

A Guide to Selecting and Applying Evidence-Based Practices to Reading

USDE guidance defines four levels of evidence for evaluating the strength of evidence indicating the effectiveness of a given program or intervention. These range from “Strong Evidence” to “Demonstrates a Rationale.” Throughout this guide, these levels of evidence will be referred to as “Tier 1,” “Tier 2,” etc. as shown in the table below.

Tier	Level of Evidence	Description
1	Strong Evidence	Supported by one or more well-designed and well-implemented randomized control experimental studies .
2	Moderate Evidence	Supported by one or more well-designed and well-implemented quasi-experimental studies .
3	Promising Evidence	Supported by one or more well-designed and well-implemented correlational studies .
4	Demonstrates a Rationale	Practices that have a well-defined logic model or theory of action , are supported by research, and have some effort underway to determine their effectiveness.

The Tables below are organized into four areas of activity:

1. Program Planning
2. Classroom Strategies
3. Professional Development
4. Extended Learning Settings

Reading Programs/Interventions and Levels of Evidence

1. Program Planning

Evidence-Based Practice and Rationale	Grade Band	Level of Evidence and Source
<p>Implement a specific set of core in-school strategies and practices to support reading.</p> <p><i>Implementation of a set of specific instructional and classroom practices is effective in closing the reading achievement gap. Strategies include, but are not limited to:</i></p> <ul style="list-style-type: none"> • <i>direct, explicit instruction in phonics, vocabulary, and fluency in the primary grades;</i> • <i>explicit instruction in reading comprehension strategies in the upper grades (e.g., inferencing, questioning, and visualizing);</i> • <i>one-on-one tutoring in phonics, especially when provided by teachers; and</i> • <i>explicit vocabulary instruction for English learners.</i> 	<p>PreK-3 4-5 6-8 9-12</p>	<p>Tier 1, Strong</p> <p>Source: <i>School-Based Strategies for Narrowing the Achievement Gap</i>. Arlington, VA: Hanover Research (2017).</p> <p>https://www.wasa-oly.org/WASA/images/WASA/1.0%20Who%20We%20Are/1.4.1.6%20SIRS/Download_Files/LI%202017/May-%20School-Based%20Strategies%20for%20Narrowing%20the%20Achievement%20Gap.pdf</p>
<p>Focus on basic cognitive and linguistic processes, intervention, assessment, and professional development.</p> <p><i>To become successful readers, students at risk of reading difficulty and/or reading disability require support in basic cognitive and linguistic processes such as oral language skills and vocabulary, as well as interventions with increased intensity at kindergarten and grade 1. Other practices, such as universal screening, progress monitoring, and professional development in research-based instructional practices improve outcomes for these students.</i></p>	<p>PreK-3 4-5</p>	<p>Tier 1, Strong</p> <p>Source: Connor, C.M., Alberto, P.A., Compton, D.L., O'Connor, R.E. (2014). <i>Improving Reading Outcomes for Students with or at Risk for Reading Disabilities: A Synthesis of the Contributions from the Institute of Education Sciences Research Centers</i> (NCSE 2014-3000). Washington, DC: National Center for Special Education Research, Institute of Education Sciences, U.S. Department of Education.</p> <p>https://ies.ed.gov/ncser/pubs/20143000/pdf/20143000.pdf</p>

Evidence-Based Practice and Rationale	Grade Band	Level of Evidence and Source
<p>Support English learners' understanding of subject matter (i.e., history, science, literature) using specific practices. <i>English learners require long-term, specific, explicit instruction in language development and reading skills. Effective practices include:</i></p> <ul style="list-style-type: none"> • <i>redesign all classes for explicit language development, with a focus on comprehension, vocabulary development, and advanced grammatical structures needed to comprehend and produce academic language; and</i> • <i>design lessons around carefully structured language objectives for integrating subject matter content, focusing on content-related reading and writing skills.</i> 	<p>6-8 9-12</p>	<p>Tier 1, Strong</p> <p>Source: <i>Effective Interventions for Long-Term English Learners</i>. Arlington, VA: Hanover Research (2017).</p> <p>https://portal.ct.gov/-/media/SDE/ESSA%20Evidence%20Guides/Effective_Interventions_for_Long-Term_English_Learners</p>
<p>Implement a comprehensive instructional system with district-level and school-level supports.</p> <p><i>Secondary students who are struggling readers require a systemic approach to literacy instruction that will help them build content knowledge while improving their reading skills. Effective elements of the system include:</i></p> <ul style="list-style-type: none"> • <i>prioritized, critical content instruction for students regardless of literacy levels;</i> • <i>embedded reading strategy instruction within and across classes;</i> • <i>intensive, accelerated literacy intervention that builds mastery of entry-level literacy skills and provides explicit strategy instruction; and</i> • <i>therapeutic interventions that support mastery of language underpinnings related to the curriculum content.</i> 	<p>6-8</p>	<p>Tier 3, Promising</p> <p>Source: McPeak, L., Trygg, L. (2007). <i>The Secondary Literacy Instruction and Intervention Guide: Helping School Districts Transform into Systems that Produce Life-Changing Results for All Children</i>. Mill Valley, CA: Stupski Foundation.</p> <p>https://rti4success.org/sites/default/files/secondary_literacy_instruction_intervention_guide.pdf</p>

2. Classroom Strategies

Evidence-Based Practice and Rationale	Grade Band	Level of Evidence and Source
<p>Support learning outcomes for English learners.</p> <ul style="list-style-type: none"> • to improve learning outcomes, English learners at the intermediate and/or middle school levels require the following instructional practices: • formative assessments that measure English language phonological processing, letter knowledge, and word and text reading; • intensive small-group interventions for at-risk students in phonological awareness, phonics, reading fluency, vocabulary, and comprehension; • explicit, direct instruction; • high-quality vocabulary instruction incorporated throughout the school day; • use of instructional time to address the meanings of common words, phrases, and expressions not yet learned; • essential content words taught in depth; and • 90 minutes a week of instructional activities in which pairs of students at different ability levels or different English language proficiencies work together on academic tasks in a structured fashion. 	<p>6-8</p>	<p>Tier 1, Strong</p> <p>Source: Denton, C.A., Wexler, J., Vaughn, S., Bryan, D. (2008). "Intervention Provided to Linguistically Diverse Middle School Students with Severe Reading Difficulties." <i>Learning Disabilities Research and Practice</i>, 23(2), pp. 79-89.</p> <p>https://eric.ed.gov/?id=EJ790878</p>
	<p>4-5 6-8</p>	<p>Tier 4, Demonstrates a Rationale</p> <p>Source: <i>Teaching Academic Content and Literacy to English Learners in Elementary and Middle School</i>. Washington, DC: NCEE (2014).</p> <p>https://ies.ed.gov/ncee/wwc/Doc/practiceguide/english_learners_pg_040114.pdf</p>
	<p>4-5 6-8</p>	<p>Tier 4, Demonstrates a Rationale</p> <p>Source: <i>Instructional Strategies to Support Underrepresented Students</i>. Arlington, VA: Hanover Research (2017).</p> <p>https://portal.ct.gov/-/media/SDE/ESSA%20Evidence%20Guides/Instructional_Strategies_to_Support_Underrepresented_Students</p>

Evidence-Based Practice and Rationale	Grade Band	Level of Evidence and Source
<p>Design and provide specific and systematic phonemic awareness and phonics instruction.</p> <p><i>To become successful readers, all young students require:</i></p> <ul style="list-style-type: none"> • <i>focused and explicit phonemic awareness instruction on one or two skills rather than a combination of three or more;</i> • <i>phonemic awareness instruction in small groups rather than individually or in whole classroom settings; and</i> • <i>systematic phonics instruction (a series of lessons versus intermittent instruction) to impact children's growth in reading.</i> <p>Note: <i>The research panel identified these practices for students in grades K-2 only.</i></p>	<p>K-2</p>	<p>Tier 1, Strong</p> <p>Source: Langenberg, D. <i>et al.</i> (2000) <i>Teaching Children to Read: An Evidence-Based Assessment of the Scientific Research Literature on Reading and Its Implications for Reading Instruction</i>. Washington, DC: National Institute of Child Health and Human Development.</p> <p>https://www.nichd.nih.gov/sites/default/files/publications/pubs/nrp/Documents/report.pdf</p>
<p>Support English learners' literacy instruction in grades 6-12.</p> <p><i>To improve learning outcomes, English learners in grades 6-12 benefit from the following instructional practices:</i></p> <ul style="list-style-type: none"> • <i>explicit vocabulary instruction;</i> • <i>direct and explicit comprehension strategy instruction; and</i> • <i>individualized interventions by trained literacy specialists.</i> 	<p>6-8 9-12</p>	<p>Tier 1, Strong</p> <p>Source: <i>Instructional Strategies to Support Underrepresented Students</i>. Arlington, VA: Hanover Research (2017).</p> <p>https://portal.ct.gov/-/media/SDE/ESSA%20Evidence%20Guides/Instructional_Strategies_to_Support_Underrepresented_Students</p>
<p>Provide reading instruction for special education adolescent readers.</p> <p><i>Adolescent readers who struggle with reading and/or receive special education services benefit from a specific set of instructional practices, including word study, fluency and vocabulary building, and reading comprehension strategies.</i></p>	<p>4-5 6-8</p>	<p>Tier 1, Strong</p> <p>Source: Scammacca, N.; Robers, G.; Vaughn, S.; Edmonds, M.; Wexler, J.; Reutebuch, C.K.; Torgesen, J. (2007). <i>Interventions for Adolescent Struggling Readers: A Meta-Analysis with Implications for Practice</i>. Portsmouth, NH: Center on Instruction.</p> <p>https://eric.ed.gov/?id=ED521837</p>

Evidence-Based Practice and Rationale	Grade Band	Level of Evidence and Source
<p>Develop early literacy skills in K-3 students who lag behind their peers.</p> <p><i>Students in grades K-3 who are reading below grade level require a specific set of practices to improve reading outcomes. Practices include:</i></p> <ul style="list-style-type: none"> • <i>dedicated time each day for explicitly guiding students' reading activities; and</i> • <i>dedicated time each day for targeted and purposeful instruction in one or more of the core elements of literacy foundations.</i> 	<p>K-3</p>	<p>Tier 2, Moderate</p> <p>Source: <i>Early Skills and Predictors of Academic Success</i>. Arlington, VA: Hanover Research (2016).</p> <p>https://portal.ct.gov/-/media/SDE/ESSA%20Evidence%20Guides/Early_Skills_and_Predictors_of_Academic_Success</p>
<p>Target language skills in prekindergarten and kindergarten.</p> <p><i>Early vocabulary development is a critical precursor to literacy achievement. Young students in PreK and Kindergarten benefit from the following practices:</i></p> <ul style="list-style-type: none"> • <i>building vocabulary;</i> • <i>support in developing syntax; and</i> • <i>building discourse abilities.</i> <p>Note: <i>This research provides evidence for grades Pre K and Kindergarten in high poverty schools.</i></p>	<p>PreK-K</p>	<p>Tier 2, Moderate</p> <p>Source: Hemphill, L., Tivnan, T. (2008). "The Importance of Early Vocabulary for Literacy Achievement in High-Poverty Schools." <i>Journal of Education for Students Placed at Risk</i>, 13, pp. 426-451.</p> <p>https://www.researchgate.net/publication/248940899_The_Importance_of_Early_Vocabulary_for_Literacy_Achievement_in_High-Poverty_Schools</p>

Evidence-Based Practice and Rationale	Grade Band	Level of Evidence and Source
<p>Develop prekindergarten and kindergarten students' language skills and comprehension in listening and reading.</p> <p><i>To become successful readers, students in grades PreK-3 benefit from the following language development practices:</i></p> <ul style="list-style-type: none"> • active engagement in defining new words; • focusing on the meaning of texts during pre-reading; • making connections between prior knowledge and texts; and • focusing on world knowledge and higher-order thinking. 	PreK-3	<p>Tier 3, Promising</p> <p>Source: Chiang, H., Walsh, E., Shanahan, T., Gentile, C., Maccarone, A., Waits, T., Carlson, B., Rikoon, S., Rimdzius, T. (2017). <i>An Exploration of Instructional Practices that Foster Language Development and Comprehension: Evidence from PreKindergarten through Grade 3 in Title I Schools</i>. Washington, DC: NCEE.</p> <p>https://ies.ed.gov/ncee/pubs/20174024/</p>
<p>Support learning outcomes for English learners, minorities, and students from low-income households.</p> <p><i>To become successful readers, students in grades K-5 require small-group instruction in phonemic awareness, phonological awareness, high-frequency words, oral reading fluency, reading comprehension, and decoding and analyzing word parts.</i></p>	K-5	<p>Tier 4, Demonstrates a Rationale</p> <p>Source: <i>Instructional Strategies to Support Underrepresented Students</i>. Arlington, VA: Hanover Research (2017).</p> <p>https://portal.ct.gov/-/media/SDE/ESSA%20Evidence%20Guides/Instructional_Strategies_to_Support_Underrepresented_Students</p>

3. Professional Development

Evidence-Based Practice and Rationale	Grade Band	Level of Evidence and Source
<p>Instructional coaching is an effective model of school-based professional development.</p> <p><i>The effects of instructional coaching are not thought to be immediate but transform pedagogy over time.</i></p>	K-6	<p>Tier 2, Moderate</p> <p>Source: Teemant, A. (2014). "A Mixed-Methods Investigation of Instructional Coaching for Teachers of Diverse Learners." <i>Urban Education</i>, 49(5), pp. 574-604.</p> <p>https://portal.ct.gov/-/media/SDE/ESSA%20Evidence%20Guides/A_Mixed-Methods_Investigation_of_Instructional_Coaching_for_Teachers_of_Diverse_Learners</p>
<p>Provide mentors for novice teachers.</p> <p><i>Reading achievement is higher among students taught by teachers with one to three years of experience who are mentored by retired teachers.</i></p>	1-5	<p>Tier 2, Moderate</p> <p>Source: DeCesare, D.; McClelland, A.; Randel, B. <i>Impacts of the Retired Mentors for New Teachers Program</i>. Washington, DC: NCEE (2017).</p> <p>https://ies.ed.gov/ncee/edlabs/regions/central/pdf/REL_2017225.pdf</p>
<p>Create an environment that supports in-school collaboration time.</p> <p><i>Provide opportunities for teachers to collaborate in a manner that is well planned; provide opportunities for hands-on experiences; encourage teachers to purposefully and constructively direct their professional growth, and contribute to the growth of their colleagues.</i></p>	K-3 4-5 6-8 9-12	<p>Tier 4, Demonstrates a Rationale</p> <p>Source: <i>Teachers Know Best: Teachers' Views on Professional Development</i>. Bill and Melinda Gates Foundation (2014).</p> <p>https://ies.ed.gov/ncee/edlabs/regions/central/pdf/REL_2017225.pdf</p>
<p>Provide opportunities for effective teacher learning.</p> <p><i>Professional learning should be continuous and job-embedded, use a variety of data sources to plan and assess the professional learning, and include teachers in decision-making about their own professional learning.</i></p>	K-3 4-5 6-8 9-12	<p>Tier 4, Demonstrates a Rationale</p> <p>Source: <i>The State of Teacher Professional Learning: Results from a Nationwide Survey</i>. Washington, DC: NEA (2016).</p> <p>https://dashboard.learningforward.org/wp-content/uploads/sites/12/2017/08/the-state-of-teacher-professional-learning-2017.pdf?_ga=2.217100630.1391316811.1507743272-701925348.1507743272</p>

4. Extended Learning Settings

Evidence-Based Practice and Rationale	Grade Band	Level of Evidence and Source
<p>Implement strategies that support parents and families in promoting reading.</p> <p><i>The collective practices include create literacy-friendly home environments for conducting ongoing and engaging conversations with their children; set and convey high expectations for children's learning; make reading enjoyable; use parents' home language.</i></p>	PreK-3	<p>Tier 4, Demonstrates a Rationale</p> <p>Source: Reade, A. <i>Supporting Your Child's Literacy Development at Home</i>. Washington, DC: NCIL (2017).</p> <p>https://improvingliteracy.org/brief/supporting-your-childs-literacy-development-home</p>
<p>Use formal and informal assessment data to inform academic instruction.</p> <p><i>Identify and use assessments that gather the appropriate information for determining and/or adapting instruction.</i></p>	K-3 4-5 6-8	<p>Tier 4, Demonstrates a Rationale</p> <p>Source: <i>Structuring Out-of-School Time to Improve Academic Achievement</i>. Washington, DC: NCEE (2009).</p> <p>https://ies.ed.gov/ncee/wwc/Docs/PracticeGuide/ost_pg_072109.pdf</p>
<p>Use one-on-one tutoring if possible; otherwise, break students into small groups.</p> <p><i>Support summer learning by providing individualized instruction based on students' academic needs and conduct assessments of progress.</i></p>	K-3 4-5 6-8	<p>Tier 4, Demonstrates a Rationale</p> <p>Source: <i>Structuring Out-of-School Time to Improve Academic Achievement</i>. Washington, DC: NCEE (2009).</p> <p>https://ies.ed.gov/ncee/wwc/Docs/PracticeGuide/ost_pg_072109.pdf</p>
<p>Provide professional development and ongoing instructional support to all instructors.</p> <p><i>Use experienced teachers to deliver instruction, provide ongoing coaching for novice teachers assigned to deliver instruction, and monitor the quality of instruction to identify additional professional learning needs of teachers.</i></p>	K-3 4-5 6-8	<p>Tier 4, Demonstrates a Rationale</p> <p>Source: <i>Structuring Out-of-School Time to Improve Academic Achievement</i>. Washington, DC: NCEE (2009).</p> <p>https://ies.ed.gov/ncee/wwc/Docs/PracticeGuide/ost_pg_072109.pdf</p>