

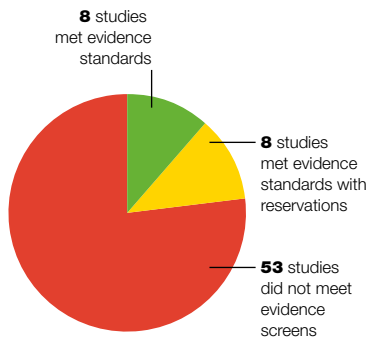
What Works Clearinghouse



English Language Learners

July 30, 2007

WWC identified 69 studies of 32 programs and practices



English language learners are students with a primary language other than English who have a limited range of speaking, reading, writing, and listening skills in English. English language learners also include students identified and determined by their school as having limited English proficiency and a language other than English spoken in the home.

This review focuses on programs to improve the English language literacy and/or academic achievement of elementary school students who are English language learners. For a program to be included, the majority of instruction has to be conducted in English (approximately 80%) but teachers might occasionally provide some native language support. The review focuses on programs for English language learners in grades K–6. It also includes studies in which students may no longer be considered to have limited English proficiency by their school but still have limited English language skills.

We looked at 73 studies of 32 programs that qualified for our review. Of these, 16 studies of 12 programs met our evidence standards—8 without reservations, and 8 with reservations.

Twenty programs reviewed had no studies meeting WWC evidence screens, three of which were eligible for inclusion in this topic review but did not have studies. Additionally, 20 studies could not be categorized by an intervention and are not cited in the report.¹ (The initial identification of eligible programs, practices, and studies ended in March 2006).

The review focused on three outcome domains: reading achievement, mathematics achievement, and English language development.

In looking at the three outcome domains for the 12 interventions, the following produced potentially positive effects on reading achievement and English language development:

- *Bilingual Cooperative Integrated Reading and Composition*
- *Instructional Conversations and Literature Logs*
- *Vocabulary Improvement Program*

Eight other programs and practices had potentially positive effects in one domain. One program had no discernible effects in two domains (see the [WWC Intervention Rating Scheme](#)).

This review summarizes the first wave of intervention reports produced in 2005–06. www.whatworks.ed.gov

1. Four additional studies use single-case designs and are still under review. The WWC is currently developing standards for the review of single-case studies.

Intervention ratings for English language learners

Each English language learning program that had at least one study meeting WWC standards with or without reservations received a rating of effectiveness in at least one outcome domain: reading achievement, mathematics achievement, and English language development. The rating aims to characterize the evidence in a given domain, taking into account the quality of the research design, the statistical significance of the findings, the size of the difference between participants

in the intervention and comparison conditions, and the consistency in findings across studies.

The research evidence can be rated as positive, potentially positive, mixed, no discernible effects, potentially negative, or negative. Table 1 shows the effectiveness ratings for the 12 programs and practices in the three domains (empty cells indicate that no evidence was reported).

Table 1 Effectiveness ratings for 12 programs in three domains

Intervention name	Reading achievement	English language development	Mathematics achievement
Arthur (http://pbskids.org/arthur/index.html)			
Bilingual Cooperative Integrated Reading and Composition (http://www.successforall.org)			
Enhanced Proactive Reading (http://www.texasreading.org/utcr1a)			
Fast ForWord Language (http://www.scilearn.com/providersearch)			
Instructional Conversations and Literature Logs (http://crede.berkeley.edu/research/crede/research/llaa/1.5pubs.html)			
Peer Tutoring and Response Groups (no website available)			
Peer-Assisted Learning Strategies (http://kc.vanderbilt.edu/pals)			
Read Naturally (http://www.readnaturally.com)			
Read Well (http://store.cambiumlearning.com/ProgramPage.aspx?parentID=019005451&functionID=009000008&pID=Read%Well&site=sw)			
Reading Mastery (http://www.sraonline.com)			
Success for All (http://www.successforall.com)			
Vocabulary Improvement Program (http://www.brookespublishing.com/store/books/lively-6342/index.htm)			

Note: The Extent of Evidence Categorization, developed to tell readers how much evidence was available to determine the intervention rating for each study, is in Appendix A1. Three programs had research findings in two domains, and eight programs had research findings in one domain. No programs had research findings in the mathematics achievement domain. WWC intervention reports describe each program and provide information on the students, the cost, and the scope of use. To view the intervention reports, please click on the program name or go to www.whatworks.ed.gov. Following each program name is the developer's website address. The evaluated research addresses some but not all grade levels targeted by these interventions. Grade levels are related to student age and may affect outcomes. For a comparison of targeted grade levels and grade levels in the studies reviewed by the WWC, see Appendix A2.

Key



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



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



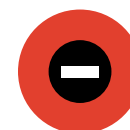
Mixed effects: evidence of inconsistent effects



No discernible effects: no affirmative evidence of effects



Potentially negative effects: evidence of a negative effect with no overriding contrary evidence



Negative effects: strong evidence of a negative effect with no overriding contrary evidence

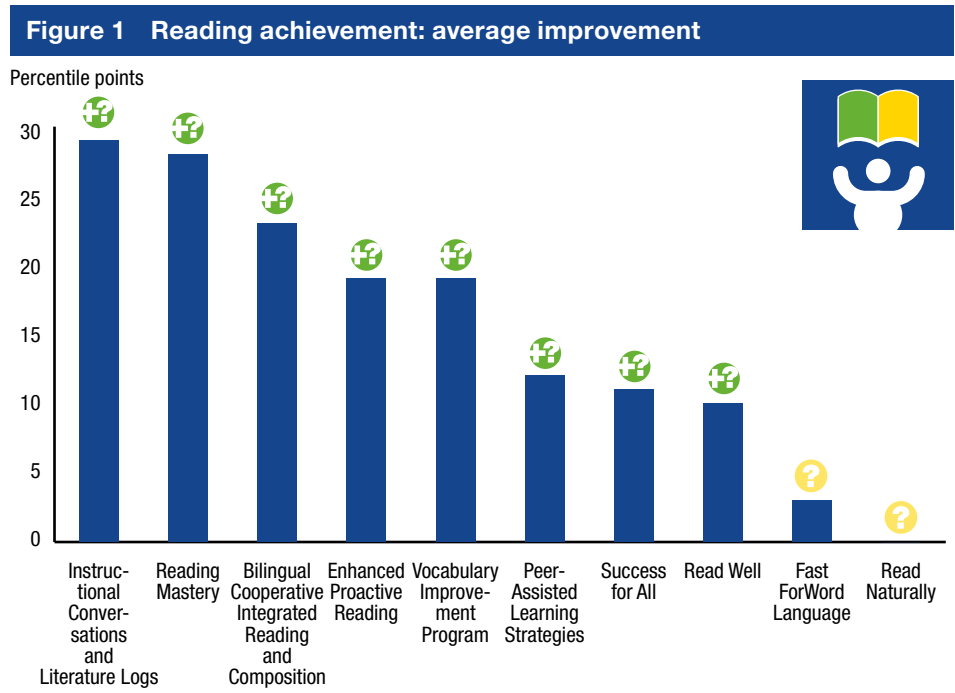
Average improvement indices for each domain

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 as well as 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 and the percentile rank 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. Unlike the rating of effectiveness, which is based on four factors, the improvement index is based only on the size of the difference between the intervention and the comparison conditions.

Reading achievement

The reading achievement domain consists of student literacy outcomes including phonemic awareness, phonics, reading fluency, vocabulary, and reading comprehension. The vocabulary measures included in the reading achievement domain consist only of measures that deal with the ability to define or use words that appear in text the student reads. We reviewed outcomes in this domain for



10 English language learning programs, and the average improvement index ranged from 0 to +29 percentile points (figure 1).

Mathematics achievement

The mathematics achievement domain includes measures of content knowledge (number sense, properties, and operations; measurement; geometry and spatial sense; data analysis, statistics, and probability; and algebra and functions) as well as an understanding of mathematical concepts, procedures, and problem solving. Mathematics instruction involves the use of language, and thus we are interested in effective methods for teaching mathematics to students with limited proficiency with the English language. In this topic review, no studies that met WWC evidence standards with or without reservations addressed mathematics achievement.

English language development

The English language development domain consists of oral or written proficiency outcomes including measures of listening comprehension, receptive vocabulary, grammar, syntax, and other linguistic features of the English language. The vocabulary associated with English language development relate to either expressive or receptive language in testing situations with no text to be read. We reviewed outcomes in this domain for eight English language learning programs and practices, and the average improvement index ranged from -1 to +31 (figure 2).

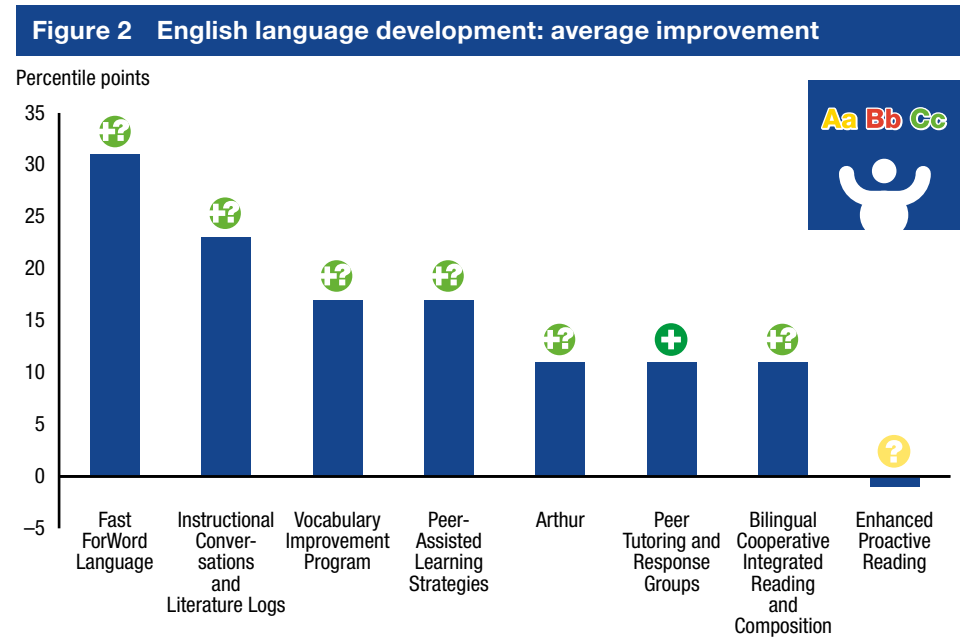


Table 2 Programs reviewed with no studies meeting WWC evidence screens

Accelerated Reader (http://www.renlearn.com/ar)	Metacognitive Teaching Approaches (<i>no website available</i>)
Augmenting Thinking Through Language Acquisition Skills (ATLAS) (<i>no website available</i>)	NEARStar (http://www.nearstar.org)
Cognitive Academic Language Learning Approach (CALLA) (www.gwu.edu/~calla)	On Our Way to English (http://rigby.harcourtachieve.com/en-US/rigby.htm)
Curriculum-Based Instruction (<i>no website available</i>)	Pre-Teaching Vocabulary (<i>no website available</i>)
Effective Use of Time (<i>no website available</i>)	Project MASTER (<i>no website available</i>)
ESL in the Content Areas (<i>no website available</i>)	Reading Recovery (http://www.readingrecovery.org)
Front Row Phonics (<i>no website available</i>)	Sheltered Instruction Observation Protocol (http://www.cal.org/siop)
Instructional Practices (<i>no website available</i>)	Story Structure Strategies/Story Structure Utilization (<i>no website available</i>)
Into English (<i>no website available</i>)	Structured Immersion (<i>no website available</i>)
Learning Centers (<i>no website available</i>)	Supplemental Reading Instruction (<i>no website available</i>)

Note: Following each program name is the developer's website address. This table includes programs and practices that were eligible for inclusion in this topic review.

For more information about the studies reviewed and the WWC methodology, please see the [WWC English Language Learners Technical Appendices](#).

Appendix

Appendix A1 Extent of evidence

Intervention name	Reading achievement			Mathematics achievement			English language development		
	Number of studies	Sample size (schools/students)	Extent of evidence	Number of studies	Sample size (schools/students)	Extent of evidence	Number of studies	Sample size (schools/students)	Extent of evidence
Arthur	0	na	na	0	na	na	1	6/102	Small
Bilingual Cooperative Integrated Reading and Composition	1	7/85	Small	0	na	na	1	7/85	Small
Enhanced Proactive Reading	2	8/131	Small	0	na	na	2	8/131	Small
Fast ForWord Language	2	Over 7/249 ¹	Small	0	na	na	2	Over 7/249 ¹	Small
Instructional Conversations and Literature Logs	2	11/116	Small	0	na	na	2	11/116	Small
Peer Tutoring and Response Groups	3	5/106	Small	0	na	na	3	5/106	Small
Peer-Assisted Learning Strategies	1	nr/119	Small	0	na	na	0	na	na
Reading Mastery	1	9/17	Small	0	na	na	0	na	na
Read Naturally	1	5/60	Small	0	na	na	0	na	na
Read Well	1	5/33	Small	0	na	na	1	5/33	na
Success for All	1	8/324	Small	0	na	na	1	8/324	na
Vocabulary Improvement Program	1	2/142	Small	0	na	na	1	2/142	Small

nr = not reported

na = not applicable

Note: A rating of “moderate 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.”

1. The number of schools in one study was not reported.

Appendix A2 Sample characteristics by program

Program name	Targeted students (grade levels/ages)	Students in studies reviewed (grade levels)
Arthur	Ages 4–8	K
Bilingual Cooperative Integrated Reading and Composition	Grades 2–5	2–3
Enhanced Proactive Reading	Grade 1	1
Fast ForWord Language	Grades K–12	K–6
Instructional Conversations and Literature Logs	nr	2–5
Peer Tutoring and Response Groups	nr	1–6
Peer-Assisted Learning Strategies	Grades K–12	3–6
Reading Mastery	Grades K–6	K–4
Read Naturally	Grades 1–8	2–5
Read Well	K–1	2–5
Success for All	Pre-K–Grade 8	K–1
Vocabulary Improvement Program	Grades 4–6	5

nr = not reported

Appendix A3 Summary of statistically significant¹ or substantively important² positive findings³

	Reading achievement ⁴		English language development ⁴	
	Statistically significant positive findings	Reading achievement across outcomes	Statistically significant positive findings	English language development across outcomes
Arthur				
Uchikoshi, 2005 (randomized controlled trial)	na	na	ns	ns, Substantively important
Bilingual Cooperative Integrated Reading and Composition				
Calderón, Hertz-Lazarowitz, & Slavin, 1998 (quasi-experimental design)	ns	ns, Substantively important	ns	ns, Substantively important
Enhanced Proactive Reading				
Vaughn, Cirino, et al., 2006 (randomized controlled trial)	ns	ns, Substantively important	ns	ns, nsi
Vaughn, Mathes, et al., 2006 (randomized controlled trial with failed random assignment)	Word attack; Passage comprehension	Statistically significant, Substantively important	ns	ns, nsi
Fast ForWord Language				
Scientific Learning Corporation, 2004 (randomized controlled trial)	na	na	Test of Auditory Comprehension of Language-Revised	Statistically significant, Substantively important
Troia, 2004 (quasi-experimental design)	ns	ns, nsi	na	na
Instructional Conversations and Literature Logs				
Saunders, 1999 (quasi-experimental design)	Performance assessment	Statistically significant, Substantively important	ns	ns, Substantively important
Saunders & Goldenberg, 1999 (randomized controlled trial with a confound)	Factual comprehension; Interpretive comprehension	Statistically significant, Substantively important	na	na

na = not studied

ns = not statistically significant

nsi = not substantively important

(continued)

1. According to WWC criteria, if a program finds a statistically significant effect, there is less than a 5% chance that this difference is due to chance. The level of statistical significance was calculated by the WWC and, where necessary, corrects for clustering within classrooms or schools, and for multiple comparisons. 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 the [Technical Details of WWC-Conducted Computations](#).
2. For rating purposes, the WWC considered the statistical significance of the findings and the magnitude of the effect, also called the effect size. An average effect size is the sum of all the effect sizes of the student outcomes in a study in a single domain divided by the number of those outcomes. The WWC considers an average effect size across all student outcomes in one study in a given domain to be substantively important if it is equal to or greater than 0.25.
3. In this topic review, no studies that met WWC evidence standards with or without reservations addressed mathematics achievement.
4. No studies showed statistically significant or substantively important negative findings in the domain. For a detailed description of the outcome measures, see Appendix A2 in the WWC intervention report at www.whatworks.ed.gov.

Appendix A3 Summary of statistically significant¹ or substantively important² positive findings³ (continued)

	Reading achievement ⁴		English language development ⁴	
	Statistically significant positive findings	Reading achievement across outcomes	Statistically significant positive findings	English language development across outcomes
Peer Tutoring and Response Groups				
Jun-Aug, 1985 (randomized controlled trial)	na	na	Language behavior – talking to peers; Language behavior – addressed from subject to peer	Statistically significant, Substantively important
Prater & Bermudez, 1983 (randomized controlled trial)	na	na	Total idea units written	ns, Substantively important
Serrano, 1987 (randomized controlled trial)	na	na	ns	ns, nsi
Peer-Assisted Learning Strategies				
Sáenz, Fuchs, & Fuchs, 2005 (randomized controlled trial)	ns	ns, Substantively important	na	na
Read Naturally				
Denton, Anthony, Parker, & Hasbrouck, 2004 (quasi-experimental design)	ns	ns, nsi	na	na
Read Well				
Denton, Anthony, Parker, & Hasbrouck, 2004 (randomized controlled trial with differential attrition)	ns	ns, Substantively important	na	na
Reading Mastery				
Gunn, Biglan, Smolkowski, & Ari, 2000 (randomized controlled trial)	ns	ns, Substantively important	na	na
Success for All				
Chambers et al., 2004 (quasi-experimental design)	ns	ns, Substantively important	na	na
Vocabulary Improvement Program				
Carlo et al., 2004 (randomized controlled trial with differential attrition)	ns	ns, Substantively important	Word mastery	ns, Substantively important

na = not applicable

ns = not statistically significant

nsi = not substantively important

Appendix A4 Methodology

Seventy-three studies, which provided data on 32 English language learning interventions, were classified for the strength of their design. To be fully reviewed, a study had to be a randomized controlled trial or a quasi-experimental design with evidence of equating between treatment and comparison groups. Twenty studies could not be categorized by an intervention, and are not cited in the report.

Eligibility for review

Quasi-experiments eligible for review include those equating through matching or statistical adjustment, regression discontinuity designs, and single case designs. Although single case designs were identified for the English language learning review, they were not included in intervention reports as we are currently developing evidence standards for regression discontinuity designs and single case designs.

The review considered the properties of measurement instruments, the percentage of students, classrooms, or schools in the study sample that were not included in the reported results, and any sample characteristics or events that might serve as alternative explanations for the observed effect. For details please see the [WWC Evidence Standards](#). Long-term outcomes were preferred over immediate outcomes for inclusion in our analysis of program effects.

The research evidence for programs and practices that have at least one study meeting WWC evidence standards with or without reservations is summarized in individual intervention reports posted on the WWC website. See <http://www.whatworks.ed.gov>. So far, 16 unique or independent studies of 12 English language learning interventions have met evidence standards with or without reservations. The lack of evidence for the remaining programs and practices does not mean that those programs and practices are ineffective; some programs and practices have not yet been studied using a study design that permits the WWC to draw any conclusions about their effectiveness. And for some studies, not enough data were reported (such as descriptive statistics of the findings) to

enable us to confirm statistical findings, so they were not fully reviewed.

Rating of effectiveness

Each English language learning program that had at least one study meeting WWC standards received a rating of effectiveness in at least one outcome domain; the rating of effectiveness aims to characterize the existing evidence base in a given domain. The intervention's effect based on the research evidence can be rated 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](#)).

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. Because of these corrections, the level of statistical significance as calculated by the WWC may differ from the one originally reported by the study authors. For an explanation, see the [WWC Tutorial on Mismatch](#). For the formulas that we used to calculate statistical significance, see [Technical Details of WWC-Conducted Computations](#). If the average effect size across all outcomes in one study in a single domain is at least 0.25, it is considered substantively important, contributing toward the rating of effectiveness. See the technical appendices of the English language learning intervention report for further details.

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

Appendix A4
Methodology
(continued)

total sample size across the studies that met WWC evidence standards with or without reservations.¹

Improvement index

The WWC computed an improvement index for each individual finding. In addition, within each outcome domain, the WWC computes an average improvement index for each domain and each study as well as a domain average improvement index across studies of the same intervention (see the [Technical](#)

[Details of WWC-Conducted Computations](#)). 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. The improvement index can take on values between –50 and +50, with positive numbers denoting results favorable to the intervention group. Unlike the rating of effectiveness, the improvement index is based only on the size of the difference between the intervention and the comparison conditions.

1. 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.

Appendix A5 References

Studies that met WWC standards

Arthur

Uchikoshi, Y. (2005). Narrative development in bilingual kindergartners: Can Arthur help? *Developmental Psychology, 41*(3), 464–478.

Enhanced Proactive Reading

Vaughn, S., Cirino, P. T., Linan-Thompson, S., Mathes, P. G., Carlson, C. D., Cardenas-Hagan, E., et al. (2006). Effectiveness of a Spanish intervention and an English intervention for English language learners at risk for reading problems. *American Educational Research Journal, 43*(3), 449–487.

Fast ForWord Language

Scientific Learning Corporation. (2004). Improved language skills by children with low reading performance who used Fast ForWord Language: MAPS for learning. *MAPS for Learning, 3*(1), 1–13.

Peer Tutoring and Response Groups

Jun-Aust, H. (1985, March). *Individual differences in second language learning of Korean immigrant students*. Paper presented at the International Conference on Second/Foreign Language Acquisition by Children, Oklahoma City, OK.

Prater, D. L., & Bermudez, A. B. (1983). Using peer response groups with limited English proficient writers. *Bilingual Research Journal, 17*(1, 2), 99–116.

Serrano, C. J. (1987). The effectiveness of cross-level peer involvement in the acquisition of English as a second language by Spanish-speaking migrant children. *Dissertation Abstracts International, 48*(07), 1682–A. (UMI No. 8723149)

Peer-Assisted Learning Strategies

Sáenz, L. M., Fuchs, L. S., & Fuchs, D. (2005). Peer-assisted learning strategies for English language learners with learning disabilities. *Exceptional Children, 71*(3), 231–247.

Reading Mastery/SRA/McGraw-Hill¹

Gunn, B., Biglan, A., Smolkowski, K., & Ary, D. (2000). The efficacy of supplemental instruction in decoding skills for Hispanic and non-Hispanic students in early elementary school. *Journal of Special Education, 34*, 90–103.

Additional citation for this study:

Gunn, B., Smolkowski, K., Biglan, A., & Black, C. (2002). Supplemental instruction in decoding skills for Hispanic and non-Hispanic students in early elementary school: A follow-up. *Journal of Special Education, 36*, 69–79.

Studies that met WWC standards with reservations

Bilingual Cooperative Integrated Reading and Composition

Calderón, M., Hertz-Lazarowitz, R., & Slavin, R. (1998). Effects of Bilingual Cooperative Integrated Reading and Composition on students making the transition from Spanish to English reading. *Elementary School Journal, 99*(2), 153–165.

Additional citation for this study:

Calderón, M., Hertz-Lazarowitz, R., Ivory, G., & Slavin, R. E. (1997). *Effects of Bilingual Cooperative Integrated Reading and Composition on students transitioning from Spanish to English reading* (Report No. 10). Baltimore, MD: Center for Research on the Education of Students Placed at Risk. (ERIC Document Reproduction Service No. ED405428)

Enhanced Proactive Reading

Vaughn, S., Mathes, P., Linan-Thompson, S., Cirino, P., Carlson, C., Pollard-Durodola, S., et al. (2006). Effectiveness of an English intervention for first-grade English language learners at risk for reading problems. *Elementary School Journal, 107*(2), 153–180.

Additional citation for this study:

Mathes, P. G., Denton, C. A., Fletcher, J. M., Anthony, J. L., Francis, D. J., & Schnatschneider, C. (2005). The effects of theoretically different instruction and student characteristics on the skills of struggling readers. *Reading Research Quarterly, 4*(2), 148–182.

Appendix A5
References
(continued)

Fast ForWord Language

Troia, G. A. (2004). Migrant students with limited English proficiency: Can Fast ForWord make a difference in their language skills and academic achievement? *Remedial and Special Education, 25*(6), 353–366.

Instructional Conversations and Literature Logs

Saunders, W. M. (1999). Improving literacy achievement for English learners in transitional bilingual programs. *Educational Research and Evaluation, 5*(4), 345–381.

Saunders, W. M., & Goldenberg, C. (1999). Effects of instructional conversations and literature logs on limited- and fluent-English-English-proficient students' story comprehension and thematic understanding. *Elementary School Journal, 99*(4), 277–301.

Read Naturally

Denton, C. A., Anthony, J. L., Parker, R., & Hasbrouck, J. E. (2004). Effects of two tutoring programs on the English reading development of Spanish-English bilingual students. *The Elementary School Journal, 104*(4), 289–305.

Additional citations for this study:

Denton, C. A. (2000). *The efficacy of two English interventions in a bilingual education program. Dissertation Abstracts International, 61*(11), 4325A. (UMI No. 9994233)

Ihnot, C. (1992). *Read Naturally*. St Paul, MN: *Read Naturally*.

Read Well

Denton, C. A., Anthony, J. L., Parker, R., & Hasbrouck, J. E. (2004). Effects of two tutoring programs on the English reading development of Spanish-English bilingual students. *Elementary School Journal, 104*(4), 289–305.

Additional citation for this study:

Denton, C. A. (2000). The efficacy of two English interventions in a bilingual education program. *Dissertation Abstracts International, 61*(11), 4325A. (UMI No. 9994233)

Success for All

Chambers, B., Slavin, R. E., Madden, N. A., Cheung, A., & Gifford, R. (2004). *Effects of Success for All with embedded video on the beginning reading achievement of Hispanic children*. Baltimore, MD: Johns Hopkins University, Center for Research on the Education of Students Placed at Risk.

Additional citation for this study:

Borman, G. D., Hewes, G. M., Overman, L. T., & Brown, S. (2003). Comprehensive school reform and achievement: A meta-analysis. *Review of Educational Research, 73*, 125–230.

Vocabulary Improvement Program

Carlo, M. S., August, D., McLaughlin, B., Snow, C. E., Dressler, C., Lippman, D. N., et al. (2004). Closing the gap: Addressing the vocabulary needs of English-language learners in bilingual and mainstream classrooms. *Reading Research Quarterly, 39*, 188–215.

Additional citation for this study:

McLaughlin, B., August, D., Snow, C., Carlo, M., Dressler, C., White, C., et al. (2000, April). *Vocabulary Improvement in English language learners: An intervention study*. Symposium presented at the National Clearinghouse for English Language Acquisition, Washington, DC.

Studies that did not meet evidence screens

Accelerated Reader

McGlinn, J. M., & Parrish, A. (2002). Accelerating ESL students' reading progress with Accelerated Reader. *Reading Horizons, 42*(3), 175–189.²

Augmenting Thinking Through Language Acquisition Skills (ATTLAS)

Rothfarb, S. H., & Abella, R. (1987). *Evaluation of the ATTLAS program (augmenting thinking through language acquisition skills)*. Miami, FL: Dade County Public Schools. (ERIC Document Reproduction Service No. ED299285)³

Appendix A5
References
(continued)

Curriculum-Based Instruction

Kucer, S. B., & Silva, C. (2000). The English literacy development of bilingual students within a transition whole language curriculum. *Bilingual Research Journal*, 23(4), 345–371.²

Moats, L. C. (2004). Efficiency of a structured, systematic language curriculum for adolescent poor readers. *Reading & Writing Quarterly*, 20(2), 145–159.²

Effective Use of Time

Waxman, H. C., de Felix, J.W., Martinez, A., Knight, S. L., & Padron, Y. (1994). Effects of implementing classroom instructional models on English language learners' cognitive and affective outcomes. *Bilingual Research Journal*, 18(3, 4), 1–22.⁴

ESL in the Content Areas

Waxman, H. C., de Felix, J.W., Martinez, A., Knight, S. L., & Padron, Y. (1994). Effects of implementing classroom instructional models on English language learners' cognitive and affective outcomes. *Bilingual Research Journal*, 18(3, 4), 1–22.⁴

Fast ForWord Language

Hall, S. L. (2002). *Final report: Scientific Learning/Fast ForWord program: 2001–2002*. Dallas, TX: Dallas Independent School District.⁵

Scientific Learning Corporation. (2003). Improved language and early reading skills of English-language learners in the Paradise Valley Unified School District who used Fast ForWord Language. *MAPS for Learning: Educator Reports*, 7(1), 1–5.²

Scientific Learning Corporation. (2004a). Improved language and early reading skills by students in school district 54 in Schaumburg, Illinois, who used Fast ForWord Language. *MAPS for Learning: Educator Reports*, 8(6), 1–4.²

Scientific Learning Corporation. (2004b). Improved reading achievement by students in the Killeen Independent School District who used Fast ForWord products. *MAPS for Learning: Educator Reports*, 8(23), 1–9.²

Front Row Phonics

De la Cal-Fasani, L. (2000). Front Row Phonics: A CAI field test. *Masters Abstracts International*, 39(02), 343. (UMI No. 1401814)²

Instructional Practices

Alonso, C. M. (1991). *Improving academic achievement of ESOL kindergarten students using a centers approach to instruction*. (ERIC Document Reproduction Service No. ED333754)²

Amaral, O. M., Garrison, L., & Klentschy, M. (2002). Helping English learners increase achievement through inquiry-based science instruction. *Bilingual Research Journal*, 26(2), 213–239.²

Edwards, L. D. & Langbort, C. (2003). Collaborative problem solving in mixed-language groups. *Teaching Children Mathematics*, 9(9), 534–538.²

Gersten, R. (1996). Literacy instruction for language-minority students: The transition years. *Elementary School Journal*, 96(5), 227–244.⁶

Hampton, E., & Rodriguez, R. (2001). Inquiry Science in bilingual classrooms. *Bilingual Research Journal*, 25(4), 417–434.²

Mansaray, H. A. (1997). The effects of vocabulary instruction on English-as-a-Second Language and bilingual learners (Doctoral dissertation, Boston University, 2001). *Dissertation Abstracts International*, 58(03), 801A. (UMI No. 9724199)⁷

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(www.gwu.edu/~calla)

Into English (no website available)

Sheltered Instruction Observation Protocol (www.cal.org/siop)

1. This program is sometimes known as *Direct Instruction* using the *Reading Mastery* texts or *SRA Direct Instruction—Reading Mastery*.
2. The study did not use a comparison group.
3. Lack of evidence for baseline equivalence: the study, which used a quasi-experimental design, did not establish that the comparison group was equivalent to the intervention group at baseline.
4. Confound: there was only one school in one study condition and two in the other, so in the analysis it was difficult to separate the effects of the intervention from the effects of the school.
5. The sample is not appropriate to this review: data were not disaggregated, so the WWC could not examine the results for the sample that is relevant to this review.
6. The study had only qualitative data.
7. The comparison group was inappropriate to the focus of the review: students in the intervention group were in ESL and bilingual classrooms, and students in the control group were not in classrooms designated for ESL or bilingual students.
8. The outcome measures are not relevant to this review.
9. The sample is not appropriate to this review.
10. Confound: there was only one teacher in each study condition, so the analysis could not separate the effects of the intervention from the effects of the teacher.
11. Incomparable groups: the intervention and comparison groups cannot be considered equivalent.
12. Confound: there was only one teacher in both study conditions, so the analysis could not separate the effects of the intervention from the effects of the teacher.
13. Complete data were not reported: the WWC could not compute effect sizes.
14. The effects of two interventions were studied: the WWC could not examine the results for the intervention that is relevant to this review.
15. Confound: the analysis could not separate the effects of the intervention from the effects of the school.
16. Incomparable groups: the language of instruction differed between groups.
17. Incomparable groups: there were differences in the amount of native language used.
18. For studies in which outcomes of the intervention appropriate to this review were examined, two had confounds, in which there was one school in one of the study conditions (Arizona) or one school in each study condition (Francis Scott Key), so the analysis could not separate the effects of the intervention from the effects of the school. Complete data were not reported in one study (El Vista), so the WWC could not calculate effect sizes.

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19. For studies in which outcomes of the intervention appropriate to this review were examined, the samples are not appropriate to the review: data were not disaggregated, so the WWC could not examine the results of the sample that is relevant to this review.
20. Single-case design studies were identified but are not included in this review because the WWC does not yet have standards for reviewing single-case design studies.