes, onsite professional development programs, and online courses.

Cost[8]

Curriculum sets are bundled by grade and are available for prekindergarten through grade 6. For elementary grades, the Classroom Resource Package costs $258.93 and includes Teacher's Lesson Guides, Teacher's Reference Manual, Assessment Handbook, Differentiation Handbook, Home Connection Handbook, Math Masters, Minute Math, posters, and one set of Student Materials (student math journals 1 and 2, reference book, and pattern block template). The pre-K and kindergarten classroom resource sets are $162.24 and $201.02, respectively. Student texts and consumables, supplemental materials, manipulatives, and online components (for planning and assessment tracking) are available separately and vary in price.

6. This number shows the student-level improvement index based on the findings in the one study that meets WWC evidence standards with reservations. That one study examined the effectiveness of the first edition of *Everyday Mathematics*®.
7. The study that meets evidence standards with reservations examined the first edition of *Everyday Mathematics*®.
8. Prices were obtained from the publishers' website in June 2010 (http://www.wrightgroup.com).

Research

Seventy-two studies reviewed by the WWC investigated the effects of *Everyday Mathematics*® on elementary students. One study (Waite, 2000) is a quasi-experimental design that meets WWC evidence standards with reservations. The remaining 71 studies do not meet either WWC evidence standards or eligibility screens.

Waite (2000) included 732 third-, fourth-, and fifth-grade students in six schools using *Everyday Mathematics*® and a comparison group of 2,704 third-, fourth-, and fifth-grade students in 12 similar schools, matched on baseline math achievement scores, student demographics, and geographical location. The schools in the intervention group were in their first year of implementing the first version of *Everyday Mathematics*®. The comparison group used a more traditional mathematics curriculum approved by the school district.

Extent of evidence

The WWC categorizes the extent of evidence in each domain as small or medium to large (see the WWC Procedures and Standards Handbook, Appendix G). 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 *Everyday Mathematics*® for elementary students to be small for math achievement.

Effectiveness

Findings

The WWC review of interventions for Elementary School Math addresses student outcomes in math achievement. The findings below include both the author's estimates and WWC-calculated estimates of the size and the statistical significance of the effects of *Everyday Mathematics*® on elementary students.[10]

Waite (2000) reported a statistically significant positive effect of *Everyday Mathematics*® on overall math achievement. In WWC calculations, this effect was not statistically significant. However, the WWC determined that the effects on math achievement were large enough to be considered substantively important (that is, an effect size of 0.25 or greater). Based on this one study, the WWC categorized the effect of *Everyday Mathematics*® on overall math achievement as being a substantively important positive effect. Waite (2000) also reported statistically significant positive subtest results (concepts, operations, and problem solving). In WWC calculations, the effects for each subtest were not statistically significant. However, the effects on each subtest were large enough to be considered substantively important. The subtest analyses do not factor into the intervention's rating of effectiveness, as they are already represented as part of the full sample results.

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 Procedures and Standards Handbook, Appendix E).

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 *Everyday Mathematics*® is in Appendix A6.
10. The level of statistical significance was reported by the study authors or, when 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 WWC Procedures and Standards Handbook, Appendix C for clustering and WWC Procedures and Standards Handbook, Appendix D for multiple comparisons. In the case of Waite (2000), a correction for clustering was needed, so the significance levels may differ from those reported in the original study.

The WWC found *Everyday Mathematics*® to have potentially positive effects for math achievement for elementary students

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 WWC Procedures and Standards Handbook, Appendix F). The improvement index represents the difference between the percentile rank of the average student in the intervention condition and the percentile rank of the average student in the comparison condition. Unlike the rating of effectiveness, the improvement index is entirely based on the size of the effect, regardless of the statistical significance of the effect, the study design, or the analysis. The improvement index can take on values between –50 and +50, with positive numbers denoting favorable results for the intervention group.

Based on the one study that meets WWC standards with reservations, the improvement index for math achievement is +12 percentile points.

Summary

The WWC reviewed 72 studies on *Everyday Mathematics*® for elementary students. One of these studies meets WWC evidence standards with reservations; the remaining 71 studies do not meet either WWC evidence standards or eligibility screens. Based on this study, the WWC found potentially positive effects in math achievement for elementary students. The conclusions presented in this report may change as new research emerges.

References

Meets WWC evidence standards with reservations

Waite, R. D. (2000). A study of the effects of *Everyday Mathematics* on student achievement of third-, fourth-, and fifth-grade students in a large north Texas urban school district. *Dissertation Abstracts International, 61*(10), 3933A. (UMI No. 9992659)

Studies that fall outside the Elementary School Math review protocol or do not meet WWC evidence standards

Allen, C. (2007). *An action based research study on how using manipulatives will increase students' achievement in mathematics*. Unpublished research study, Marygrove College, Detroit, MI. The study is ineligible for review because it does not use a comparison group.

ARC Center. (2000a). *Everyday Mathematics*: Glendale, CA. In *The ARC Center's implementation stories from the field*. Retrieved November 2, 2005, from http://www.comap.com/elementary/projects/arc/. The study does not meet WWC evidence standards because the intervention and comparison groups are not shown to be equivalent at baseline.

ARC Center. (2000b). *Everyday Mathematics*: Kent, WA. In *The ARC Center's implementation stories from the field*. Retrieved November 2, 2005, from http://www.comap.com/elementary/projects/arc/. The study does not meet WWC evidence standards because the intervention and comparison groups are not shown to be equivalent at baseline.

ARC Center. (2000c). *Everyday Mathematics*: Portage, WI. In *The ARC Center's implementation stories from the field*. Retrieved November 2, 2005, from http://www.comap.com/elementary/projects/arc/. The study does not meet WWC evidence standards because the intervention and comparison groups are not shown to be equivalent at baseline.

ARC Center. (2003). *The ARC Center tri-state student achievement study: Executive summary*. Retrieved November 2, 2005, from http://www.comap.com/product/?idx=965. The study does not meet WWC evidence standards because the intervention and comparison groups are not shown to be equivalent at baseline.

Barnes, S. (2007). *The effects of curriculum structure on the achievement of grade 3 and grade 5 mobile students as measured by the Maryland School Assessment*. Unpublished doctoral dissertation, Duquesne University, Pittsburgh, PA.

The study is ineligible for review because it does not examine the effectiveness of an intervention.

Baxter, J., Woodward, J., & Olson, D. (2001). Effects of reform-based mathematics instruction on low achievers in five third-grade classrooms. *The Elementary School Journal, 101*(5), 529–547. The study does not meet WWC evidence standards because the intervention and comparison groups are not shown to be equivalent at baseline.

Briars, D. J. (2004, July). *The Pittsburgh story: Successes and challenges in implementing standards-based mathematics programs*. Paper presented at the meeting of the UCSMP *Everyday Mathematics* Leadership Institute, Lisle, IL. The study does not meet WWC evidence standards because the intervention and comparison groups are not shown to be equivalent at baseline.

Briars, D. J., & Resnick, L. B. (2000). *Standards, assessments—and what else? The essential elements of standards-based school improvement* (CSE Technical Report 528). Los Angeles: University of California, National Center for Research on Evaluation, Standards, and Student Testing. The study is ineligible for review because it does not use a comparison group.

Carroll, W. M. (1993). *Mathematical knowledge of kindergarten and first-grade students in* Everyday Mathematics. Chicago: University of Chicago School Mathematics Project. The study does not meet WWC evidence standards because the intervention and comparison groups are not shown to be equivalent at baseline.

Carroll, W. M. (1995a). *Report on the field test of fifth-grade* Everyday Mathematics. Chicago: University of Chicago School Mathematics Project, Elementary Component. The study is ineligible for review because it does not examine an intervention implemented in a way that falls within the scope of the review.

Carroll, W. M. (1995b). *Third-grade* Everyday Mathematics *students' performance on the 1993 and 1994 Illinois state mathematics test*. Chicago: University of Chicago School Mathematics Project. The study does not meet WWC evidence standards because the intervention and comparison groups are not shown to be equivalent at baseline.

Additional source:

Carroll, W. M., & Isaacs, A. (2003). Achievement of students using the University of Chicago School Mathematics Project's *Everyday Mathematics*. (Study: Third-grade Illinois state test.) In S. L. Senk & D. R. Thompson (Eds.), *Standards-based school mathematics curriculum: Where are they? What do students learn?* (pp. 79–108). Mahwah, NJ: Lawrence Erlbaum Associates, Inc.

Carroll, W. M. (1996a). *A follow-up to the fifth-grade field test of* Everyday Mathematics: *Geometry and mental and written computation*. Chicago: University of Chicago School Mathematics Project. The study does not meet WWC evidence standards because the intervention and comparison groups are not shown to be equivalent at baseline.

Carroll, W. M. (1996b). Mental computation of students in a reform-based mathematics curriculum. *School Science and Mathematics, 96*(6), 305–311. The study does not meet WWC evidence standards because the intervention and comparison groups are not shown to be equivalent at baseline.

Carroll, W. M. (1996c). Use of invented algorithms by second graders in a reform mathematics curriculum. *Journal of Mathematical Behavior, 15*(2), 137–150. The study is ineligible for review because it does not use a comparison group.

Carroll, W. M. (1997). Results of third-grade students in a reform curriculum on the Illinois state mathematics test. *Journal for Research in Mathematics Education, 28*(2), 237–242. The study does not meet WWC evidence standards because the intervention and comparison groups are not shown to be equivalent at baseline.

Carroll, W. M. (1998). Geometric knowledge of middle school students in a reform-based mathematics curriculum. *School Science and Mathematics, 98*(4), 188–197. The study does not meet WWC evidence standards because the intervention and comparison groups are not shown to be equivalent at baseline.

References *(continued)*

Additional source:

Carroll, W. M., & Isaacs, A. (2003). Achievement of students using the University of Chicago School Mathematics Project's *Everyday Mathematics*. (Study: Geometric knowledge of fifth- and sixth-grade students.) In S. L. Senk & D. R. Thompson (Eds.), *Standards-based school mathematics curricula: What are they? What do students learn?* (pp. 79–108). Mahwah, NJ: Lawrence Erlbaum Associates, Inc.

Carroll, W. M. (2000). Invented computational procedures of students in a standards-based curriculum. *Journal of Mathematical Behavior, 18*(2), 111–121. The study does not meet WWC evidence standards because the intervention and comparison groups are not shown to be equivalent at baseline.

Carroll, W. M. (2001a). *A longitudinal study of children in the* Everyday Mathematics *curriculum*. Retrieved November 2, 2005, from http://everydaymath.uchicago.edu/about/research/CarrollLongitudinalSdy01.pdf. The study is ineligible for review because it does not use a comparison group.

Additional sources:

Carroll, W. M., & Fuson, K. C. (1999). *Achievement results for fourth graders using the standards-based curriculum* Everyday Mathematics. Unpublished manuscript.

Carroll, W. M., & Fuson, K. C. (n.d.). *Performance of US fifth graders in a reform-math curriculum compared to Japanese, Chinese, and traditionally-taught US students*. Unpublished manuscript.

Carroll, W. M., Fuson, K. C., & Drueck, J. D. (n.d.). *A longitudinal study of second and third graders using the reform curriculum* Everyday Mathematics *by the University of Chicago School Mathematics Project*. Unpublished manuscript.

Carroll, W. M. (2001b). Students in a standards-based mathematics curriculum: Performance on the 1999 Illinois State Achievement Test. *Illinois Mathematics Teacher, 52*(1), 3–7. The study does not meet WWC evidence standards because the intervention and comparison groups are not shown to be equivalent at baseline.

Carroll, W. M., Fuson, K. C., & Diamond, A. (2000). Use of student-constructed number stories in a reform-based curriculum. *Journal of Mathematical Behavior, 19*(1), 49–62. The study is ineligible for review because it does not use a comparison group.

Carroll, W. M., & Isaacs, A. (2003a). Achievement of students using the University of Chicago School Mathematics Project's *Everyday Mathematics*. (Study: Mental computation and number sense of fifth graders.) In S. L. Senk & D. R. Thompson (Eds.), *Standards-based school mathematics curricula: What are they? What do students learn?* (pp. 79–108). Mahwah, NJ: Lawrence Erlbaum Associates, Inc. The study does not meet WWC evidence standards because the intervention and comparison groups are not shown to be equivalent at baseline.

Carroll, W. M., & Isaacs, A. (2003b). Achievement of students using the University of Chicago School Mathematics Project's *Everyday Mathematics*. (Study: Multidigit computation in third grade.) In S. L. Senk & D. R. Thompson (Eds.), *Standards-based school mathematics curricula: What are they? What do students learn?* (pp. 79–108). Mahwah, NJ: Lawrence Erlbaum Associates, Inc. The study does not meet WWC evidence standards because the intervention and comparison groups are not shown to be equivalent at baseline.

Carroll, W. M., & Isaacs, A. (2003c). Achievement of students using the University of Chicago School Mathematics Project's *Everyday Mathematics*. (Study: School district studies: HVRSD.) In S. L. Senk & D. R. Thompson (Eds.), *Standards-based school mathematics curricula: What are they? What do students learn?* (pp. 79–108). Mahwah, NJ: Lawrence Erlbaum Associates, Inc. The study does not meet WWC evidence standards because the intervention and comparison groups are not shown to be equivalent at baseline.

Carroll, W. M., & Porter, D. (1994). *A field test of fourth grade* Everyday Mathematics: *Summary report*. Chicago: University of Chicago School Mathematics Project, Elementary Component. The study does not meet WWC evidence standards because the intervention and comparison groups are not shown to be equivalent at baseline.

Confrey, J. (2006). Comparing and contrasting the National Research Council report on evaluating curricular effectiveness with the What Works Clearinghouse approach. *Educational Evaluation and Policy Analysis, 28*(3), 195–213. The study is ineligible for review because it is not a primary analysis of the effectiveness of an intervention.

Cummins-Colburn, B. J. L. (2007). Differences between state-adopted textbooks and student outcomes on the Texas Assessment of Knowledge and Skills examination. *Dissertation Abstracts International, 68*(06A). (UMI No. 1682299) The study does not meet WWC evidence standards because the intervention and comparison groups are not shown to be equivalent at baseline.

Drueck, J. V. (1996, April). *Progression of multidigit addition and subtraction solution methods in high-, average-, and low-math-achieving second graders experiencing a reform curriculum*. Paper presented at the meeting of the American Educational Research Association, New York. The study is ineligible for review because it does not use a comparison group.

Drueck, J. V., Fuson, K. C., Carroll, W. M., & Bell, M. S. (1995, April). *Performance of US first graders in a reform math curriculum compared to Japanese, Chinese, and traditionally taught US students*. Paper presented at the annual meeting of the American Educational Research Association, San Francisco. The study does not meet WWC evidence standards because the intervention and comparison groups are not shown to be equivalent at baseline.

Everyday Learning Corporation. (1996a). Everyday Mathematics *student achievement studies*. (Study: Greensburg Salem and *Everyday Mathematics*.) Chicago: Author. The study does not meet WWC evidence standards because the intervention and comparison groups are not shown to be equivalent at baseline.

Everyday Learning Corporation. (1996b). Everyday Mathematics *student achievement studies*. (Study: Illinois Goals Assessment Program performance.) Chicago: Author. The study does not meet WWC evidence standards because the intervention and comparison groups are not shown to be equivalent at baseline.

Everyday Learning Corporation. (1996c). Everyday Mathematics *student achievement studies*. (Study: Kalamazoo sucess story.) Chicago: Author. The study is ineligible for review because it does not use a comparison group.

Everyday Learning Corporation. (1996d). Everyday Mathematics *student achievement studies*. (Study: Northwestern University analysis of students.) Chicago: Author. The study does not meet WWC evidence standards because the intervention and comparison groups are not shown to be equivalent at baseline.

Everyday Learning Corporation. (1996e). Everyday Mathematics *student achievement studies*. (Study: UCSMP fourth grade field test.) Chicago: Author. The study does not meet WWC evidence standards because the intervention and comparison groups are not shown to be equivalent at baseline.

Everyday Learning Corporation. (1996f). Everyday Mathematics *student achievement studies*. (Study: UCSMP in Wheeling, Illinois.) Chicago: Author. The study is ineligible for review because it does not use a comparison group.

Fuson, K. C., & Carroll, W. M. (n.d.). *Summary of comparison of* Everyday Mathematics *(EM) and McMillan (MC): Evanston student performance on whole-class tests in grades 1, 2, 3, and 4*. Unpublished manuscript. The study does not meet WWC evidence standards because the intervention and comparison groups are not shown to be equivalent at baseline.

Additional source:

Carroll, W. M., & Fuson, K. C. (1998). *A comparison of* Everyday Mathematics *(EM) and McMillan (MC) on Evanston student performance on whole-class tests: Recommendations for revision of* Everyday Mathematics *grades 1, 2, 3, and 4*. (Available from Karen C. Fuson, School of Education and Social Policy, Northwestern University, 2115 N. Campus Drive, Evanston, IL 60208-2610.)

Fuson, K. C., Carroll, W. M., & Drueck, J. V. (2000). Achievement results for second and third graders using the standards-based curriculum *Everyday Mathematics. Journal for*

References *(continued)*

Research in Mathematics Education, 31(3), 277–295. The study does not meet WWC evidence standards because the intervention and comparison groups are not shown to be equivalent at baseline.

Garelick, B. (2006). A tale of two countries and one school district. *Third Education Group Review, 2*(8). Retrieved April 22, 2008 from http://www.npe.ednews.org/Review/Essays/v2n8.pdf. The study is ineligible for review because it is not a primary analysis of the effectiveness of an intervention.

Garelick, B. (2006). A textbook case in textbook adoption. *Third Education Group Review, 2*(6). Retrieved April 30, 2008 from http://www.npe.ednews.org/Review/Essays/v2n6.htm. The study is ineligible for review because it does not examine the effectiveness of an intervention.

Hedges, L. V., Stodolsky, S. S., & Mathison, S. (1987). *A formative evaluation of kindergarten* Everyday Mathematics (Evaluation Rep. No. 86/87–KEM-1). Chicago: University of Chicago School Mathematics Project. The study is ineligible for review because it does not use a comparison group.

Helfant, M. T. (2005). *The relationship between third and fourth grade* Everyday Mathematics *assessments and performance on the New Jersey Assessment of Skills and Knowledge in Fourth Grade (NJASK/4)*. Unpublished doctoral dissertation, Seton Hall University, South Orange, NJ. The study is ineligible for review because it does not examine the effectiveness of an intervention.

Mathematics Evaluation Committee of the Hopewell Valley Regional School District. (1997). *Mathematics evaluation report: Year two*. Pennington, NJ: Hopewell Valley Regional School District. The study does not meet WWC evidence standards because the intervention and comparison groups are not shown to be equivalent at baseline.

McCabe, K. J. (2001). Mathematics in our schools: An effort to improve mathematics literacy. *Masters Abstracts International, 40*(04), 835. (UMI No. 1407560) The study does not meet WWC evidence standards because the intervention and comparison groups are not shown to be equivalent at baseline.

Miller, K. (2006). *A comparison of student math scores on the MAP test and* Everyday Mathematics *program*. Unpublished master's thesis, Northwest Missouri State University, Maryville. The study is ineligible for review because it does not examine the effectiveness of an intervention.

Murnane, R. J., & Nelson, R. R. (2005). *Improving the performance of the education sector: The valuable, challenging, and limited role of random assignment evaluations*. NBER Working Paper No. W11846. National Bureau of Economic Research: Cambridge, MA. The study is ineligible for review because it is not a primary analysis of the effectiveness of an intervention.

Murphy, L. A. (1998). Learning and affective issues among higher- and lower-achieving third-graders in math reform classrooms: Perspectives of children, parents, and teachers. *Dissertation Abstracts International, 59*(12), 4358A. (UMI No. 9913852) The study is ineligible for review because it does not use a comparison group.

New math curriculum formula for success. (2007, November). *Curriculum Review, 47*, 3. The study is ineligible for review because it does not examine the effectiveness of an intervention.

Northwestern Longitudinal Study of *Everyday Mathematics*. (1998). *Fourth-grade feedback on specific lessons*. Unpublished report. The study is ineligible for review because it does not include a student outcome.

Riordan, J. E., & Noyce, P. E. (2001). The impact of two standards-based mathematics curricula on student achievement in Massachusetts. *Journal for Research in Mathematics Education, 32*(4), 368–398. The study does not meet WWC evidence standards because the intervention and comparison groups are not shown to be equivalent at baseline.

Sconiers, S., Isaacs, A., Higgins, T., McBride, J., & Kelso, C. R. (2003). *The ARC Center tri-state student achievement study*. Lexington, MA: The Consortium for Mathematics and Its Applications. The study does not meet WWC evidence standards because the intervention and comparison groups are not shown to be equivalent at baseline.

References *(continued)*

Additional source:

SRA/McGraw-Hill. (2001). Everyday Mathematics *student achievement studies: Volume 4*. (Study: Illinois, Massachusetts, and Washington achievement study.) Chicago: Author.

Sood, S., & Jitendra, A. K. (2007). A comparative analysis of number sense instruction in reform-based and traditional mathematics textbooks. *Journal of Special Education, 41*(3), 145–157. The study is ineligible for review because it does not include a student outcome.

SRA/McGraw-Hill. (2001a). Everyday Mathematics *student achievement studies: Volume 3*. (Study: California SAT-9.) Chicago: Author. The study does not meet WWC evidence standards because the intervention and comparison groups are not shown to be equivalent at baseline.

SRA/McGraw-Hill. (2001b). Everyday Mathematics *student achievement studies: Volume 3*. (Study: Florida Comprehensive Assessment Test.) Chicago: Author. The study does not meet WWC evidence standards because the intervention and comparison groups are not shown to be equivalent at baseline.

SRA/McGraw-Hill. (2001c). Everyday Mathematics *student achievement studies: Volume 3*. (Study: Illinois Standards Achievement Test.) Chicago: Author. The study does not meet WWC evidence standards because the intervention and comparison groups are not shown to be equivalent at baseline.

SRA/McGraw-Hill. (2001d). Everyday Mathematics *student achievement studies: Volume 3*. (Study: Kentucky Commonwealth Accountability Testing System.) Chicago: Author. The study does not meet WWC evidence standards because the intervention and comparison groups are not shown to be equivalent at baseline.

SRA/McGraw-Hill. (2001e). Everyday Mathematics *student achievement studies: Volume 3*. (Study: Massachusetts Comprehensive Assessment System.) Chicago: Author. The study does not meet WWC evidence standards because the intervention and comparison groups are not shown to be equivalent at baseline.

SRA/McGraw-Hill. (2001f). Everyday Mathematics *student achievement studies: Volume 3*. (Study: MAT-7 in Wichita, Kansas.) Chicago: Author. The study does not meet WWC evidence standards because the intervention and comparison groups are not shown to be equivalent at baseline.

SRA/McGraw-Hill. (2001g). Everyday Mathematics *student achievement studies: Volume 3*. (Study: Michigan Educational Assessment Program.) Chicago: Author. The study is ineligible for review because it does not use a comparison group.

SRA/McGraw-Hill. (2001h). Everyday Mathematics *student achievement studies: Volume 3*. (Study: Pennsylvania State Assessment System.) Chicago: Author. The study does not meet WWC evidence standards because the intervention and comparison groups are not shown to be equivalent at baseline.

SRA/McGraw-Hill. (2001i). Everyday Mathematics *student achievement studies: Volume 3*. (Study: SAT-9 in Santa Ana, California.) Chicago: Author. The study does not meet WWC evidence standards because the intervention and comparison groups are not shown to be equivalent at baseline.

SRA/McGraw-Hill. (2001j). Everyday Mathematics *student achievement studies: Volume 4*. (Study: Florida Comprehensive Assessment Test.) Chicago: Author. The study does not meet WWC evidence standards because the intervention and comparison groups are not shown to be equivalent at baseline.

SRA/McGraw-Hill. (2001k). Everyday Mathematics *student achievement studies: Volume 4*. (Study: Illinois Standards Achievement Test.) Chicago: Author. The study does not meet WWC evidence standards because the intervention and comparison groups are not shown to be equivalent at baseline.

SRA/McGraw-Hill. (2001l). Everyday Mathematics *student achievement studies: Volume 4*. (Study: Kentucky Core Content Test.) Chicago: Author. The study does not meet WWC evidence standards because the intervention and comparison groups are not shown to be equivalent at baseline.

SRA/McGraw-Hill. (2001m). Everyday Mathematics *student achievement studies: Volume 4*. (Study: Michigan Educational Assessment Program.) Chicago: Author. The study does not

References *(continued)*

meet WWC evidence standards because the intervention and comparison groups are not shown to be equivalent at baseline.

SRA/McGraw-Hill. (2001n). Everyday Mathematics *student achievement studies: Volume 4*. (Study: North Carolina ABCs Accountability Model.) Chicago: Author. The study is ineligible for review because it does not use a comparison group.

SRA/McGraw-Hill. (2001o). Everyday Mathematics *student achievement studies: Volume 4*. (Study: South Carolina Palmetto Achievement Challenge Test.) Chicago: Author. The study is ineligible for review because it does not use a comparison group.

SRA/McGraw-Hill. (2001p). Everyday Mathematics *student achievement studies: Volume 4*. (Study: Stanford-9 in Tucson, Arizona.) Chicago: Author. The study is ineligible for review because it does not use a comparison group.

SRA/McGraw-Hill. (2001q). Everyday Mathematics *student achievement studies: Volume 4*. (Study: Tennessee Comprehensive Assessment Program.) Chicago: Author. The study is ineligible for review because it does not use a comparison group.

SRA/McGraw-Hill. (2001r). Everyday Mathematics *student achievement studies: Volume 4*. (Study: Texas Assessment of Academic Skills.) Chicago: Author. The study is ineligible for review because it does not use a comparison group.

SRA/McGraw-Hill. (2001s). Everyday Mathematics *student achievement studies: Volume 4*. (Study: Washington Assessment of Student Learning.) Chicago: Author. The study does not meet WWC evidence standards because the intervention and comparison groups are not shown to be equivalent at baseline.

Woodward, J., & Baxter, J. (1997). The effects of an innovative approach to mathematics on academically low-achieving students in inclusive settings. *Exceptional Children, 63*(3), 373–388. The study does not meet WWC evidence standards because the measures of effect cannot be attributed solely to the intervention—there was only one unit of analysis in one or both conditions.

Appendix

Appendix A1 Study characteristics: Waite, 2000

Characteristic	Description
Study citation	Waite, R. D. (2000). A study of the effects of *Everyday Mathematics*® on student achievement of third-, fourth-, and fifth-grade students in a large north Texas urban school district. *Dissertation Abstracts International, 61*(10), 3933A. (UMI No. 9992659)
Participants	The participants were third-, fourth-, and fifth-grade students.[1] Six schools volunteered to implement the first edition of *Everyday Mathematics*®, and a comparison group of 12 schools in the same school district was selected and matched on previous mathematics scores, socioeconomic status, and ethnicity. The final sample consisted of 732 students in the intervention group and 2,704 students in the comparison group.
Setting	All the schools in this study were located in a large urban school district in north Texas.
Intervention	The intervention group consisted of six schools that volunteered to be part of a pilot program implementing the first edition of *Everyday Mathematics*®. The study examined implementation that occurred during the 1998–99 school year.
Comparison	Based on a profile of the intervention group, a comparison group of 12 schools in the same district that were similar in socioeconomic status, grade level, ethnic diversity, and previous year's Iowa Test of Basic Skills mathematics score were selected. The comparison group used a more traditional mathematics curriculum approved by the school district.
Primary outcomes and measurement	1999 Texas Assessment of Academic Skills (TAAS) mathematics scores. For a more detailed description of this outcome measure, see Appendix A2.
Staff/teacher training	Teachers in the intervention schools received 40 hours of training for the use of the *Everyday Mathematics*® curriculum and also received the "Teacher's Resource Package."

1. The distribution of grades across treatment and comparison students differed somewhat. However, the effect size would be similar if an effect size aggregating the separate effects for each grade was recalculated, weighting by the sample size in each grade.

Appendix A2 Outcome measure for the math achievement domain

Outcome measure	Description
1999 Texas Assessment of Academic Skills (TAAS)	As cited in Waite (2000), the 1999 TAAS was a criterion-referenced assessment, developed by the Texas Education Agency (TEA) from the state-mandated curriculum to assess higher order thinking and problem-solving skills across all public schools in Texas. TEA reports an internal consistency reliability range of 0.88 to 0.92 for the assessment. Only the mathematics scores from this assessment were used in this study.

Appendix A3 Summary of study findings included in the rating for the math achievement domain[1]

			Author's findings from the study		WWC calculations			
			Mean outcome (standard deviation)[2]					
Outcome measure	Study sample	Sample size (students/ schools)	*Everyday Mathematics®* group	Comparison group	Mean difference[3] (*Everyday Mathematics®* – comparison)	Effect size[4]	Statistical significance[5] (at $\alpha = 0.05$)	Improvement index[6]
Waite, 2000[7]								
TAAS Mathematics test	Grades 3, 4, and 5	3,436/18	78.82 (11.5)	74.93 (14.8)	3.89	0.27	ns	+11
Domain average for math achievement[8]						**0.27**	**na**	**+11**

ns = not statistically significant
na = not applicable
TAAS = Texas Assessment of Academic Skills

1. This appendix reports findings considered for the effectiveness rating and the average improvement indices for the math achievement domain. Subtest findings from the same study are not included in these ratings, but are reported in Appendix A4.
2. The standard deviation across all students in each group shows how dispersed the participants' outcomes are: a smaller standard deviation on a given measure would indicate that participants had more similar outcomes.
3. Positive differences and effect sizes favor the intervention group; negative differences and effect sizes favor the comparison group.
4. For an explanation of the effect size calculation, see WWC Procedures and Standards Handbook, Appendix B.
5. Statistical significance is the probability that the difference between groups is a result of chance rather than a real difference between the groups. In the case of Waite (2000), a correction for clustering was needed, so the significance levels may differ from those reported in the original study.
6. The improvement index represents the difference between the percentile rank of the average student in the intervention condition and that of the average student in the comparison condition. The improvement index can take on values between –50 and +50, with positive numbers denoting favorable results for the intervention group.
7. The level of statistical significance was reported by the study authors or, when necessary, calculated by the WWC to correct for clustering within classrooms or schools (corrections for multiple comparisons were not done for findings not included in the overall intervention rating). For an explanation about the clustering correction, see the WWC Tutorial on Mismatch. For the formulas the WWC used to calculate the statistical significance, see WWC Procedures and Standards Handbook, Appendix C. In the case of Waite (2000), a correction for clustering was needed, so the significance levels may differ from those reported in the original study.
8. This row provides the study average, which in this instance is also the domain average. The WWC-computed domain average effect size is a simple average rounded to two decimal places. The domain improvement index is calculated from the average effect size.

Appendix A4 Summary of subtest findings for the math achievement domain[1]

			Author's findings from the study		WWC calculations			
			Mean outcome (standard deviation)[2]					
Outcome measure	Study sample	Sample size (students/ schools)	*Everyday Mathematics®* group	Comparison group	Mean difference[3] (*Everyday Mathematics®* – comparison)	Effect size[4]	Statistical significance[5] (at $\alpha = 0.05$)	Improvement index[6]
Waite, 2000[7]								
TAAS Math: Concepts	Grades 3, 4, and 5	3,436/18	17.51 (2.6)	16.75 (3.1)	0.76	0.25	ns	+10
TAAS Math: Operations	Grades 3, 4, and 5	3,436/18	13.08 (2.9)	12.20 (3.5)	0.88	0.26	ns	+10
TAAS Math: Problem solving	Grades 3, 4, and 5	3,436/18	9.73 (3.6)	8.63 (3.6)	1.10	0.31	ns	+12

ns = not statistically significant
TAAS = Texas Assessment of Academic Skills

1. This appendix presents subtest findings for measures that fall in the math achievement domain. Total scores were used for rating purposes and are presented in Appendix A3.
2. The standard deviation across all students in each group shows how dispersed the participants' outcomes are: a smaller standard deviation on a given measure would indicate that participants had more similar outcomes. Pooled standard deviations across grades within the domain were calculated by the WWC and confirmed with the study authors.
3. Positive differences and effect sizes favor the intervention group; negative differences and effect sizes favor the comparison group.
4. For an explanation of the effect size calculation, see WWC Procedures and Standards Handbook, Appendix B.
5. Statistical significance is the probability that the difference between groups is a result of chance rather than a real difference between the groups.
6. The improvement index represents the difference between the percentile rank of the average student in the intervention condition and that of the average student in the comparison condition. The improvement index can take on values between –50 and +50, with positive numbers denoting results favorable to the intervention group.
7. The level of statistical significance was reported by the study authors or, when necessary, calculated by the WWC to correct for clustering within classrooms. For an explanation about the clustering correction, see the WWC Tutorial on Mismatch. For the formulas the WWC used to calculate the statistical significance, see WWC Procedures and Standards Handbook, Appendix C. In the case of Waite (2000), corrections for clustering and multiple comparisons were needed, so the significance levels may differ from those reported in the original study.

Appendix A5 *Everyday Mathematics®* rating for the math achievement domain

The WWC rates an intervention's effects for a given outcome domain as positive, potentially positive, mixed, no discernible effects, potentially negative, or negative.[1]

For the outcome domain of math achievement, the WWC rated *Everyday Mathematics®* as having potentially positive effects for elementary students. It could not achieve a rating of positive effects because there was only one study. The remaining ratings (mixed effects, no discernible effects, potentially negative effects, or negative effects) were not considered, as *Everyday Mathematics®* was assigned the highest applicable rating.

Rating received

Potentially positive effects: Evidence of a positive effect with no overriding contrary evidence.

- Criterion 1: At least one study showing a statistically significant or substantively important *positive* effect.

  Met. *Everyday Mathematics®* had one study showing a substantively important positive effect.

AND

- Criterion 2: No studies showing a statistically significant or substantively important *negative* effect and fewer or the same number of studies showing *indeterminate* effects than showing statistically significant or substantively important *positive* effects.

  Met. *Everyday Mathematics®* had no studies showing negative effects.

Other ratings considered

Positive effects: Strong evidence of a positive effect with no overriding contrary evidence.

- Criterion 1: Two or more studies showing statistically significant *positive* effects, at least one of which met WWC evidence standards for a *strong* design.

  Not met. *Everyday Mathematics®* had no studies with a strong design.

AND

- Criterion 2: No studies showing statistically significant or substantively important *negative* effects.

  Met. *Everyday Mathematics®* had no studies showing negative effects.

1. For rating purposes, the WWC considers the statistical significance of individual outcomes and the domain-level effect. The WWC also considers the size of the domain-level effect for ratings of potentially positive or potentially negative effects. For a complete description, see the WWC Procedures and Standards Handbook, Appendix E.

Appendix A6 Extent of evidence by domain

		Sample size		
Outcome domain	**Number of studies**	**Schools**	**Students**	**Extent of evidence[1]**
Math achievement	1	18	3,436	Small

1. A rating of "medium to large" requires at least two studies and two schools across studies in one domain and a total sample size across studies of at least 350 students or 14 classrooms. Otherwise, the rating is "small." For more details on the extent of evidence categorization, see the WWC Procedures and Standards Handbook, Appendix G.