

WWC EVIDENCE REVIEW PROTOCOL FOR ADOLESCENT LITERACY INTERVENTIONS (GRADES 4–12) VERSION 2.0¹ (4/27/10)

Topic Area Focus

The What Works Clearinghouse (WWC) review in this topic area focuses on adolescent literacy interventions for students in grades 4–12 (or ages 9–18)² that are intended to increase literacy skills in **alphabetics** (phonemic awareness, phonological awareness, letter identification, print knowledge, and phonics), **reading fluency, comprehension** (vocabulary and reading comprehension), or **general literacy achievement** (general reading achievement; see definitions below). Systematic reviews of evidence in this topic area address the following questions:

- Among interventions intended to provide literacy instruction, which ones improve literacy skills among adolescents in grades 4–12 (or ages 9–18)?
- Are some interventions more effective than others for certain types of literacy skills?
- Are some interventions more effective for certain types of students, particularly students who have historically lagged behind in reading and/or literacy achievement?

Key Definitions

Alphabetics Domain

Phonemic awareness. Phonemic awareness (or phoneme awareness) refers to the understanding that the sounds of spoken language—phonemes—work together to make words, and phonemes can be substituted and rearranged to create different words. Phonemic awareness includes the ability to identify, think about, and work with the individual sounds in spoken words. Phonemic awareness helps children learn how to read and spell by allowing them to combine or blend the separate sounds of a word to say the word (for example, “/c/ /a/ /t/—cat”).

Phonological awareness. Phonological awareness is a more encompassing term than phoneme/phonemic awareness. It refers to phoneme awareness *and* to awareness of larger spoken units such as syllables and rhyming words. Tasks of phonological awareness might require students to generate words that rhyme, to segment sentences into words, to segment polysyllabic words into syllables, or to delete syllables from words (e.g., what is cowboy without cow?).

¹ This protocol is aligned with the *WWC Procedures and Standards Handbook* (Version 2.0).

² The primary criterion for determining if a study is eligible for review is the grade range. Studies with students in grades 4–12 are eligible for review. Studies that include students who are older than 18 and younger than 9 are included as long as they are in grades 4–12. If authors do not provide the grade level of study students, we will use the age range of 9–18 to determine if the study is eligible for review within the Adolescent Literacy topic area.

Letter identification. Letter identification refers to knowledge of the names of the letters of the alphabet.

Print awareness. Print awareness refers to knowledge or concepts about print such as (a) print carries a message; (b) there are conventions of print, such as directionality (left to right, top to bottom), differences between letters and words, distinctions between upper- and lowercase, punctuation; and (c) books have some common characteristics (e.g. author, title, front/back).

Phonics. Phonics³ refers to (a) the knowledge that there is a predictable relationship between phonemes (the sounds in spoken language) and graphemes (the letters used to represent the sounds in written language), (b) the ability to associate letters and letter combinations with sounds and blending them into syllables and words, and (c) the understanding that this information can be used to read or decode words. Spelling is included in the review as an acceptable phonics outcome. Spelling skills also play an important role within writing; however, because spelling skills are necessarily subordinate to other issues of writing quality, the spelling outcomes are included together with decoding skills within the phonics construct in this review protocol.

Reading Fluency Domain

Reading fluency. Fluency is the ability to read text accurately, automatically, and with expression (including appropriate pausing, response to punctuation, and so on), while extracting meaning from it.

Comprehension Domain

Vocabulary development. Vocabulary development refers to the development of knowledge about the meanings and uses of words. The development of receptive vocabulary (words understood) and expressive vocabulary (words used) is critical for reading comprehension.

Reading comprehension. Reading comprehension refers to the understanding of the meaning of a passage. Reading comprehension depends on various underlying components including decoding (the ability to translate text into speech), knowledge of word meanings, fluency (the ability to read text accurately and automatically), and the ability to understand and interpret spoken language. Struggling readers may have difficulty with any of these components of reading or with multiple components. Reading comprehension outcomes may include tests of students' comprehension of passages from various content areas. For example, a test assessing students' comprehension of a social studies passage would be an acceptable outcome.⁴

³ "Phonics" also refers to an instructional approach that focuses on the correspondence between sounds and symbols and is often used in contrast to whole language instructional approaches. For the purposes of the Adolescent Literacy Review Protocol, we use the term *phonics* as defined above, not as an instructional approach.

⁴ These comprehension tests assess the student's ability to read a passage and answer questions based on the material in the text and require no prior knowledge of the material in order to complete the assessment successfully. Content area knowledge tests that assess an individual's preexisting understanding of the facts, theories, and other related materials in that area (e.g., science, social studies, math) are not eligible outcomes.

General Literacy Achievement Domain⁵

General literacy achievement. Outcomes that fall in the general literacy achievement domain combine separate measures of two or more of the previous domains (phonics, reading fluency, and comprehension) by providing some type of summary score, such as a “total reading score.” Grades in reading or language arts classes and promotion to the next grade are acceptable outcomes in this domain.

ELIGIBILITY CRITERIA AND EVIDENCE STANDARDS

Populations to be Included

The Adolescent Literacy topic area will review studies of interventions administered to students in grades 4–12 (or 9–18 years of age).⁶

Studies of reading interventions involving students in grades K–3 are reviewed under the WWC Beginning Reading topic area. For studies that include samples of students that span both the Adolescent Literacy and Beginning Reading topic areas and cannot be disaggregated by grade level, the Adolescent Literacy topic area will review any studies that include 5th-grade students or higher (for example, a combined sample of students from grades 3–5). Any such studies that do not include 5th-grade students or higher will be covered by the Beginning Reading topic area (for example, a combined sample of students from grades K–4). Similarly, when study authors include a longitudinal sample of students that receive the intervention in grades covered by both the Adolescent Literacy and Beginning Reading topic areas, any studies in which the students receive the intervention in grade 5 (or higher) will be reviewed by the Adolescent Literacy topic area (for example, a study in which receipt of the intervention spans grades 2–5). Any such studies that do not include receipt of the intervention in grade 5 or higher will be covered by the Beginning Reading topic area (for example, a study in which receipt of the intervention spans grades K–4).

Studies of adolescents who are typically developing, as well as those at risk for reading difficulties, including adolescents with learning disabilities and low-income minority adolescents, are considered for Adolescent Literacy reviews. To be included in our reviews, at least 50% of the students in each study must be general education students (which excludes students classified as English language learners [ELL] or limited English proficient [LEP] or receiving special education services, as these students are included in other WWC topic area

⁵ Writing outcomes are outside the scope of the Adolescent Literacy review, but they will be included in the WWC review of writing interventions.

⁶ The primary criterion for determining if a study is eligible for review is the grade range. Studies with students in grades 4–12 are eligible for review. Studies that include students who are older than 18 and younger than 9 are included as long as they are in grades 4–12. If authors do not provide the grade level of study students, we will use the age range of 9–18 to determine if the study is eligible for review within the Adolescent Literacy topic area.

reviews). For any studies that present analyses of subgroups of the study sample, the subgroup analyses also will be eligible for review in the Adolescent Literacy topic area.

These subgroups include the following:⁷

- Students of differing achievement levels (e.g., poor readers, underachievers)
- Students of different ages (e.g., different levels of cognitive development)
- Students from different grades (e.g., primary versus secondary)
- Students from different socioeconomic backgrounds
- Students who are members of ethnic or racial minorities

Students living in high poverty and students from minority groups are of particular interest because these populations lag behind the population as a whole in reading achievement.

Types of Interventions to be Included

The specific interventions considered for inclusion are determined after an exhaustive search of the published and unpublished literature by the Adolescent Literacy Team, as well as a review of nominations submitted to the WWC. Only research on interventions that are replicable (e.g., can be reproduced) are reviewed. The types of interventions included follow.

- Programs/products, such as⁸
 - Comprehensive, non–textbook-based programs—some are curriculum based, others focus on staff development—intended to serve as a school’s prime literacy instruction program for students in grades 4–12
 - Supplemental programs for students in grades 4–12 that are intended to enhance whole-school and/or whole-classroom literacy
 - Grades 4–12 reading or literacy textbooks intended for whole-school and/or whole-classroom use

⁷ Subgroup analyses of students classified as needing special education services will be included in the other WWC topic areas focusing on special education students. Subgroup analyses of English language learners (ELL) or students classified as limited English proficient (LEP) will be included in the WWC English Language Learner topic area.

⁸ Although the Adolescent Literacy topic area will focus on studies of interventions used during the regular school day, studies of interventions used during afterschool programs or in the context of dropout prevention programs also will be eligible for review. For example, a study of the use of *Read 180* in an afterschool program or a study of the use of *Accelerated Reader* as part of a dropout prevention program would be eligible for review.

- Programs aimed at struggling readers in grades 4–12 and students who read behind their grade level, such as remedial curricula that aim to bring low-achieving students’ academic performance closer to the standards for their grade in school
- Software designed to improve literacy skills
- Practices (e.g., semantic mapping, vocabulary instruction, questioning, summarizing)
- Policies (e.g., a schoolwide literacy initiative)
- Variations across programs, products, practices, and policies that include:
 - Targeting to specific populations (e.g., students below grade level, at-risk students)
 - The intention to be a school’s primary literacy instruction program versus a supplemental literacy program
 - Relative emphasis on implementing a packaged curriculum versus provision of professional development
 - Relative emphasis on approaches focused on the reading of literature versus content materials drawn from subject matters
 - Different level of implementation (national, statewide, districtwide, schoolwide, individual grades, whole group, small group, one-on-one)
 - Different medium/media through which program is implemented (e.g., computer software, textbooks)
 - Relative emphasis on enhancing specific literacy outcomes (e.g., phonics skills versus text comprehension skills)
- “Branded” and “non-branded” interventions. Branded interventions are commercial programs and products that may possess any of the following characteristics:
 - An external developer who
 - Provides technical assistance (e.g., instructions/guidance on the implementation of the intervention)
 - Sells or distributes the intervention
 - Replicability: packaged or otherwise available for distribution/use beyond a single site
 - Trademark

Elements of Intervention Replicability

The following characteristics of an intervention must be documented to reliably replicate the intervention with different participants, in other settings, at other times:

- Intervention description
 - Skill(s) being targeted
 - Approach to enhancing the skill(s)
 - Targeted population
 - Unit of delivery of the intervention (i.e., whole group, small group, or individual student)
 - Medium/media of delivery of the intervention (i.e., teacher-led instruction or software)
- Intervention duration: amount of time to implement the intervention
- Description of individuals delivering the intervention: characteristics of the individuals administering the intervention

An intervention's effectiveness may vary by location, and a study that claims to test the effectiveness of an intervention should attempt to examine the effects of the intervention across different settings, such as:

- Location types (urban, rural, suburban)
- School types (e.g., public, private, parochial)
- Classroom types (e.g., regular, inclusion)

Types of Research Studies to be Included

The study must have been publicly released in 1989 or later and obtained by the WWC prior to drafting the intervention report. We believe this time frame adequately represents the current status of the field as well as allowing for a manageable project scope.

The adolescent literacy literature search focuses on studies involving programs/products, practices, and policies to improve the literacy skills of students in grades 4–12. To be included in the review, a study must meet several relevancy criteria:

- **Topic relevance.** The study has to be about adolescent literacy, focusing on reading fluency, comprehension, alphabets, or general literacy achievement. The study is required to focus on the effects of interventions, and not on
 - Individual differences (e.g., correlational studies examining the association between reading speed and performance on a reading test or studies focusing on brain functions or structures)
 - Assessment (e.g., on properties of an instrument)
- **Language relevance.** The study should be written in English.
 - Studies that are written in English but focus on literacy in other languages are excluded from the review.
- **Time frame relevance.** The study has to have been published in 1989 or later.
- **Sample relevance.** The sample must include students in grades 4–12 (or ages 9–18) who read and write in English.
 - The intervention has to have taken place in grades 4–12; the outcome could be measured in grades 4–12 or later.
 - Studies that focus exclusively or primarily on students classified as needing special education services or on ELL or LEP students are excluded from consideration.⁹
- **Study design relevance.** The study design and focus are limited to studies that:
 - Are empirical and use quantitative methods and inferential statistical analysis
 - Take the form of a randomized controlled trial, a regression-discontinuity design, a quasi-experimental design, or a single-subject design
- **Outcome relevance.** The study is required to:
 - Focus on student outcomes (not teacher or other outcomes)
 - Focus on students’ literacy-related outcomes (not non-literacy-related outcomes such as motivation or engagement)
 - Include at least one relevant outcome¹⁰ that demonstrates adequate face validity or reliability

⁹ Studies in which at least 50% of the sample is classified as needing special education services will be reviewed in other WWC topic areas focusing on special education students. Studies in which at least 50% of the sample is classified as ELL or LEP will be reviewed in the ELL topic area.

¹⁰ A relevant outcome is an outcome that falls in one of the domains listed on pages 1, 2, and 3 of this document (in the “Key Definitions” section).

Types of Outcomes to be Included

Alphabets (phonemic awareness, phonological awareness, letter identification, print knowledge, and phonics), reading fluency, comprehension (vocabulary or reading comprehension), and general literacy achievement (general reading achievement) are our primary outcomes of interest. Although we recognize the importance of motivation and attitudes toward reading, we have focused this review solely on student achievement outcomes.

These literacy skills may be measured by standardized achievement tests, by researcher- or teacher-developed assessments, by post-intervention class grades, and indirectly by students' promotion to the next grade.

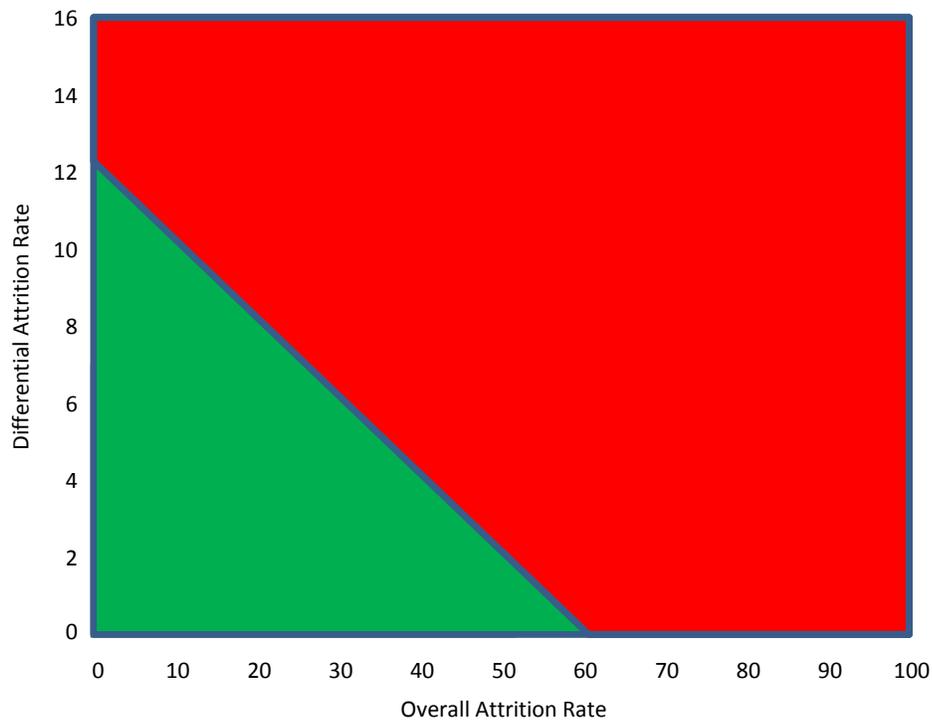
Reliability of outcome measures (internal consistency, temporal stability/test-retest reliability, and inter-rater reliability) will be assessed using the following standards determined by the WWC Standards and Statistics, Technical and Analysis Team (STAT):

- Internal consistency: minimum of 0.60
- Temporal stability/test-retest reliability: minimum of 0.40
- Inter-rater reliability: minimum of 0.50

Attrition

As described in the *WWC Procedures and Standards Handbook* (Version 2.0), the WWC is concerned about overall and differential attrition from the intervention and comparison groups for randomized controlled trials (RCTs), as both contribute to the potential bias of the estimated effect of an intervention. The attrition bias model with liberal boundaries developed by the WWC will be used in determining whether a study meets WWC evidence standards (see Appendix A of the *Handbook*).

When the combination of overall and differential attrition rates causes an RCT study to fall in the green area on the diagram shown below, the attrition will be considered “low” and the level of bias acceptable. This reflects the assumption that most attrition in studies of Adolescent Literacy interventions is due to factors that are not strongly related to treatment status, such as parent mobility and absences on the days that assessments are conducted. However, for RCTs with combinations of overall and differential attrition rates in the red area, the attrition will be considered “high” and potentially have high levels of bias, and therefore must demonstrate equivalence.



In cluster RCTs, attrition needs to be considered at two levels: the cluster and the individual student. Because attrition at the individual level may not change the cluster-level characteristics (except aggregated individual characteristics), the bar for severe overall attrition at the student level can be less stringent than it is for studies in which individual students are randomly assigned and in which attrition introduces selection bias into the design. A study must pass the existing attrition standard at two levels. First, it must pass at the cluster level, using the attrition boundary described earlier. Second, the study must pass at the subcluster level, again using the attrition boundary described earlier, *with attrition based only on the clusters still in the sample*. That is, the denominator for the subcluster attrition calculation includes only sample members at schools or classrooms that remain in the study.

Equivalence

If the study design is an RCT with high levels of attrition or a quasi-experimental design (QED), it must demonstrate baseline equivalence of the intervention and comparison groups for the analytic sample. The onus for demonstrating equivalence in these studies rests with the authors. Sufficient reporting of pre-intervention data should be included in the study report (or obtained from the study authors) to allow the review team to draw conclusions about the equivalence of the intervention and comparison groups. Pre-intervention characteristics can include the outcome measure(s) administered prior to the intervention or other measures that are not the same as, but are highly related to, the outcome measure(s). For the Adolescent Literacy review, the variables on which studies must demonstrate equivalence include the pretest measures of reading skills. An acceptable measure of pretest reading skills can come from any of the four Adolescent Literacy outcome domains:

- (1) alphabetics (phonemic awareness, phonological awareness, letter identification, print knowledge, and phonics),
- (2) reading fluency,
- (3) comprehension (vocabulary and reading comprehension), or
- (4) general literacy achievement (general reading and other related academic achievement).

The issue of when the equating was done also must be considered, as well as the possibility that the equating procedure resulted in groups with extreme scores in measurements (after repeated measurements, these scores tend to move toward the average, even without an intervention taking place).

Groups are considered equivalent if the reported differences in pre-intervention characteristics of the groups are less than or equal to 0.25 of the pooled standard deviation in the sample, regardless of statistical significance. However, if differences are greater than 0.05 standard deviations and less than or equal to 0.25 of the pooled standard deviation in the sample, the analysis must control analytically for the individual-level pre-intervention characteristic(s) on which the groups differ. If pre-intervention differences are greater than 0.25 for *any* of the measures of reading skills (in *any* of the four domains) the study does not meet standards.

In addition, if there is evidence that the groups were drawn from very different settings or represent different populations, the principal investigator may decide that the environments or populations are too dissimilar to provide an adequate comparison. The PI will consider the following when making this determination:

- Whether the study groups were from similar settings (for example, rural/urban areas or high-SES/low-SES areas)

- Whether students in the study groups had similar characteristics, including IQ and demographic characteristics of sample members such as socioeconomic status (SES), minority status, and other factors associated with sorting students into study groups (such as ELL and learning disability status).

Statistical and Analytical Issues

Statistical properties of the data that are important to obtain an accurate estimate of an effect size include the following:

- For most statistics (including d-indexes), normal distribution and homogeneous variances are important properties.
- Odds-ratios have no required desirable properties except the minimum of five observations per cell.

RCT studies with low attrition do not need to use statistical controls in the analysis, although statistical adjustment for well-implemented RCTs is permissible and can help generate more precise effect size estimates. For RCTs, the effect size estimates will be adjusted for differences in pre-intervention characteristics at baseline (if available) using a difference-in-differences method if the authors did not adjust for the pretest (see Appendix B of the *Handbook*). Beyond the pre-intervention characteristics required by the equivalence standard, statistical adjustment can be made for other measures in the analysis as well, although they are not required.

For the WWC review, the preference is to report on and calculate effect sizes for post-intervention means adjusted for the pre-intervention measure. If a study reports both unadjusted and adjusted post-intervention means, the WWC review will report the adjusted means and unadjusted standard deviations. If adjusted post-intervention means are not reported, they will be requested from the author(s).

The statistical significance of group differences will be recalculated if (a) the study authors did not calculate statistical significance, (b) the study authors did not account for clustering when there was a mismatch between the unit of assignment and the unit of analysis, and (c) the study authors did not account for multiple comparisons when appropriate. Otherwise, the review team will accept the calculations provided in the study.

When a misaligned analysis is reported (that is, the unit of analysis in the study is not the same as the unit of assignment), the effect sizes computed by the WWC will incorporate a statistical adjustment for clustering. The default intraclass correlation used for the Adolescent Literacy review is 0.20. For an explanation of the clustering correction, see Appendix C of the *Handbook*.

All standards apply to overall findings and analyses of subsamples of students.

LITERATURE SEARCH METHODOLOGY

Collecting and Screening Studies

The What Works Clearinghouse (WWC) literature search is comprehensive and systematic. Detailed protocols guide the entire literature search process. At the beginning of the process, relevant journals, organizations, and experts are identified. The WWC searches core sources and additional topic-specific sources identified by the principal investigator and the senior content advisor (for example, Deshler et al. 2007, Slavin et al. 2008). The process is fully and publicly documented.

Sources for Studies

Trained WWC staff members use the following strategies in collecting studies:

Databases

This is the core list of electronic databases that are searched across topics:

1. ***ERIC***. Funded by the U.S. Department of Education (ED), ERIC is a nationwide information network that acquires, catalogs, summarizes, and provides access to education information from all sources. All ED publications are included in its inventory.
2. ***PsycINFO***. PsycINFO contains more than 1.8 million citations and summaries of journal articles, book chapters, books, dissertations, and technical reports, all in the field of psychology. Journal coverage, which dates back to the 1800s, includes international material selected from more than 1,700 periodicals in more than 30 languages. More than 60,000 records are added each year.
3. ***Campbell Collaboration***. C2-SPECTR (Social, Psychological, Educational, and Criminological Trials Register) is a registry of more than 10,000 randomized and possibly randomized trials in education, social work and welfare, and criminal justice.
4. ***Dissertation Abstracts***. As described by Dialog, Dissertation Abstracts is a definitive subject, title, and author guide to virtually every American dissertation accepted at an accredited institution since 1861. Selected master's theses have been included since 1962. In addition, since 1988, the database has included citations for dissertations from 50 British universities that have been collected by and filmed at the British Document Supply Centre. Beginning with DAIC (Dissertation Abstracts International, Section C) Volume 49, Number 2 (Spring 1988), citations and abstracts from Section C, Worldwide Dissertations (formerly European Dissertations), have been included in the file. Abstracts are available for doctoral records from July 1980 (Dissertation Abstracts International, Volume 41, Number 1) to the present. Abstracts are included for master's theses from spring 1988 (Masters Abstracts, Volume 26, Number 1) to the present.
5. ***Academic Search Premier***. This multidisciplinary database provides full text for more than 4,500 journals, including full text for more than 3,700 peer-reviewed titles. PDF backfiles to

1975 or further are available for well over 100 journals, and searchable cited references are provided for more than 1,000 titles.

6. **EconLit.** EconLit, the American Economic Association's electronic database, is the world's foremost source of references to economic literature. The database contains more than 785,000 records from 1969–present. EconLit covers virtually every area related to economics.
7. **Business Source Corporate.** This source contains full text from nearly 3,000 quality business and economics magazines and journals (including full text of many only abstracted in other sources we search). Information in this database dates as far back as 1965.
8. **SocINDEX with Full Text.** SocINDEX with Full Text is the world's most comprehensive and highest quality sociology research database. It features more than 1,986,000 records with subject headings from a 19,600+ term sociological thesaurus designed by subject experts and expert lexicographers. SocINDEX with Full Text contains full text for 708 journals dating back to 1908. This database also includes full text for more than 780 books and monographs, and full text for 9,333 conference papers.
9. **EJS E-Journals.** E-Journals from EBSCO host[®] include article-level access for thousands of E-Journals available through EBSCO's Electronic Journal Service (EJS). This resource covers journals to which Mathematica subscribes.
10. **Education Research Complete.** Education Research Complete is the definitive online resource for education research. Topics covered include all levels of education from early childhood to higher education, and all educational specialties, such as multilingual education, health education, and testing. Education Research Complete provides indexing and abstracts for more than 1,840 journals, as well as full text for more than 950 journals, and it includes full text for more than 81 books and monographs and for numerous education-related conference papers.
11. **WorldCat.** WorldCat is the world's largest network of library content and services. It allows users to simultaneously search the catalogs of more than 10,000 libraries, containing more than 1.2 billion books, dissertations, articles, CDs, and other media.
12. **Google Scholar.** Google Scholar provides a simple way to broadly search for scholarly literature. From one place, users can search across many disciplines and sources: peer-reviewed papers, theses, books, and abstracts and articles from academic publishers, professional societies, preprint repositories, universities, and other scholarly organizations.

Search Parameters

After the identification of the topics for review, the project coordinator and the librarians initiate the search using keywords and search terms for each database.

The senior content advisor reviews and supplements the list with additional keywords and search terms.

Table 1. Examples of Adolescent Literacy Keywords Used for Electronic Searches¹¹

Keywords	Related Search Term(s)¹²
Literacy	Reading development, literacy programs, reading, literacy
Reading skills	Language skills, reading ability, reading speed, sight vocabulary, word recognition
Reading comprehension	Reading comprehension, comprehension, reading strategies, reading rate, verbal comprehension
Vocabulary development	Vocabulary development, lexicography, verbal development, vocabulary building, vocalization, communication, oral communication, verbal communication
Phonics	Phonics, phonetics, aural learning, word study skills
Reading fluency	Reading fluency, readability
Content area literacy	History, social sciences, sciences
Literacy instruction	Basal reading, remedial reading, reading instruction, literacy programs, reading education, literacy education
Educational strategies	Educational strategies, educational methods, instructional design, learning strategies, instructional strategies
Instructional materials	Courseware, learning modules, textbooks, workbooks, protocol materials, reading materials, educational games, educational resources, material development, instructional media
Intervention	Intervention, educational therapy, practice, curricul*, approach, program, technique, strateg*, train*, instruct*, teach*
Instructional effectiveness	Instructional improvement, program effectiveness, administrator effectiveness, curriculum evaluation, educational quality, outcomes of education, instructional media
Assignments	Homework, reading assignments, schoolwork
Reading achievement	Reading achievement, reading failure, achievement gains, academic achievement, reading improvement, speech improvement, improvement programs, success
Grades 4–12	Grade 4, grade 5, grade 6, grade 7, grade 8, grade 9, grade 10, grade 11, grade 12, elementary school students, secondary school students, middle school students, high school students
Adolescent	Adolescents, adolescence
Study design	Control group, random, simultaneous treatment, comparison group, regression discontinuity, matched group, baseline, ABAB design, treatment, experiment, meta analysis/meta-analysis, evaluation,

¹¹ Based on reviews of research in the Beginning Reading topic area and the Adolescent Literacy practice guide, the Adolescent Literacy topic area began reviews on a substantial list of interventions. The team will use the keyword search to identify more interventions in the future as needed.

¹² The asterisk (*) in the keyword list allows the truncation of the term and will return any word that begins with the specified letters.

Keywords	Related Search Term(s) ¹²
	impact, effectiveness, causal, posttest/post-test, pretest/pre-test, QED, single case, RCT, alternating treatment, single subject

“Fugitive” or “Grey” Literature

Our search for fugitive or grey literature encompasses five strategies:

1. Public submissions:

- Materials submitted via the WWC website
- Materials submitted directly to WWC staff

2. Solicitations made to key researchers by the Evidence Report Team

3. Searches of websites summarizing research on programs for children and youth (i.e., Best Evidence Encyclopedia [BEE]), prior reviews, and research syntheses (i.e., using the reference lists of prior reviews and research syntheses to make sure we have not omitted key studies).

4. Searches of the websites of all the developers of literacy-related programs/products and interventions for any research or implementation reports.

5. Searches of websites of the following organizations:

- ABT Associates
- Alliance for Excellent Education
- American Enterprise Institute
- American Institutes for Research (AIR)
- Appalachian Education Laboratory (Edvantia)
- Best Evidence Encyclopedia (BEE)
- Brookings Institution
- Carnegie Corporation
- Center for Comprehensive School Reform and Improvement
- Center for Data-Driven Reform in Education (CDDRE) at Johns Hopkins University
- Center for Research and Reform in Education (CRRE) at Johns Hopkins University
- Center for Research in Educational Policy (CREP)
- Center for Social Organization of Schools at Johns Hopkins University
- Center on Education Policy Center on Instruction
- Chapin Hall Center for Children
- Congressional Research Service
- Florida Center for Reading Research (FCRR)
- Government Accountability Office
- Harvard University

Heritage Foundation
Institute for Public Policy and Social Research (IPPSR)
Learning Point Associates
MDRC
Mid-Continent Research for Education and Learning
National Center on Secondary Education and Transition
National Dropout Prevention Centers
National Governors Association
National Reading Panel
Pacific Resources for Education and Learning (PREL)
Public Education Network
Public Policy Research Institute at Texas A&M University
Public/Private Ventures (PPV)
Rand Corporation
Southwest Educational Development Laboratory (SEDL)
SRI
Thomas B. Fordham Institute
Urban Institute

References resulting from these searches will be screened and sorted by intervention.

Intervention Search

The primary objective of the intervention search is to identify *all* effectiveness studies conducted for a specific intervention identified in the keyword search and by other search strategies.

The strategies for the search are as follows:

- Conduct standard library searches of the intervention name.¹³
- Scan references to identify possible synonyms for the intervention in the literature and conduct standard library searches of these terms.
- Once some potentially eligible studies are identified, request full text and review the reference lists to cross-check search results. Similarly, review relevant literature reviews. Revise search terms as needed.
- Identify seminal researchers associated with the intervention. Conduct full-text searches of the researcher name combined with the intervention name.
- Identify seminal studies of the intervention and conduct searches of the associated citations.
- Contact the intervention's developer for a list of known research on the intervention.

All references resulting from these searches will be screened for eligibility.

¹³ A standard library search consists of searching titles and abstracts in each of the databases described earlier.

REFERENCES

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