

Research Evidence Base



HMH research mission

HMH® is committed to developing evidence-based educational solutions, assessments, and professional services. To support this goal, the Efficacy Research Team collaborates with school districts and third-party research organizations to evaluate the impact of our programs and services on student outcomes, teacher practice, and school leadership.

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Introduction

The Challenge

Data from the National Assessment of Educational Progress (NAEP) document the negative impact that the prolonged pandemic and disrupted schooling had on students' reading scores (U.S. DOE, IES, NCES, NAEP, 2022). Although the data from previous years' NAEP and large-scale international assessments showed stagnant growth (Burton & Hooper, 2021; Hooper, 2020), the 2022 results demonstrated that students' scores declined to the levels similar to scores seen two decades ago. The majority of the students are reading below proficient levels; 67% are reading at Below Basic/Basic levels for fourth grade, and 69% are reading at Below Basic/Basic levels for eighth grade. The literacy gap remains between Black and Hispanic students' scores and their White peers.

Although the pandemic allowed more districts to provide students with access to technology, there exists a “digital divide” in some cases. The NAEP 2022 questionnaire results showed that there were larger percentages of lower-performing students in Grades 4 and 8 learning remotely during the 2020–21 school year reporting less frequent access to learning resources. In addition, students in Grades 4 and 8 had declines in the level of confidence in their reading knowledge and skills (U.S. DOE, IES, NCES, NAEP, 2022).

For many years, reading researchers at the University of Connecticut have studied students' interest in and behaviors during online reading. An important study by Leu and colleagues (2014) compared the reading achievement of students in two communities, one far more economically advantaged than the other. In addition to test scores, they used performance-based assessments with a simulation of the internet to study students' online reading abilities. The research revealed an achievement gap based on family income; this was an early warning about the “digital divide” exposed by COVID-19-related school closures.

The cost of not learning to read is huge at both personal and national levels. Many students who struggle acquiring foundational reading skills find themselves in the “school-to-prison pipeline.” In fact, 85% of the teenagers in the juvenile justice system are functionally illiterate: These students read two to four or more grade levels below their peers, with common deficits in phonological processing, fluency, and reading comprehension (Houchins et al., 2018).

The downward spiral from enthusiastic young learner to semi-literate adolescent suggests that students are receiving neither adequate classroom instruction (Tier 1) nor appropriate intervention support (Tier 2 or 3).

As NAEP data continue to suggest, far too many students read below their expected levels. Researchers at the Yale Center for Dyslexia and Creativity estimate that approximately 20% of students who struggle with reading have dyslexia, and 80–90% of individuals with learning disabilities are dyslexic. Dyslexia is recognized as a neurocognitive disorder: Some children have difficulty learning to read even when other life circumstances are favorable, but with proper accommodations and interventions, students with dyslexia learn to read and succeed in school. Many educators and parents believe that boys are more likely than girls to be dyslexic, but a landmark study published in 1990 showed that this is not the case at all. The authors speculated that teachers were prone to attributing the rambunctious behavior of some boys to dyslexia (Shaywitz et al., 1990). This attribution likely continues. Learned (2016) pointed out that although students' assignment to intervention programs should be based on data, sometimes behavior is the actual reason. Even students in the earliest grades may spend some time each day removed from their Tier 1 instruction and consequentially miss out on important instruction and socialization. This separation of students can start early; as struggling learners continue through school, they sense that they are “different.”

As more and more students spend time reading from screens rather than paper, educators, researchers, and families wonder how this new form of reading will affect their achievement. Although a 2014 study contended that in spite of advantages such as enhanced user experiences and rich content, reading online negatively affected cognition, short- and long-term memory, ability to concentrate, and overall comprehension. However, a more recent study (Hou et al., 2017) found no difference according to presentation mode in readers' ability to construct cognitive maps of what they read. Wolf (2018) and others have pointed out that much more research is needed on how students acquire and use reading skills in a "digital world."

At the same time, there is strong empirical support for the value of high-quality reading interventions. A meta-analysis of research on interventions provided to young students experiencing difficulty with foundational reading skills examined 25 studies to determine the overall effect of intensive early reading interventions and found positive outcomes for a significant number of early struggling readers in kindergarten through third grade (Wanzek et al., 2018). Results from meta-analyses of *Read 180*® conducted by the What Works Clearinghouse™ (WWC, 2016) and an independent research firm (Salinger et al., 2021) concurred in their findings that *Read 180* can significantly improve students' reading skills.

Generalizing from this research, enrollment in interventions can make a strong and positive difference in students' achievement trajectory, but components of the interventions must reflect what research has shown to be the most effective approaches for helping students improve. These components and instructional approaches based on evidence constitute what is currently referred to as the science of reading.

How Read 180 aligns to the research

Read 180 is a blended learning solution for striving readers in Grades 3 through 12 that seeks to raise students' literacy skills and cultivate a growth mindset in students by delivering an evidence-based program incorporating best practices in literacy instruction.

Read 180 is now configured to support all learners no matter where they are in their reading—from needing targeted foundational literacy skills instruction to scaffolded supports in reading comprehension—within the core classroom, dedicated classroom, or anytime and anywhere.

Read 180 builds students' literacy skills from phonics to fluency to proficiency and is a Tier 2 and Tier 3 intervention solution that supports students reading below grade level, students with disabilities, special education students, and multilingual learners, including newcomers. *Read 180* accelerates students' reading to achieve grade-level proficiency through the following features:

- **Foundational Skills:** Developing foundational literacy skills through explicit instruction on letter sounds, word parts, and syllables
- **Vocabulary:** Deepening academic and content-area vocabulary words
- **Fluency:** Providing multiple fluency practices with feedback on accuracy, pacing, and prosody
- **Content Knowledge:** Expanding the content knowledge that helps anchor students' understanding of text
- **Comprehension:** Encouraging meaning making through critical thinking and the ability to view and articulate important issues from multiple perspectives
- **Language:** Supporting effective expression and language development

Read 180 leverages adaptive technology to personalize instruction for students and provides powerful data for differentiation to teachers.

Read 180 is available in three stages, each with unique, age-appropriate content: Stage A (Grades 3–6), Stage B (Grades 6–8), and Stage C (Grades 9–12).

For more information on *Read 180*, please visit: hnhco.com/read180

Timeline

Early research

1985–1996

Partially funded by a grant from the **U.S. Department of Education's Office of Special Education Programs**, research by Dr. Ted Hasselbring of Peabody College, Vanderbilt University, leads to a breakthrough prototype for software that uses individual student performance data to differentiate reading instruction.



Dr. Ted Hasselbring

1994–1996

Dr. Hasselbring joins forces with **Dr. Janet Allen** of the **University of Central Florida** and Florida's Orange County public school system to create the Orange County Literacy Project for its lowest-performing students. The project's instructional model, rooted in research-proven literacy practices, becomes the basis of the *Read 180* Instructional Model.



1997

Read 180 adopts the **Lexile® Framework for Reading** developed by MetaMetrics, Inc. The framework provides a common metric for measuring text difficulty and student reading level.



1998–1999

Council of the Great City Schools® pilots *Read 180* in some of its largest member school districts and enters into a research partnership to study the efficacy of the program.

1999

Read 180 is published and immediately implemented in hundreds of schools nationwide.

Continued validation & sustained improvement based on best practices

2004–2005

ENTERPRISE EDITION

Through continued collaboration with **Dr. Ted Hasselbring** and a new partnership with **Dr. Kate Kinsella** and **Dr. Kevin Feldman**, *Read 180* Enterprise Edition is launched. Structured engagement routines and second-language support are added. The first digital platform for managing student data is introduced.

Read 180 is reviewed by the **Center for Applied Special Technologies (CAST)** to incorporate the Universal Design for Learning (UDL) principles to ensure an inclusive, accessible learning environment for all students.

2006

International Center for Leadership in Education

Dr. Bill Daggett and the **International Center for Leadership in Education (ICLE)** champion *Read 180* as the reading intervention program that most closely aligns with the center's recommendations on secondary school reform.

2006–2007

The **Council of Administrators of Special Education (CASE)** endorses *Read 180* for use in special education classrooms. CASE endorses again in 2012 and 2015.



The **Florida Center for Reading Research** completes an independent review of *Read 180* Enterprise Edition and documents **multiple strengths and no weaknesses**.

2007

The Alliance for Excellent Education (AEE) and the Carnegie Corporation publish *Writing Next*, outlining best practices in writing for older readers. *Read 180* writing instruction aligns with all recommendations.

2007–2008

Dr. Kate Kinsella, coauthor of the *Read 180 rBook®*, creates the **LBook**. Tested in California classrooms, the **LBook** provides explicit, systematic instruction for English learners at differing levels of English proficiency.



Dr. Kate Kinsella



Hartry and colleagues (2008) present positive outcomes of *Read 180* implemented in after-school programs in a **Harvard Educational Review** article.

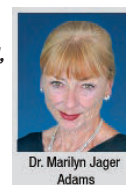
Read 180 is evaluated in the July–September 2008 issue of **Reading Research Quarterly** in an article by Slavin and colleagues (2008).

The meta-analysis provides a positive assessment of *Read 180*, showing more evidence of effectiveness than the other 121 programs considered in the review.

These results are also summarized on the **Best Evidence Encyclopedia** website (www.bestevidence.org), where *Read 180* is cited as a **Top-Rated Program** for Middle/High School having Moderate Evidence of Effectiveness.

2008

Dr. Marilyn Jager Adams, author of *Beginning to Read*, leads the development of *System 44*, a foundational reading system combining the best thinking on **research-based phonemic awareness and phonics instruction** with the power of adaptive technology. *System 44* is launched and implemented in ~2,800 classrooms within the first six months.



Dr. Marilyn Jager Adams



Timeline



Dr. Julie Washington, a leading authority on **articulation**, builds instructional support for students who struggle with academic English.

2009



The Journal of Research on Educational Effectiveness publishes a Gold-Standard study of adolescent reading interventions by the Florida Center for Reading Research (FCRR) and Florida State

University that reveals significant gains with *Read 180* (2009).

A review by the federal **What Works Clearinghouse (WWC)** concludes that the extent of evidence for *Read 180* is “medium to large for comprehension and medium to large for general literacy achievement.”

2010

We again partner with the Council of the Great City Schools and the American Institutes for Research® (AIR®) to release **Implementation Matters: Systems for Success** (Saling et al., 2010) to outline conditions that sustain onmodel implementation of *Read 180* in urban districts.

2011

U.S. DOE–funded Striving Readers program results show that *Read 180* significantly increased reading achievement for students in several school districts across the country.



A U.S. DOE–funded evaluation of *Read 180* published in **Educational Evaluation and Policy Analysis** found that students who used *Read 180* after school outperformed the control group on measures of reading comprehension and vocabulary (Kim et al., 2011).



Read 180 Next Generation launches.

The revised version empowers students, teachers, and leaders with more robust access to data. The revised instructional path provides a supportive path for differentiated instruction.

2012

A review by the **National Center on Intensive Intervention (NCII)** concludes that the extent of evidence ranged from “partially convincing to convincing,” demonstrating that *Read 180* is effective as an RTI model.

2013



System 44 Next Generation is launched, the foundational reading program designed to get readers on the path to

meeting rigorous new standards. It includes explicit instruction in reading complex text and evidence-based writing.

2014

Using *Read 180* and *System 44* allows **Napa Valley Unified School District** to significantly improve student outcomes on the CST ELA and CELDT by lowering special education referrals and decreasing suspension counts.

2015

Research federally funded by the **Striving Readers** project found that **Read 180** was the only program out of 10 to have positive effects on students’ literacy achievement.

2016

Read 180 Universal is developed to align to more rigorous standards while personalizing instruction to meet students’ cognitive, language, and socialemotional needs.



What Works Clearinghouse (WWC) publishes an updated Intervention Report, stating that “*Read 180* was found to have positive effects on comprehension and general literacy achievement, and potentially positive effects on reading fluency for adolescent readers.”

2016–2017

American Institutes for Research (AIR) examines the association between *Read 180* students’ social and emotional learning and literacy achievement and found that *Read 180* students had greater positive change in their **growth mindset** than non–*Read 180* students.

2018–2019

Researchers at the **Neurocognition of Language Lab at Teachers College, Columbia University** measure the brain waves of *System 44* students and made significant findings on neurodiversity and the plasticity of the reading brain.

2020–2021

Dr. Devin Kearns, associate professor of Special Education at the University of Connecticut, joins the authorship team to advise on foundational literacy instruction for the fully integrated, evidence-based *Read 180*.



2022

Read 180 launches as an updated program on a new digital platform that provides a fully integrated program to support students’ reading development from phonics to fluency to reading proficiency.



Read 180®

Implementation model

Read 180 features a blended learning rotational model designed to address students at all levels of intervention. This model organizes class time to provide a balance of teacher-led instruction in whole- and small-group settings with additional scaffolded independent practice during the Student App and Independent Reading rotations. It is designed to maximize instructional time and accelerate achievement.

Whole-Group Learning: Using a blended learning model, teachers begin each class by facilitating instruction in reading skills and strategies, content-area and academic vocabulary, writing, conventions, and academic discussions to the whole class. The class completes multiple readings of engaging, grade-level texts that increase in complexity using a Gradual Release model. In the beginning of this Gradual Release approach, the teacher reads the text aloud to students, modeling fluency and guiding students to an understanding of the text's central ideas. Whole-Group Learning also includes systematic instruction in vocabulary and writing. Vocabulary instruction helps students strengthen their language skills. Scaffolded writing instruction models and helps students develop writing skills and culminates in an essay-length writing activity. The teacher guides students in analyzing a model text and then uses routines to help students internalize the writing process.

Student Application (Student App): Students work independently on the *Read 180* Student App, where they follow a path that allows them to work within their zone of proximal development. Each segment of the Student App consists of six zones that provide targeted instruction, practice, and feedback on the components of reading for which students need the most assistance: Explore Zone, Reading Zone, Language Zone, Fluency Zone, Writing Zone, and Success Zone. The students move through the zones on individualized paths that take into consideration their performance on assessments and previous Student App activities, engagement, interests, and teacher inputs. In the Explore Zone, students watch an Anchor Video to build background knowledge and develop a mental model for the segment and then complete a vocabulary-based activity focused on high-leverage vocabulary to determine if they need additional vocabulary practice before reading the target passage.

- In the Reading Zone, students complete multiple readings of the target passage, giving them the opportunity to build fluency, learn academic vocabulary, and practice reading comprehension strategies that are specifically applicable to the particular passage.
- In the Language Zone, students build and expand their vocabulary knowledge through language-based activities.
- In the Fluency Zone, students practice reading and spelling with a variety of words and patterns in order to automate these processes, which in turn will allow their cognitive resources to focus on higher-order comprehension tasks.
- In the Writing Zone, students practice the writing strategies for narrative, informative, and argumentative writing that they have learned in Whole-Group and Small-Group Learning lessons.
- In the Success Zone, students build and apply the fluency and comprehension strategies they have learned and practiced in the other zones on discrepancy, context, and stretch passages.

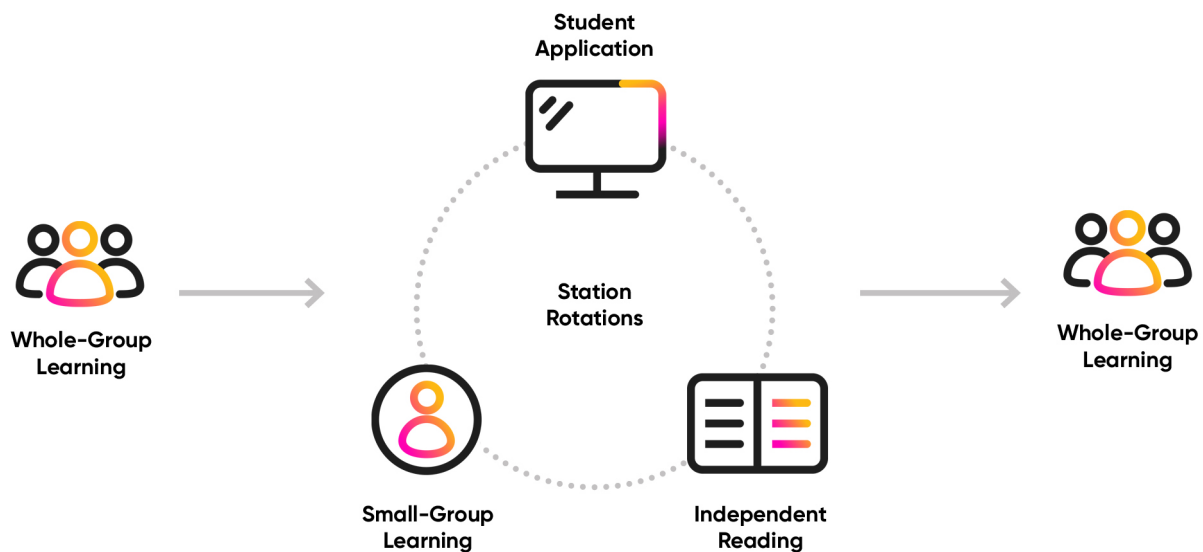
Small-Group Learning: Students receive individualized, data-driven instruction that meets their unique learning needs while building meaningful relationships with their teachers. During text-based lessons, the teacher facilitates a close reading exploration of the text in small groups. The teacher models essential reading strategies and then guides students in a collaborative analysis and discussion of the text. During writing lessons, the teacher guides student collaboration on writing tasks. Students are able to share ideas and exchange feedback with their peers at all stages of the writing process. The evidence-based instructional routines build engagement and foster high-level thinking.

Small-Group Learning is a true formative experience: The teacher has supports to quickly check student understanding during instruction as well as options to adjust instruction based on in-the-moment data.

Independent Reading: Students engage with complex, content-rich literature and informational texts that they can read with success. Students can apply comprehension strategies they are taught, including context clues, making inferences, cause and effect, and more.

The *Read 180* Independent Reading rotation is designed to foster accountable independent reading in students. Specifically, during Independent Reading, students complete graphic organizers, and after, students take an HMH Reading Counts!® quiz. The library consists of print books and digital reads. The digital library consists of both eBooks and eReads, which are relevant, current, and engaging articles of differing modalities and length. In addition, the *Read 180* library includes audiobooks in which an audio coach models fluent reading and reading comprehension strategies throughout the text.

Station Rotations: After Whole-Group Learning, students rotate between Student App, Small-Group Learning, and Independent Reading stations at the teacher's discretion. As students rotate through the stations, they receive explicit instruction, guided practice, and personalized feedback on the internalization of new content and learning strategies—and then reconvene for a Whole-Group Wrap-Up to reinforce what they have learned.



Flexible models

The **Digital Access** implementation is designed to be included for striving readers as part of a core English language arts class. During independent work times, such as literacy workstations, *Read 180* students engage in personalized learning with the Student App. During Independent Reading, students engage with the *Read 180* library, which is curated with accessible, developmentally appropriate texts for a full range of striving readers. This model can be implemented within a 20-minute-plus timeframe.

In the **Single Period** implementation (40–59 minutes), a full *Read 180* rotational model occurs over the course of two days. Each day ends with a 5-minute Whole-Group Wrap-Up.

- On Day A, students begin with Whole-Group Learning. Then, students complete one rotation.
- On Day B, students complete the other two rotations. There is no introductory Whole-Group Learning lesson this day.

In the **Extended Single Period** implementation (60–79 minutes), each day opens with a Whole-Group Learning session. Students then break into groups and complete all three rotations. The amount of time in each rotation depends on the length of the class period. In the Extended Single Period model, students do not complete a Whole-Group Wrap-Up.

In the **Double Period** implementation (80+ minutes), students complete the full *Read 180* rotational model each day. The amount of time in each rotation depends on the length of the class period.

- Students begin with 15–20 minutes of Whole-Group Learning.
- Students then complete all three rotations for a minimum of 20 minutes each day.
- Each class period ends with a 5- to 10-minute Whole-Group Wrap-Up.

20-minute rotations

Attention. Cognitive psychologists have postulated for decades that students are actively attentive for the first 10–15 minutes of teacher-led instruction, but their attention begins to wane after that time period (Hartley & Davies, 1978). Researchers also note that implementing other factors, such as individual variability and task type, to engage students' attention for longer periods of time can further affect students' attention (McKeachie & Svinicki, 2006; Wilson & Korn, 2007). *Read 180*'s model encourages students to focus for 15- to 20-minute increments before moving to another activity. These transitions provide brief brain breaks that students need to refocus their attention on a new topic and optimally engage in each instructional task.

Value of Reading 20 Minutes Every Day. In addition, research shows that reading 20 minutes each day has numerous benefits. Students are exposed to about 1.8 million words of text every year when reading 20 minutes daily (Anderson et al., 1988). As students read more, they develop reading stamina and increase their vocabulary, content knowledge, and fluency.

Read 180 students are reading throughout the program, whether during Whole-Group/Small-Group instruction or independently at their own pace in the Student App and during the Independent Reading rotation.

Flexible Scheduling. Furthermore, breaking down each *Read 180* rotation to 20 minutes allows teachers to successfully implement the program based on their scheduling needs, from 20 minutes in a single period to longer instructional blocks.

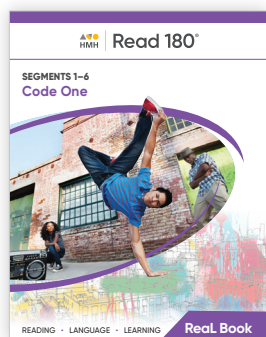
Program overview and components

Read 180 is designed to support striving readers across the full continuum of reading needs. With flexible and adaptive instructional resources, *Read 180* supports students on their journey from developing foundational literacy skills to confidently comprehending grade-level texts.

Whole- and small-group learning

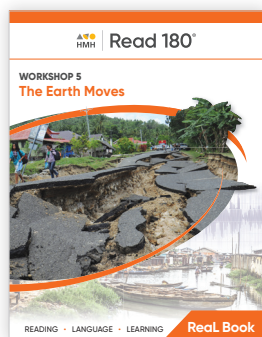
Read 180 teachers provide evidence-based instruction and target skill gaps with whole- and small-group guided curriculum (available as print books for teachers and students, as well as online editions) used during teacher-facilitated Whole-Group Learning and Small-Group Learning.

For students who need foundational skills development, use the *Real Book: Code Teaching Guide and Student Edition*, Books 1–4 and letter tiles.



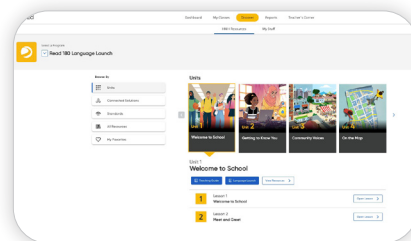
Real Book: Code

For students who need comprehension skills development, use the *Real Book: Workshop Teaching Guide and Student Edition*, 1–12.



Real Book: Workshop

For newcomer students at the early stages of English language proficiency, use Language Launch interactive teacher and student resources.



Language Launch

Student Application (Student App)

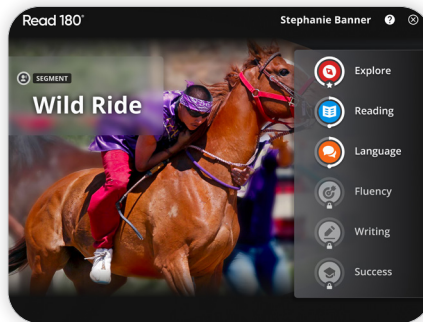
The *Read 180* Student Application provides each student with a personalized learning path that accelerates their road to reading proficiency. The Student Application allows students to take control of their own learning by tracking their progress toward mastery of reading skills and witnessing their growth over time.

For students new to English and students who need support in phonics and decoding, *Read 180* provides systematic Foundational Skills instruction.



Code Segments

For students who are reading below grade level but have a phonics foundation, *Read 180* provides adaptive instruction in comprehension skills.

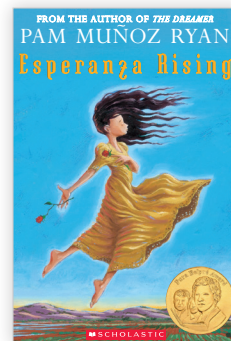
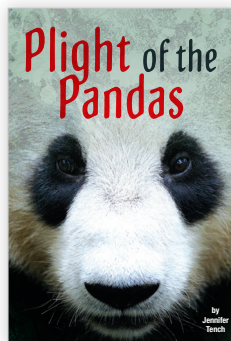


Comprehension Segments

Independent Reading: Classroom Library

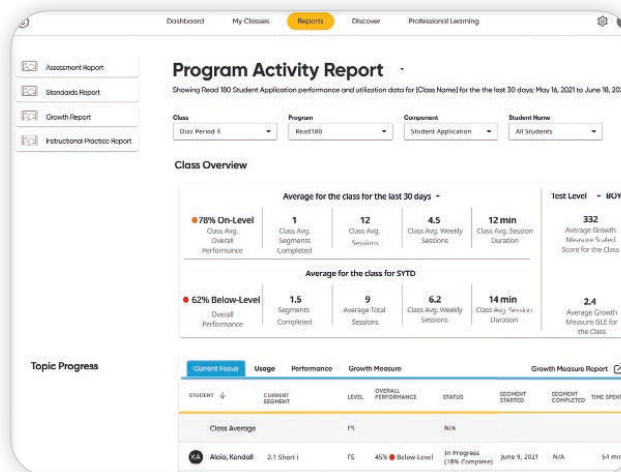
Read 180 fosters student choice and a love of reading. The program also includes checkpoints for accountability and insight on student progress in independent reading.

- For students new to English and students who need support in phonics and decoding, *Read 180* provides decodable paperbacks with accompanying audio support to help students put phonics skills into practice.
- For students who need comprehension skills development, *Read 180* provides a suite of print paperbacks and eBooks at a variety of reading levels.
- Students who need comprehension skills development also have access to grade-level texts with audio supports, which include a Reading Coach who offers metacognitive support.
- All *Read 180* students have access to eReads, grade-level nonfiction articles with a variety of support features.



Resources and Data

The Ed learning platform empowers teachers with resources to maximize instructional impact—providing actionable data, instructional planning, assessment resources, teaching and differentiating resources, and professional learning support.



Alignment to ESSA

Demonstrating strong levels of evidence

Read 180 has been the subject of continuous research and validation efforts for over two decades, and studies repeatedly prove its effectiveness at closing gaps and increasing outcomes. This thoroughly researched and documented blended literacy intervention has been proven to improve performance on standardized assessments, reduce dropout rates, and improve achievement levels for students classified in a variety of subcategories.

Read 180 has been validated by numerous independent studies published in academic peer-reviewed journals, reports issued by national education organizations, and external evaluation sites. The Center for Research and Reform in Education at Johns Hopkins University (the organization behind Evidence for ESSA) has given *Read 180* a Strong evidence rating—the highest ESSA rating. What Works Clearinghouse (WWC) evaluated *Read 180* and reported that it has positive effects on students' comprehension and general literacy achievement. The National Center for Education Evaluation and Regional Assistance (NCEE) evaluated 10 programs and found that *Read 180* was the only program proven to consistently improve reading achievement among a range of learners from Grade 6 through age 25. The United States Department of Education's Institute of Education Sciences (IES) published a report summarizing the federally funded Striving Readers research on the effectiveness

of intervention programs on the reading achievement of struggling adolescent students. The authors of the report found that *Read 180* was the only program out of 10 studied as part of the Striving Readers project that had positive effects on reading achievement.

The program was recognized at the 2019 International Society of Technology in Education (ISTE) Conference. An anonymous panel of judges comprised of the country's most tech-savvy educators awarded *Read 180* with Tech & Learning's ISTE Best of Show, which is given to products and services with the greatest promise for impacting teaching and learning.

Additional *Read 180* study results can be found in the Research Library on the HMH Research website at hnhco.com/read180research.



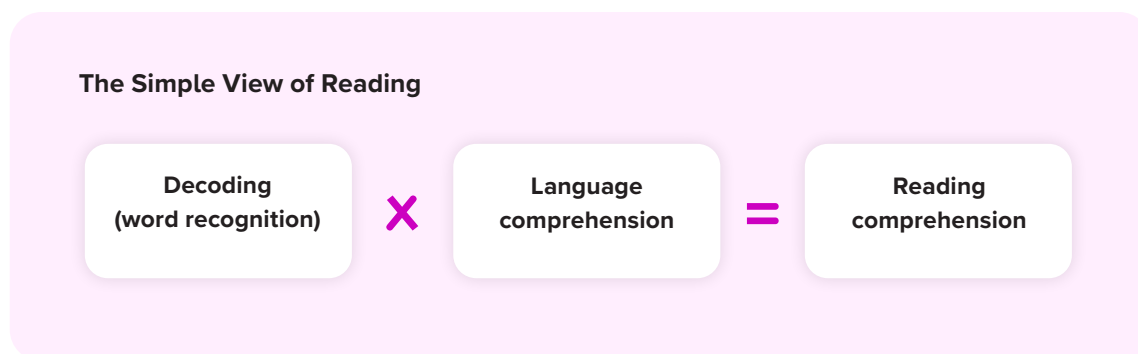
Literacy Frameworks

In 2013, the International Literacy Association (ILA) published the sixth edition of *Theoretical Models and Processes of Reading* (Alvermann et al., 2013)—a collection of chapters offering diverse perspectives on how individuals learn to read and grow as readers. Over the years, the various editions of this book have reviewed scientific research, drawn conclusions from it, and set forth the authors' understanding of what the research suggests about reading. The editions have documented some changes in researchers' thinking over time but have also shown some consistency in basic frameworks for understanding how individuals become literate.

The simple view of reading

The Simple View of Reading (SVR), a widely accepted theory of reading development (Gough & Tunmer, 1986), contends that reading comprehension is the product of word recognition and language comprehension. Successful readers simultaneously decode the words on a page and draw on their knowledge of language to

access the meaning of the text — that is, to comprehend. Decoding involves connecting the spellings in words to their sounds and putting them together in order to read. This seems like a simple process but is, of course, much more cognitively complex.



Scarborough's Reading Rope

To explain the actual complexity of learning to read, Scarborough (2001) used an analogy of the numerous strands that are woven together to make a rope strong. She introduced an infographic—Scarborough's Reading Rope—that expands on the SVR basic components of language comprehension and word recognition. She emphasized that reading ability is not restricted to decoding and comprehending the words on a page. She also stressed that the extent to which children

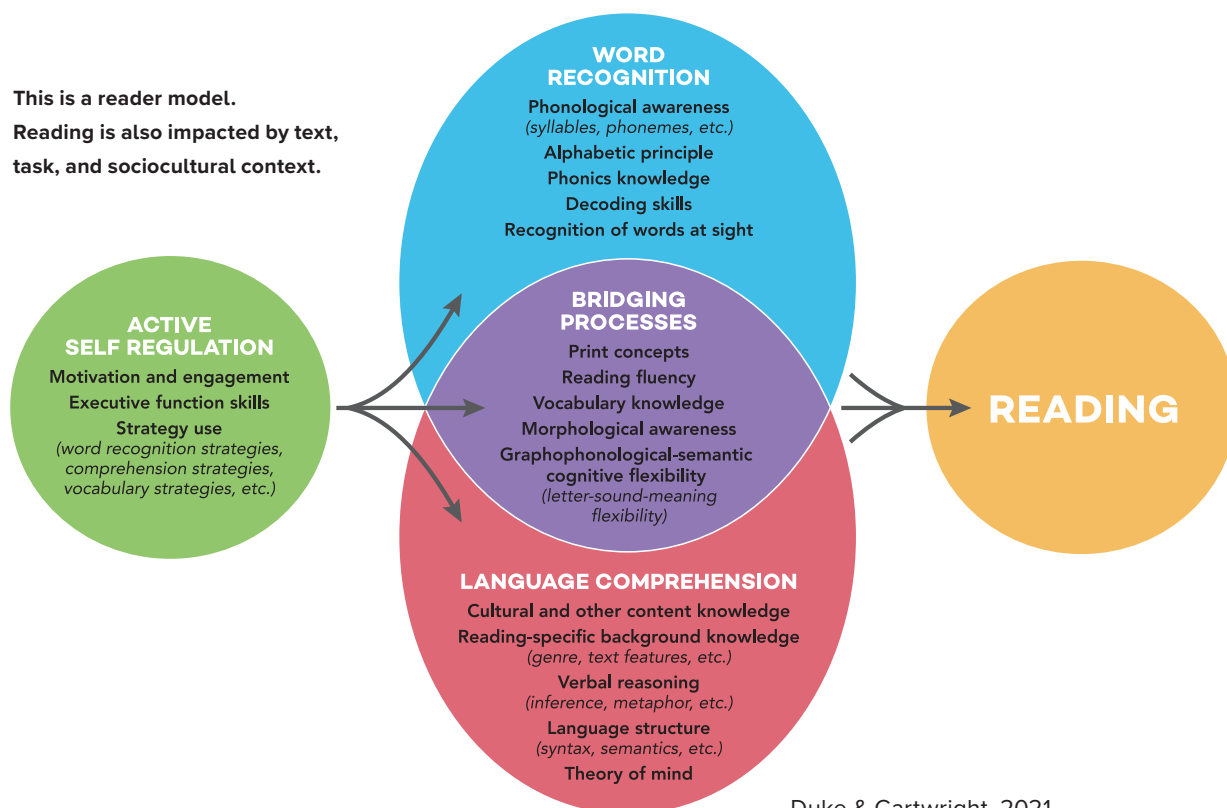
are exposed to rich, nuanced language in storybooks or in conversations around them and to which they gain background knowledge from varied experiences influences their ease in learning to read. As the Reading Rope shows, reading acquisition is far from simple. Proficient readers must learn to decode words automatically and draw their understanding of aspects of language, such as semantics, morphology, and syllable structure, to become increasingly strategic as readers.

The Active View of Reading

Duke and Cartwright's Active View of Reading (2021) expands beyond the two components of the SVR and the interwoven strands of Scarborough's Reading Rope. Their model shows the complexity of learning to read by explicitly listing the factors that contribute to reading success and that can, at the same time, potentially cause reading difficulty; this approach stresses that not all reading difficulties stem from low word recognition or language comprehension. Duke and Cartwright maintain that word recognition and language comprehension skills actually overlap, as documented by shared variance found in many research studies.

The model includes active self-regulation both as an influence on word recognition and language comprehension and as a bridge between the two. The inclusion of self-regulation recognizes the importance of research of relationships among students' motivation and engagement and executive functioning skills and their flexible use of strategies to achieve comprehension. Finally, the Active View of Reading emphasizes that each component of the model is malleable by direct, thoughtful teacher practice.

This is a reader model.
Reading is also impacted by text,
task, and sociocultural context.



Duke & Cartwright, 2021

Pillars of Literacy

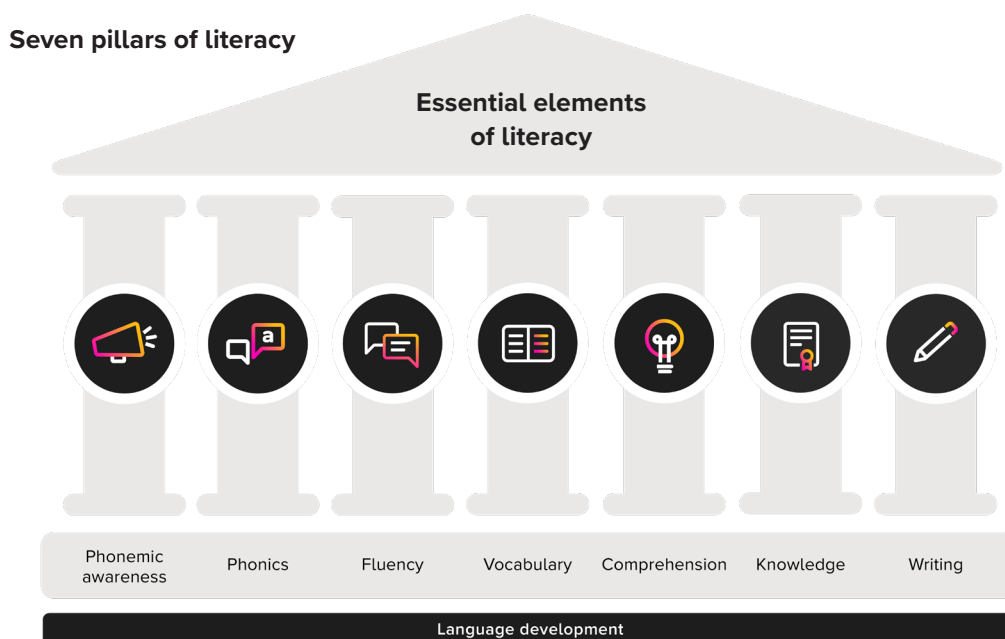
Interest in the challenge of teaching children to read is long-standing. Becoming a Nation of Readers (Anderson et al., 1985) stated that the process of constructing meaning from written texts was a complex skill that required the coordination of a number of interrelated sources of information and emphasized the importance of high-quality early literacy instruction. Twelve years later, in 1997, the U.S. Congress convened the National Reading Panel (NRP) to again review the scientific research evidence on reading and the resulting implications for reading instruction.

In 2000, the experts on the panel produced a report based on decades of research evidence that highlighted five key pillars of early literacy: **Phonemic Awareness**, **Phonics**, **Fluency**, **Vocabulary**, and **Comprehension** (NRP, 2000). Beginning readers must master these components of literacy; they should constitute the foundation of early literacy instruction because phonemic awareness and phonics have a direct and positive impact on reading acquisition, and a foundation in these skills can positively affect other key elements of literacy, such as fluency, vocabulary development, and comprehension (Ehri et al., 2001). The **5 Pillars of Literacy**—also known as the **Big 5**—remain widely accepted by researchers and educators as core elements of effective reading instruction that should be explicitly taught as students strive to become literate.

In the decades since the NRP's report was published, reading researchers have continued to emphasize the

importance of using rigorous gold-standard research methodologies to study essential elements of reading acquisition and to identify effective practices for reading instruction. Modern reading research includes empirical evidence from diverse disciplines, such as cognitive psychology, educational psychology, neuroscience, and linguistics, in order to better understand how humans learn to read. It also closely examines teacher practice to identify what works, for whom, and under what circumstances. At Houghton Mifflin Harcourt (HMH), we have added a number of essential elements to the Foundational Pillars of Literacy, including, writing, knowledge development, language development, and SEL.

The research evidence has demonstrated that learning to read is not like learning to speak. Unlike speaking, which many (though not all) children are able to pick up naturally and without formal instruction by being immersed in a speech-rich environment, reading can seem unnatural and be effortful to learn (Seidenberg, 2013). Evolutionary psychology shows that written language is a relatively new ability acquired only 5,000 years ago. Neuroscience researchers have identified specific brain regions that are active while reading and also demonstrated that learning to read actually changes the structure of the brain (Dehaene et al., 2010). Cognitive psychologists have provided evidence that learning to read proficiently requires explicit, systematic, and cumulative instruction in the elements of written language (Seidenberg, 2017).



Structured Literacy

Most children learn to speak with relative ease. However, many find that learning to read and write proves challenging, regardless of their preschool and home experiences. Often, these individuals have difficulty processing the written and spoken forms of language (the orthography and phonology) and may ultimately be diagnosed as dyslexic. Researchers, using neuroimaging of the brains of individuals who have and have not been diagnosed with dyslexia, are contributing to educators' understanding of the most effective instructional strategies to help dyslexics—and others experiencing learning challenges—become competent readers.

First coined by the International Dyslexia Association (IDA), “structured literacy is characterized by the provision of systematic, explicit instruction that integrates listening, speaking, reading, and writing, and emphasizes the structure of language across the speech sound system (phonology), the writing system (orthography), the structure of sentences (syntax), the meaningful parts of words (morphology), the relationships among words (semantics), and the organization of spoken and written discourse” (International Dyslexia Association, 2019). The evidence-based components of structured literacy include:

Phonology: the study of the spoken word’s sound structure. Phonemic awareness, central to phonology, refers to the fact that every spoken word is a sequence of phonemes, which are the smallest units of sound. Phonemes are represented by graphemes, the letters of the alphabet. The awareness of phonemes is crucial to understanding the alphabetic principle and, thus, the learning of phonics and spelling (National Research Council, 1998).

Sound-symbol association: the alphabetic principle. Knowing the correspondence between letters and speech sounds allows readers to map phonemes (sounds) to graphemes (letters) (Foorman et al., 2016).

Syllables: units of spoken language. Because they are larger than individual phonemes, syllables are easier for beginners to hear and manipulate. Syllabication, the ability to identify and divide syllables in written words, equips students with strategies for identifying unfamiliar multisyllabic words (NRP, 2000) and is applicable as students master spelling.

Morphology: the underlying meaning structure of words. In the context of foundational literacy instruction, morphological awareness refers to the ability to understand the function and meaning of word bases and affixes (e.g., inflectional endings, prefixes, suffixes), and how they can be combined to form words (NRP, 2000).

Syntax: how words are usually ordered in sentences or clauses to communicate meaning (e.g., nouns or pronouns followed by verbs, with modifiers as needed). Learning about syntax involves learning parts of speech, the usual conventions of language, and the structures of different sentence types.

Semantics: the meanings of single words, phrases, and sentences. Semantics relates to vocabulary instruction but extends to the directly stated or implied meaning of phrases, sentences, and paragraphs. The term also refers to the understanding of text organization (e.g., a poem vs. a story vs. an informational piece on the same topic).

Systematic, Cumulative, Explicit, and Diagnostic

Instruction: The hallmark of structured literacy is a systematic, explicit, and diagnostic approach to reading instruction that is based on evidence from research studies. Instruction is cumulative, in that students acquire the full range of foundational skills they will need to be fully literate.

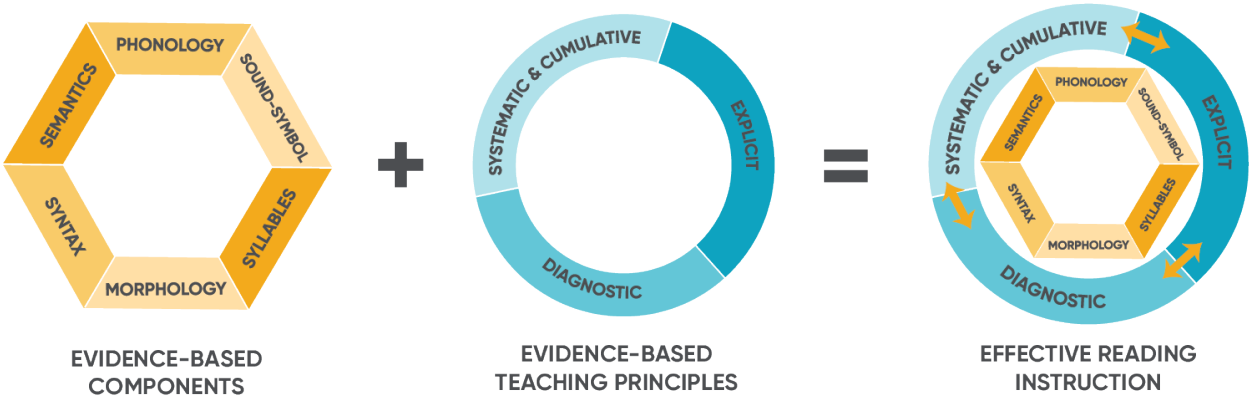
Systematic: Teachers align instruction to a scope and sequence that reflects how students acquire new skills by moving from the easiest and most basic concepts and elements to more difficult ones. Their lesson plans reflect the diversity of students in the class and include what research has documented as best practices. Teachers incorporate language and examples that are appropriate for students’ ages, vocabularies, attention spans, and needs, and provide students with meaningful opportunities for practicing new skills.

Explicit: Instruction includes the deliberate teaching of all concepts with continuous student-teacher interaction because students often will not deduce these concepts on their own. Teachers also ensure that all students, even young learners considered at possible risk for later struggles, engage in appropriate activities to practice both reading and writing (Fien et al., 2015).

As they plan their explicit instruction, teachers strive to ensure that their instruction is incremental; that is, only small, easy-to-digest amounts of information are presented each time. As Hirsch (1996) pointed out, the human mind can handle only a small amount of new information at one time. A child’s mind needs time to digest the new information, fostering memory and meaning, before it can move on to a set of new information.

Diagnostic: Finally, while implementing a structured literacy approach, teachers adopt a diagnostic stance. They continually assess students’ learning strengths and identify gaps so that they can adjust and personalize instruction and practice activities to meet their needs. These assessments take many forms: They can be administered informally through observations of students working, conferencing with students, and analyzing student work with rubrics. They can also be administered more formally using valid and reliable standardized measures.

Cumulative: Reflecting what is known about how people learn complex cognitive task instruction in foundational skills must be cumulative; that is, sequenced so that each new step is based on concepts that students have previously learned. This ensures that their learning is cumulative and that students have mastered simple skills before higher-level skills are introduced. Thus, students understand how foundational skills work in conjunction with each other to produce comprehension (Ehri, 2020; NRP, 2000). Cumulative instruction ensures that students become totally proficient in all—not one or two—of the foundational skills.



Foundational Skills

Many of the current debates about teaching reading contend that young students are not being adequately taught fundamental skills, such as phonics, that are needed to decode. The result is that they struggle to connect letters and sounds as they try to read words. It is true that research has consistently shown that students' knowledge of the correspondence between sounds and spellings determines their ability to read single words with speed and accuracy, which in turn predicts their ability to read and comprehend texts (Adams & Bruck, 1995; Ehri, 2020; Scarborough, 2001). However, a broader focus is needed in many debates about reading instruction and in policies developed to guide curriculum developers and educators (Silverman et al., 2020; Seidenberg, 2017) because it is more than their lack of understanding of letter-sound correspondences that challenge students' progression as readers. Students experiencing these early challenges as readers may not fully grasp phonemic awareness and phonological processing; that is, identifying and manipulating phonemes, the smallest units of sound in oral language. These early gaps in their understanding may not be evident until the third or fourth grade and are likely to impede reading ability throughout the student's lifespan without intervention (Lipka et al., 2006).

Direct instruction in both phonemic awareness and phonics improves word recognition skills, which in turn improves fluency and reading comprehension. Explicit and systematic literacy instruction that focuses on foundational skills taught in the context of meaningful, level-appropriate texts has proven especially important to improved reading abilities for striving readers and students with disabilities (Adams, 1990; National Early Literacy Panel [NELP], 2008; NRP, 2000; National Research Council, 1998).

It is important for teachers to remember that the recommendation to gear instruction to students' needs works two ways. First, educators should provide instruction in skills that students have not yet mastered while also assessing individuals' mastery and moving them forward toward new learning. Secondly, this ongoing process of teaching and checking on mastery is difficult to deliver as a whole class, and differentiated instruction that delivers more targeted instruction happens most effectively in small-group settings. Duke and Mesmer (2019) refer to reliance on large-group or whole-class direct instruction in foundational skills without differentiated instruction as an "instructional misstep" that can lead to the need for intervention later in students' instructional lives.

Foundational skills are critical to early literacy development, but as a means, not an end. The purpose of phonics instruction is to promote the ability to read with ease, accuracy, and meaning. Extensive research findings strongly support the effectiveness of phonics instruction while also emphasizing its larger goal of reading fluency and comprehension. As the National Reading Panel (2000) states, "systematic phonics instruction should be integrated with other reading instruction." In other words, students must come to understand the larger purpose behind learning letter-sound relationships. Furthermore, their emerging skills must be continuously applied to meaningful reading and writing activities (NRP, 2000).

Phonological and Phonemic Awareness

Alphabet knowledge is an important first step in reading success. Research shows that the “best predictor” of reading success at the end of first grade was the ability to recognize and name uppercase and lowercase letters at the start of the year (Adams, 1990, p. 43). That knowledge is both a precursor to and facilitator of phonemic awareness (Rosenberg, 2006). Mastering the alphabetic principle “depends equally on knowledge of letters and on explicit awareness of phonemes because it depends integrally on the association between them” (Adams, 1990, p. 304). Recognizing letters automatically makes it easier for children to recognize the patterns of letters, and the ability to do this is a key to reading words (Nevills & Wolfe, 2009).

Phonological awareness is the awareness of the sound structure of a spoken language and of the spoken word (Gillon, 2017). Young learners demonstrate their phonological awareness when they are able to recognize and manipulate the spoken parts of words (for example, by clapping to the individual parts of spoken text: “Mar-y-had-a-lit-tle-lamb”). Other more advanced examples of this important foundational skill include being able to identify words that rhyme, recognizing alliteration, segmenting a sentence into words, identifying the distinct syllables in a word, and blending and segmenting onset rimes. Phonological awareness in young learners begins developing before the beginning of formal schooling and continues through the early elementary years.

Gillon (2017) states that there are three levels of phonological awareness of the spoken word. **Syllable awareness** is the understanding that words are broken down into syllables. Treiman (1991) noted that there are three principles of syllable division:

- Each syllable contains a vowel or vowel sound.
- Syllable division follows the stress pattern of the word.
- Syllables are divided to ensure that consonants that cannot be clustered do not begin or end a syllable (e.g., only is divided as on-ly because the -nl consonant combination is not a standard cluster).

The second level of phonological awareness is the **onset-rime awareness**, which is the understanding that words have a beginning sound (onset) and an ending sound unit (rime). When determining whether words rhyme, students must be able to separate out the beginning sound and determine whether the ending sound units are the same between words (Gillon, 2017). Researchers note that syllable awareness and onset-rime awareness precede the understanding that words are broken up into individual sounds (Treiman, 1991).

Thus, the third level of phonological awareness is the attention to the individual sound units within a word, commonly referred to as phonemic awareness. **Phonemic awareness** refers to the ability to identify and manipulate individual speech sounds in oral language. A phoneme is the smallest unit of sound in a given language that can be recognized as being distinct from other sounds in the language. “Because phonemes are the units of sound that are represented by the letters of an alphabet, an awareness of phonemes is key to understanding the logic of the alphabetic principle and thus to learning of phonics and spelling” (National Research Council, 1998, p.52). Phonemic awareness is essential to reading because hearing the individual sounds in words is key to matching them with printed letters when learning to decode.

The importance of phonemic awareness in learning to read has been well documented. The NRP (2000) reviewed decades’ worth of reading research and concluded that phonemic awareness and letter knowledge are the two best indicators of how well children will learn to read during the first two years of instruction. Research has found that students’ phonemic awareness is highly correlated and predictive of their reading skills (Juel et al., 1986). The effect on reading success is even stronger when phonological and phonemic awareness instruction is combined with activities that promote knowledge of letter names and letter sounds (Brady 2012; NELP, 2008). As Cunningham (1990) explains, “explicit instruction in how segmentation and blending are involved in the reading process helps children to transfer and apply component skills such as phonemic awareness to the activity of reading” (p. 441).

How Read 180 aligns to the research

Read 180 delivers research-based, explicit, scaffolded, and systematic instruction in the 44 speech phonemes of English, providing the foundational literacy skills that are essential to the academic success of all striving readers. The scope and sequence for phonemic awareness instruction presents the most stable, frequent, and highest-utility sounds first. This allows students to experience quick success when connecting sounds to letters and when decoding words.

In the adaptive Student Application (Student App), the Code lessons provide explicit instruction based on a comprehensive scope and sequence. Direct instruction embedded in the Student App further develops phonemic awareness skills in the context of decoding (or word identification) and encoding (or spelling). For example, in the Student App, students engage in auditory and visual phonological awareness activities such as word/syllable recognition, onset/rime recognition, and listening/responding.

With the *Real Book: Code*, teacher-led lessons provide explicit instruction in blending, segmenting, and other phonemic awareness skills and strategies. Correct pronunciation and articulation of phonemes is reinforced by the teacher as well as with video models in the software. The teacher-led instruction allows for students to transfer the acquisition of foundational skills they have learned while working independently on the Student App.

Students have many opportunities to use visual, aural, kinesthetic, and tactile modalities to strengthen their phonemic awareness. Teachers can use the Letter Tile Kit using letter tiles during the Small-Group lessons to offer students the opportunity to manipulate letters and morphemes in order to create new words. This visual/tactile activity builds phonemic awareness as students add and subtract phonemes. By building seamlessly from phonemic awareness into phonics, the lessons help students transition smoothly from oral to written language.

Phonological Awareness Assessment. Teachers can administer the Phonological and Phonemic Awareness Assessment, downloadable from Ed Resources. Teachers can use the results to identify whether additional phonological awareness interventions are necessary.

Phonemic Awareness Routines. In addition to each day's Phonics and Word Study lessons, teachers can use the Phonemic Awareness Routines that may be taught at the beginning of the program for students who need preliminary support in identifying and discriminating the sounds of the English language before moving into phonics and decoding in printed text. Teachers can use the data provided from the Phonological Awareness Assessment to decide which instructional routines would most benefit the students.

Phonological and Phonemic Awareness

Rhymes

Identifying Rhymes

I DO Introduce the routine. Explain that words that rhyme are words that have the same middle and ending sounds but different beginning sounds. Offer examples (con, pan) and non-examples (top, rip, hot, hat).

The words con and pan rhyme because they have the same middle and ending sounds. The words sap and tip don't rhyme. They have different middle sounds. The words had and hat don't rhyme. They have different ending sounds.

Model the skill. Explain that you are going to say two words and identify whether they rhyme. Listen as I say pairs of words. If the words rhyme, I will give a thumbs up. If they don't rhyme, I will give a thumbs down. The first pair is: sun/fun. (thumbs up) Listen to another pair: cat/dog. (thumbs down)

WE DO Guide students to identify rhymes. Say pairs of words to the students, some that rhyme and some that do not. Have students echo each word pair. Then determine together whether the words rhyme.

YOU DO Have students identify rhymes. Continue saying pairs of words aloud to students and have them decide whether each pair rhymes.

Rhymes

Producing Rhymes

I DO Introduce the routine. Explain that students are going to think of words that rhyme.

Model the skill. Listen as I say a word: man. Now I will think of another word that rhymes with man. A word that rhymes with man is pan.

WE DO Guide students to produce rhyming words. Say a pair of rhyming words to students and ask them to generate some additional words that rhyme.

YOU DO Have students produce rhyming words. Say a word and ask students to think of rhyming words. After three rhymes, switch to a new word. *Multilingual learners may offer words from other languages or nonsense words as rhymes.

Suggested Rhyming Pairs		
man, pan	sand, band	rock, block
hard, card	win, bin	sack, lack
nap, tap	two, shoe	cash, crash

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Phonological and Phonemic Awareness Instructional Routine

21 | Read 180 Evidence Base

Phonics and Word Recognition

Effective reading instruction in the early grades focuses on helping students learn “the basics”; that is, the foundations of sophisticated reading skills and strategies. This begins with ensuring that students have developed phonemic awareness and learn letter-sound correspondences, but these are not the only skills and understandings beginning readers must master. After students learn to differentiate the sounds of speech, their next step is to learn phonics—the relationship between written letters (graphemes) and the individual sounds they represent (phonemes). As these understandings fall into place, students begin to decode and sound out words. Initially, they may recognize familiar words by sight, but they should gradually apply what they know about letter-sound correspondences to decode words as they read and to encode words as they write. They may also apply what they are learning about letters and sounds by writing, using what is often called “invented spelling” (Gentry, 2000).

Effective reading instruction in the early grades is often modeled on the Orton-Gillingham method of systematic, cumulative, explicit, and multisensory reading instruction. Dr. Samuel T. Orton and Anna Gillingham’s pioneering scientific research in systematic phonics instruction demonstrated the importance of visual, auditory, and kinesthetic elements to what they termed the “language triangle.” Their studies spanned more than 20 years and drew on the fields of neurology, speech pathology, educational psychology, and classroom teaching (Sayeski et al., 2018; Sheffield, 1991).

Letter-sound correspondences

Research has indicated that explicit and systematic instruction in phonics is a key element of effective reading programs, and an estimated 60% of early readers require explicit and systematic phonics instruction in order to learn to read (NRP, 2000).

The National Reading Panel reviewed 38 research studies and concluded that explicit and systematic phonics instruction (based on a clearly defined scope and sequence and taught directly to students) was more effective at helping children learn to read than responsive phonics instruction (consisting of individualized phonics mini-lessons only provided to the child if needed) or no phonics instruction at all (National Institute of Child Health and Human Development [NICHD], 2000).

Letter-sound correspondences refer to the relationship between written letters (graphemes) and the individual sounds they represent (phonemes). As students learn letter-sound correspondences, they develop decoding skills and gradually, with explicit instruction, can apply what they know about letter-sound correspondences to decode words as they read and to encode words as they write (Foorman et al., 2016). Effective reading instruction helps students master sound-symbol associations in two directions: visual to auditory (reading) and auditory to visual (spelling). As such, learning to spell reinforces learning to read; spelling and reading are the productive and receptive sides of the same coin.

Syllabication

In addition to teaching phonics skills explicitly with detailed explanations, modeling, and practice, effective reading teachers also include instruction in syllable structure. Understanding the principles of syllabication helps young readers figure out the pronunciation of words they see in print and helps older students decode multisyllabic words.

Syllabication, the ability to identify and divide syllables in written words, equips students with strategies for identifying unfamiliar multisyllabic words. Research shows that reading success is linked to the ability of young learners “to detect syllables in speech or to segment syllables from speech” (Adams, 1990, p. 300). Adams states that “skillful readers’ ability to read long words depends on their ability to break the words into syllables” (p. 25).

From a reading-fluency perspective, as students progress in their reading from the partial-alphabetic phase of development to the consolidated phase, they use their knowledge of recurring letter patterns to consolidate letters into larger units. This, in turn, facilitates their learning of words as sight words beyond the basic, high-frequency, non-decodable set (Ehri, 1995). Thus, the ability to break words into syllabus is critical to skillful reading of long words, and to the acquisition of increasingly complex words as sight words (Adams, 1990; Ehri, 1995; NRP, 2000).

Decoding and decodable texts

Research also shows that teaching students to read by using decodable and strictly controlled text is highly effective for beginning reading success. The best texts for beginning readers, including those who seem to be struggling, is often “controlled” so that words are easily decodable. But being “controlled” does not mean the texts are boring; rather, they are well-illustrated informational texts and narratives containing engaging, age-appropriate, and culturally relevant stories that avoid stereotypes (Adams, 2009). The best texts should contribute to background knowledge and broaden students’ sense of story and text structure. Allowing students to handle books, read aloud, and listen to peers and the teacher read is part of the multisensory approach to reading instruction that benefits many students, especially those with disabilities or who are at risk for reading difficulties. Using controlled, engaging texts provides practice with the words found in most beginning reading materials (Adams, 1990). Researchers state that multiple-criteria texts with the key characteristic of decodability can be beneficial for successful reading (Cheatham & Allor, 2012).

High-frequency words

As students begin to read, they start to accumulate a set of high-frequency words that they recognize instantly and can read without conscious effort; that is, they read them “by sight.” These may be words that students commonly see in their environments, such as “STOP,” or that occur frequently in the beginning readers they use.

High-frequency words are commonly used but irregularly spelled words that are taught to be read as unanalyzed wholes (NRP, 2000, p. 2–102). The ability to fluently comprehend text—the goal of all reading instruction—depends on reading high-frequency words with automaticity (Adams, 1990). The importance of mastering high-frequency words is made clear by the fact that only 14 of the 150 most frequently used words in English follow sound-symbol generalizations that early readers are likely to have encountered (Adams, 1990). Indeed, some of the most common words in English, such as *does*, *to*, *were*, *there*, and *one*, are irregular by any standard. The 25 most common words in English represent about a third of all printed material, forming the glue that holds text together (Fry & Kress, 2006). Because of their frequency, students must master high-frequency words before they can fluently read connected redundant text or decodable text. Adams (1990, 2001, 2009) advises that to avoid confusion in early learners, high-frequency word instruction should be discrete from regular phonics instruction.

Approaches that enable children to manipulate words through categorization, word association, or semantic analysis have been shown to be effective with both native speakers and English learners (Carlo et al., 2004; Marzano & Pickering, 2005; Nagy, 1997). Research has also found that the use of high-frequency word intervention games is highly effective for high-frequency word achievement (Gibbon et al., 2017).

Being able to recognize such words automatically means that students can expend more cognitive energy on decoding less familiar words and on the meaning of the text as a whole. Students need to be taught that when words are regularly spelled, they should employ their decoding strategies, and when words are irregularly spelled, they should recognize them automatically. Modeling both strategies using familiar words in the context of a sentence can be effective.

Morphology

Morphology refers to the underlying meaning and structure of words (Bowers & Cooke, 2012). In the context of foundational literacy instruction, morphological awareness refers to the ability to understand the function and meaning of word bases and affixes (e.g., inflectional endings, prefixes, suffixes) and how they can be combined to form words. Because English words are represented both as units of sound (phonemes) and as units of meaning (morphemes), and because English is considered a morphophonemic language, it is essential for literacy instruction to include both (Reed, 2008).

Introducing beginning readers to morphology is valuable because they can begin to understand that words are often constructed of specific parts with distinct meanings and functions. Some teachers may think that the study of morphology involves primarily memorizing “root” words, prefixes, and suffixes; however, the goal for teaching about morphology is to help beginning readers understand that words often consist of distinct parts that provide valuable information about pronunciation and meaning. Morphological awareness has been shown to contribute to vocabulary growth, and it enables readers to understand as many as three words for every known base word (Nagy et al., 2006).

Reed (2008) summarizes the multiple benefits of morphological awareness, noting that it has been shown to “have a positive impact on students’ word identification, spelling, vocabulary, and reading comprehension” (p. 46). The importance of early exposure to morphology is underscored by research showing that morphological awareness accounts for “around 4% or 5% of the variance in decoding” (Reed, 2008, p. 37).

Furthermore, at-risk students and other striving readers have been shown to benefit from direct instruction in morphemic analysis (Reed, 2008). Students must master syllabication and morphological analysis because those skills facilitate reading and comprehension of multisyllabic words. The What Works Clearinghouse (WWC) Practice Guide on interventions for students in Grades 4-9 (Vaughn et al., 2022) includes morphology instruction as one of its recommendations for effective reading intervention strategies, especially when focused on decoding multisyllabic words.

Spelling

isolation and in context. In this process, they must use their recognition of letter shapes, understand the order of letters in words, access the sounds of these letters, and put together the meanings of the words to create a basic understanding of the words on the page or screen (Adams, 1990). The ultimate goal for students as spellers is that they are able to combine their knowledge of orthography, semantics or word meanings, and phonology (Seidenberg, 2017).

As students gain confidence in their emerging literacy skills, some students will begin to experiment with so-called “invented spelling” to begin to express themselves in writing. These early efforts may include primarily consonants, but gradually, students’ spelling moves toward more traditional formats. Invented spelling shows that students are analyzing what they want to express in writing (often as a caption for a picture) and what they know about letter-sound correspondences. These early efforts at writing provide teachers a clear picture of how students are putting the letters and sounds together; savvy teachers can use students’ work diagnostically to determine if more direct and targeted instruction is needed (Ehri, 2014).

Understanding how words are spelled allows for more efficient and proficient writing and reading. To read and write words appropriately and fluently and to appreciate fully how words work in context, instruction must include authentic reading and writing with purposeful word study. In word study and spelling instruction, students examine the sounds of letters, word structure, and meaning. Students are taught the processes and strategies to understand the words they read and write. This knowledge, in turn, is applied to new words that students encounter in reading.

How Read 180 aligns to the research

Read 180 delivers explicit, scaffolded, systematic instruction in the phonological structures of English. The adaptive Student App activities and teacher-led lessons provide intensive instruction in letter-sound relationships, segmenting, and blending. Instruction and modeling help students build aural discrimination between sounds and match those sounds to their spellings.

Read 180 is designed to scaffold striving readers in applying decoding skills to connected text from the start. The scope and sequence first introduce grapheme-phoneme combinations that are most stable, most useful in making words, and most frequent in occurrence. The Student App, teacher-led direct instruction on phonological structures, and teacher-led transfer routines then scaffold students in transferring newly acquired decoding skills to novel words and connected text in the *Real Book: Code*, and the Independent Reading Library titles.

Student Application (Student App)

The Student App is divided into two sections: the Code segments and the Comprehension segments. The Code segments of the Student App are designed for students who need foundational skills development. The Student App guides students to sequentially complete each lesson, called a Topic, according to the program's research-based scope and sequence. Students can receive multiple doses of instruction and practice if their data indicates that they need it or can bypass phonics skills that students have already mastered. As students work independently on the computer, the software moves students from foundational instruction in phonics and decoding, to reading 100% nonfiction Success Passages, which are connected texts designed to be a stretch for them. Audio and visual effects, such as images, animation, context sentences, and Spanish translations, assist students as they blend and read new words.

Each Code and Word Strategies lesson contains oral practice opportunities for key words that align to a particular phonics element. In addition, students have independent practice with sound spellings that help develop fluency by recording under a time constraint in the Code strand of the Student App and having ample practice opportunities.

Real Book: Code

The teacher-led lessons in the *Real Book: Code* build students' decoding knowledge and word strategies by directly teaching foundational phonics principles and essential concepts. The lessons offer targeted instruction and practice in phonics during small-group lessons, teaching key skills and concepts students encounter in the Student App.

Apply the Code

Write It

PART A Write an *m* under the pictures whose names begin with *m*.

1.



m

2.



m

PART B Write an *s* under the pictures whose names begin with *s*.

3.



s

4.



s

REVIEW

- Consonant *m* stands for the sound you hear at the beginning of the word *map* and at the end of the word *jam*.
- Consonant *s* stands for the sound you hear at the beginning of the word *sun*.

18 Segment 1 • Lesson 3

Real Book: Code Lesson

Syllabication and Morphology

Early in the sequence, *Read 180* begins teaching strategies for decoding multisyllabic words as students master the building blocks of the English language. The Student App's Word Strategies lessons build word attack skills through instruction with word-analysis strategies, beginning with English syllable patterns and syllabication. High-frequency morphemes are introduced together with morphological word-reading strategies. The lessons offer immediate, corrective feedback as students learn to consciously apply strategies and use morphology to read and understand multisyllabic words. Developing morphological and syllable sense enables students to read essential words across the content areas.

In the *Real Book: Code*, teacher-led instruction contains a focus on syllabication. Students are taught to count the beats in a pronounced word, identify the graphemes in the syllables, and then blend syllables to read the word. While reading, students identify patterns within the text to deepen phonological awareness and grammar skills. The lessons offer targeted instruction and practice to reinforce key skills such as morphology.

The *Real Book: Code* contains Morphology lessons that teach students how to identify morphemes that will help them to “chunk” words in order to determine their meanings. Determining the meanings of unfamiliar words by using knowledge of morphemes can help striving readers expand their vocabulary. The ability to chunk words into morphological units and understand how those units function in a word allows students to better comprehend the meaning of increasingly complex words. Morphology lessons are incorporated throughout the Word Strategies lessons by forming words with commonly used base word families, affixes, and roots. Students learn to look for prefixes and affixes, count the “vowel spots” to identify syllables, break the words into syllables, read each syllable, and read the word. Thus, *Read 180* equips students to decode and determine the meanings of unfamiliar multisyllabic words they encounter in reading across content areas.

Spelling

Spelling and decoding are taught as reciprocal skills in *Read 180*. The adaptive Student App provides direct, explicit, and differentiated instruction on meaningful word parts and syllable patterns, which helps students in spelling words. Each lesson in the Foundational Skills sequence of the Student App's Spelling Zone provides explicit instruction that helps students apply knowledge of known sound-spellings to encoding tasks.

The Spelling Zone uses assessments to further individualize study for each student and provides systematic practice with immediate, corrective feedback specific to students' errors. In the dictation activity in the Code strand, students hear a sentence read aloud and are directed to type words of that sentence that contain specific elements (such as phoneme-grapheme associations, prefixes, suffixes, and inflectional endings). The new dictation activity promotes listening comprehension and improved spelling, and helps students practice punctuation and sentence formation. The student receives immediate, corrective feedback on spelling, capitalization, and punctuation.

The *Real Book: Code* lessons reinforce the explicit, systematic instruction embedded within the Student App. These differentiated lessons begin with instruction that focuses students' attention on the specific spelling pattern they will encounter in that day's lesson and in the Student App. In every Code lesson there is a dictation activity that provides students with ample opportunities to transfer the spelling patterns they have learned into writing. To minimize overload on students' attention and working memory, new words and spelling patterns are introduced in small, manageable amounts and are connected to prior learning. In addition, teachers can use the Sound and Articulation videos to model correct academic pronunciation of all sound-spellings as taught in the program.

High-Frequency Words

Read 180 promotes automaticity in recognizing high-utility words that appear with the greatest frequency in text. In the High-Frequency Words strand of the Student App Code segments, students focus on building fast and automatic recognition of the highest-utility high-frequency words. Students learn that the English language includes a group of high-utility, high-frequency words that are not always decodable. This strand helps build automaticity with these non-decodable words, too, helping students to progress faster through the program.

With the research-based teaching routines available in the *Real Book: Code*, teachers can use direct instruction to help students commit high-frequency sight words to memory. The decodable texts and the *Read 180* Independent Reading titles provide students with further opportunities to practice reading high-frequency words and build automatic word recognition.

Multisensory Instruction

Read 180's multisensory instructional approach gives students daily opportunities to view, listen, speak/record, and write about what they are learning. The multisensory approach in *Read 180* includes videos, images and graphics, sounds, audiobooks, several different types of print components, and manipulatives, thus offering multiple ways for all learners to access and learn the content. The Word Building Kit gives students many opportunities to use visual, aural, kinesthetic, and tactile modalities, such as practicing mouth positions, building words on the computer, and working with letter tiles.

Instructional Routines

Routines with embedded, explicit instruction provide structured opportunities for students to build confidence with unfamiliar words. These routines are found solely in the *Real Book: Code Teaching Guide* and are used to develop a range of foundational literacy skills.

Concepts of Print and Alphabet Recognition

Routines

These optional routines can be taught at the beginning of the program for students who need preliminary support in navigating a print text before moving into phonics and decoding.

High-Frequency Word Routine

This routine, which appears once in each segment, builds fluency and automaticity by teaching students to recognize high-utility words that cannot be sounded out based on orthographic patterns.

Skills Review and Transfer Routine

This routine, which appears in the last lesson of every segment, helps students systematically review word analysis skills and apply them to unfamiliar words they encounter.

Fluency

Fluency is the ability for students to read text accurately at an appropriate rate and with prosody—or reading with expression or intonation and with phrasing that shows understanding of what an author conveys (Rasinski, 2010). The term reading fluency denotes accurate decoding or word recognition; fluent reading is a sign of a reader's ability to comprehend language. Fluency is intricately linked to reading comprehension because strong readers demonstrate silent reading fluency as they recognize words and their meanings automatically and can attend primarily to making sense out of what they read (NRP, 2000). In addition, reading fluency also reflects and is affected by language comprehension. Along with accurate word reading, in order for readers to demonstrate prosody, they must draw on their knowledge of many aspects of text, including semantics, syntax, and text features such as punctuation (Schwanenflugel & Benjamin, 2017).

Research consistently shows a moderate-to-strong correlation between oral reading fluency and both oral and silent reading comprehension, and these findings are especially true for striving readers (Stevens et al., 2017; Zimmerman et al., 2019). Fluency reflects not just accuracy of word reading but also the automaticity with which readers recognize words and their ability to read with appropriate expression, phrasing, and intonation, which is referred to as prosody (Duke & Cartwright, 2021). When students' word identification becomes fast and accurate, they have freed up some "cognitive space" to draw on their knowledge of word meanings and language structure to help them comprehend what they are reading. One example of this is when a proficient reader encounters a word that has multiple meanings, or is polysemous, and infers the meaning. Another is comprehending phrases, idioms, or figurative language by using context (Castles et al., 2018).

Accuracy monitoring and self-correction are also key skills that connect fluency with comprehension. Good readers pay attention to whether what they are reading makes sense, and they apply strategies to make corrections as needed. The WWC Practice Guide, providing reading interventions for students in Grades 4–9 (Vaughn et al.,

2022), emphasizes the importance of asking students to practice fluency in "purposeful" ways—to improve their expressive oral reading, to identify words they don't know, or to double-check comprehension.

Recognition of the importance of fluency instruction and practice has ebbed and flowed over the years (Rupley et al., 2020), as has research on fluency as a distinct variable in readers' development. The report of the National Reading Panel (2000) established its importance as an indicator of young readers' progress toward proficiency. A team of researchers (Paige et al., 2019) recently used path analysis to study data from over 1,000 Grade 3 students considered at risk for reading failure. Of particular interest were how measures of developmental spelling, sight- and pseudo-word reading, and reading fluency related to scores on students' end-of-year reading assessment. These all proved to be important variables, but the analyses also found a strong correlation between students' oral reading fluency and spelling development. These findings confirm the importance of fluency, not just as a sign of beginning reading but throughout reading development.

The following are effective oral reading fluency instructional strategies:

- **Modeled fluent oral reading:** Teacher reads the text aloud with emphasis on expression and intentional pausing.
- **Guided oral reading:** Students read a text aloud with feedback and explicit guidance from the teacher.
- **Repeated oral reading:** Students read and reread a text multiple (for example, three) times. This is most effective with a model. Guided and repeated oral reading have shown to demonstrate improved reading fluency in both younger learners and older striving readers.
- **Repeated reading practice for performance:** Students practice reading the text in front of others as a performance (e.g., reader's theater).
- **Prosody development through teaching phrase boundaries:** Students learn the appropriate placement of pauses around phrase boundaries, which contributes to understanding meaning (Rasinski & Smith, 2018).

Automaticity

In order to become fluent readers, students must master lower-level reading skills to the point of automaticity; that is, reading quickly and effortlessly with accurate word recognition. Cognitive science research has demonstrated the importance of automaticity to expertise. Anderson's theory explains the development of expertise through three stages: cognitive, associative, and autonomous. During the cognitive stage, learners rehearse and memorize facts related to a particular domain or skill, and those facts guide them in problem-solving. During the associative stage, learners detect errors and misunderstandings through continual practice and feedback. During the autonomous stage, learners have practiced a skill to the extent that it becomes automated, so the amount of working memory needed to perform the skill is reduced. At this point, the learner has developed expertise.

Most strong readers have developed expertise and automaticity in word identification. When readers are able to recognize letters and words effortlessly, they can devote their attention to making sense of what they read. Their automatic word identification frees up some "cognitive space" to draw on their broader knowledge of language in order to comprehend what they are reading (Baker et al., 2014). Strong readers pay attention to whether what they are reading makes sense and apply strategies to make corrections as needed.

However, teachers must remember that automaticity in oral reading does not always mean that students are fully comprehending what they are reading (Oakhill, 2020). Research by Koon and colleagues (2020) compared students' interim assessment data and their scores on the state reading assessment they took at the end of the school year. Their analyses found that many of the students who performed poorly on the state reading test had shown strong performance on measures of oral reading fluency on the interim assessments administered throughout their early-grade instruction. This signifies that students need additional explicit comprehension instruction.

Prosody

Effective reading teachers model fluent reading when they read aloud, especially as they pause for punctuation, emphasize dialogue, or change their voice to show expressiveness. Teachers demonstrate prosody in their oral reading and can explicitly explain what they are doing as they read by asking how the change in inflection changes the meaning implied by the words on the page.

While helping students to become fluent readers, teachers need to remind them that fluency means reading with comprehension, not merely saying the words as quickly as possible.

Teachers model this distinction in their oral reading by pausing to question the meaning of words, the implications of word choice, or other aspects of the texts they are reading, especially those that may be unfamiliar to students. Instructional strategies, such as paired reading, reader's theater, and choral or echo reading, also clearly demonstrate to students that fluency must be accompanied by comprehension (Kuhn, 2020)

Measuring oral reading fluency

Many of the widely used screening and progress-monitoring tools contain a measure of oral reading fluency (ORF). These measures are short and quick; students read an unfamiliar text orally for one minute. In some cases, if students hesitate over a word for three seconds, the word is provided so they can keep reading. Individuals administering and scoring the ORF measure count the number of words read correctly (words correct per minute [WCPM]) and note the words read incorrectly, skipped, or out of order. The WCPM measure has been validated as a strong measure of students' progress toward reading proficiency (Hasbrouck & Tindal, 2006).

In 2006, Hasbrouck and Tindal developed an original set of norms for interpreting students' ORF scores, and these norms have been recently updated (Hasbrouck & Tindal, 2017). These can be used to determine whether students are reading at grade level, reading above grade level, or are in need of intervention. Educators can monitor students' progress on a monthly, weekly, or even daily basis, and students are typically assessed during specified benchmark testing windows (e.g., fall, winter, and spring).

In addition, Rasinski's Multidimensional Fluency Scale (2004) allows for educators to assess students' prosody while reading. Four dimensions of prosody—expression and volume, phrasing, smoothness, and pace—are measured on four levels that help inform instruction

How Read 180 aligns to the research

Fluency practice is embedded throughout *Read 180*. In order to become fluent readers, students must first learn to crack the code. As students work on correctly identifying the sounds of the letters and blending them together, students practice producing the sounds and words with increasing speed and automaticity.

Students can practice their fluency using a variety of instructional-level text included in *Read 180*:

- **Decodable passages:** High-interest text that provides fluency practice with decodable passages across a range of types and disciplines are included throughout the *Real Book: Code*. Decodable passages are included in all Code and Word Strategies lessons, and they leverage spelling patterns as part of the connected text.
- **Success passages:** These texts are carefully controlled to help students apply and practice what they know and experience success with reading.
- **Books from the *Read 180* Library** are leveled using the Lexile Framework.

The *Read 180* Student App includes scaffolded supports to develop comprehension and fluency. In the Word Zone, students practice automatic word recognition and connect words to meaning, which is necessary for fluent reading of connected text. In the Fluency Zone, students encounter reading tasks that promote skills transfer and build fluency and comprehension. Students repeatedly read decodable sentences so that they can practice reading through text with increasing speed.

Students can listen to recordings from the Success Zone and use the on-screen rubric to self-assess their reading. Teachers can evaluate students' reading fluency practice and enter constructive feedback for students to access. Teachers can revisit stored student recordings throughout the year to monitor fluency growth over time and to share during conferences with families and caregivers.

Listening to modeled reading helps to increase students' fluency as they hear the appropriate rate and prosody of a given text. Students have access to a variety of audiobooks in Independent Reading. All foundational skills texts in Independent Reading include an audio option available on the Ed platform. Additionally, *Read 180* includes a suite of grade-level audiobooks. When reading these grade-level audiobooks, students will hear two voices: the narrator, who reads the book, and the Reading Coach, who models metacognitive reading habits and strategies. The Reading Coach provides useful tips and the knowledge they need to read text on their own.

In each *Real Book: Code* fluency lesson, students receive explicit fluency instruction, followed by a teacher-led fluency routine. Then, students apply that fluency skill through partner and independent fluency routines as they read decodable connected texts.

Teacher-Led Fluency Routines

- modeled fluency reading
- echo reading
- choral reading
- phrase-cued reading

Partner Fluency Routines

- partner choral reading
- partner echo reading
- partner summary

Independent Fluency Routines

- whisper reading
- independent oral reading

Measuring oral reading fluency

An Oral Reading Fluency (ORF) Assessment formally measures the number of words correct per minute (WCPM) that a student can read. Teachers can compare their students' WCPM scores with national averages to see if their reading fluency is above, below, or on grade level. Teachers can administer an ORF to each student three times per year during one-to-one conferences to monitor their fluency growth over time. In addition, teachers can assess students' prosody to measure their expression, phrasing, intonation, and pace while reading a passage.

Students can then record their own ORF results in their ORF Tracking Logs. This will guide them to track progress toward reading goals, take ownership of learning, and build motivation for success. Also, teachers can track ORF results in their data notebook to document growth throughout the year.

Student App passages and recordings

Students read a non-decodable passage that includes many target words and elements for success. Students make recordings of their reading to build fluency and self-monitoring skills. Teachers can use these recordings to monitor students' fluency.

Name: _____ Date: _____

Grade 6 Passage 1

The Irish Potato Famine

Ireland is an island country located in Europe to the west of England. Today, the people and governments in Ireland and England are friendly, but this was not always the case. In earlier times, life in Ireland was very difficult.

In the past, England controlled all of Ireland. The English government did not treat the Irish people well. There were not many laws to protect the Irish from landlords who made them pay high prices to live and farm on their land. As a result, the Irish had to sell most of their vegetables and cattle in order to survive. Almost all of the wheat and oats grown in Ireland were exported to England. Irish farmers could only afford to keep their potato crop to feed their families.

In 1845 and 1846, a series of diseases hit the Irish farmers' potato crops. The diseases did not affect wheat or oats. But just about all of the potatoes were destroyed. The Irish people had no food to eat, and many died from hunger.

Many Irish people decided that they had no choice but to leave their homeland. They boarded ships and sailed to the United States. Nearly a million Irish people moved to big cities such as New York and Boston to begin new lives.

Sample Grade 6 Oral Reading Fluency Passage

Oral Fluency Miscue Analysis

One way to gauge student fluency and comprehension is by analyzing how students read aloud. Tracking and analyzing a student's accuracy and fluency is called a miscue analysis. Miscue analysis is a tool for assessing student fluency and determining whether students are comprehending the text.

Student miscues are usually not random; they are the student's attempts to make sense of the text, applying the reading strategies they have learned. Analyzing the types of errors, or miscues, a student makes while reading helps identify specific reading behaviors and trends, which can be helpful when planning Whole- and Small-Group lessons.

Miscue Analysis in Read 180

In a *Read 180* classroom, miscue analysis can be conducted both informally and as a formal fluency assessment. Evaluate miscue analysis informally using:

- final fluency recordings from the Student App
- listening to students read during Small-Group instruction

Formally evaluate student fluency, including miscue analysis, when completing Oral Reading Fluency (ORF) Assessments three times a year. See the Oral Reading Fluency Assessment resource on Ed for more information.

Oral Fluency Miscue Analysis Process

As you listen to a student read aloud, use your copy of the passage to track each word the student reads and code it using the Reading Behavior Annotation Guide on the next page. Marking every word lessens the anxiety students might feel if they notice you only marking miscues as they read aloud.

Since it can sometimes be difficult to document student oral fluency as they are reading aloud, you may also choose to record students as they read aloud and annotate the passage later.

Miscue Analysis Teacher Resource

Vocabulary

Academic vocabulary

Reading success depends on readers having an adequate vocabulary, and reading widely and with comprehension improves readers' vocabularies. At the same time, all students (especially striving readers) need explicit and direct instruction in academic vocabulary—the words that are used primarily in academic discussions and books. Since these words are not used commonly in everyday conversations, students rarely use or hear them in nonacademic settings. As a result, their meanings, especially if they are used in a specialized way, are confusing or even unfamiliar to students.

Therefore, high-quality literacy instruction includes explicit instruction and practice on vocabulary (Beck et al., 2013; Cunningham & Stanovich, 1997; Foorman et al., 2016). Direct instruction of academic vocabulary helps students make sense of what they read and helps them to navigate through their content instruction. It provides them with a foundation to build subject-level understanding.

Students' vocabularies expand from repeated encounters with new words, both in the literacy block and in content-area instruction (Connor & Morrison, 2012); vocabularies also grow from listening, reading, and talking to others.

As Biemiller (2012) points out, “From Grade 3 on, the main limiting factor [to academic achievement] for the majority of children is vocabulary, not reading mechanics (decoding print into words)” (p. 34).

Beck and colleagues (2002, 2013) have conducted extensive research on how students learn vocabulary. Their initial and ongoing work has given teachers a useful way to think about vocabulary in general, the words that students understand and readily use, and the words or terms that may cause more challenges and need to be taught explicitly.

They have suggested thinking about words as existing within three tiers:

- **Tier 1** contains basic, everyday words.
- **Tier 2** includes academic words that may have multiple meanings; students may know one or more meanings but may be unfamiliar with alternative meanings used in different contexts.
- **Tier 3** words are technical words and terms that are related to specific subject matter; students need to learn these words and learn to use them in context accurately.

Word analysis

Students need extensive knowledge about vocabulary, including knowing the meanings of words and phrases and recognizing relationships among words and phrases (e.g., synonyms, antonyms, words from the same category). Because written vocabulary tends to use different types of words than oral vocabulary, knowledge of written vocabulary must be gained through a combination of explicit instruction and making sense of new words in context. Additionally, because the brain stores words in conceptually related networks, multiple exposures to a word are important to building vocabulary; each time a word is read and its meaning is accessed in the brain, the exposure enriches the entire network. It is not just the breadth of a student's vocabulary knowledge but also the depth of that knowledge that supports reading comprehension (NICHD, 2000).

As they become more proficient, students begin to notice and understand differences and similarities in words. For example, as Duke and Cartwright (2021) point out, students can recognize the difference between homonyms that are spelled the same but pronounced differently, as in the verb “to wind” and the noun “wind.” In spoken conversations, semantic knowledge helps them to recognize the difference, but it is their vocabulary knowledge that allows them to recognize the difference in meaning and pronunciation when they encounter the word in print. So too, they can distinguish between “to tire” and “the tire,” which are also homonyms, or between “right” and “write,” which are examples of homophones. Ehri et al. (2014) has referred to this process as orthographic mapping. These kinds of links among phonology, orthography, and words’ meanings (i.e., vocabulary) are at the heart of orthographic mapping: the linking of words’ spellings, pronunciations, and meanings in memory.

Research has shown that from third grade on, vocabulary knowledge is a stronger predictor of academic achievement than decoding skill (Biemiller, 2012). Vocabulary knowledge refers to more than words and their definitions; it also refers to one’s ability to understand language in different ways and to use language well. Students need to become flexible word users—able to understand and use rich, full vocabulary to describe, explain, ask, critique, make requests, and show emotions, among others. They need to be able to understand connotative and denotative meanings, idioms, metaphors, synonyms, and antonyms, as well as the meanings of words that are implied by body language, tone of voice, and other means (Biemiller, 2012). As students move through elementary school, they must enrich their oral speaking, listening, reading, and writing vocabularies.

Effective, direct instruction in vocabulary should include teaching vocabulary explicitly (for example, as a prereading activity) and teaching specific vocabulary-learning strategies, including use of print and digital dictionaries and an online thesaurus. Strategies include learning words for comparing and contrasting, classifying, creating metaphors and analogies, and so much more. To complement direct instruction, teachers also need to fill their classrooms with activities that develop “word consciousness” and the types of language play that encourage students to challenge themselves and others to learn new words and think deeply about language.

How Read 180 aligns to the research

Read 180's program-wide emphasis on nonfiction builds academic vocabulary and content-area knowledge. In the Student App, academic vocabulary is developed through explicit instruction in the Smart Zone. To support students' vocabulary development, images are provided for over 2,000 words. For words that are difficult to image, such as concept words and verbs, there are additional supports, including sound effects and video. In the Success Strand, students encounter high-leverage academic and content-area vocabulary that is defined for them. Anchor videos provide background knowledge to help students build mental models for unknown words.

Through daily reading, writing, and speaking activities, the *Real Book: Workshop* exposes students to higher-level text and high-leverage vocabulary. Explicit instruction in academic vocabulary helps students develop and apply content-area word knowledge.

Every direct-instruction lesson in the *Real Book* includes instructional routines for pre-teaching vocabulary words that students will encounter in the lesson and the Student App. New words are introduced in small, manageable amounts as well as in groups that share a sound-spelling or morphological pattern. Students will also encounter these words in their readings.

Teachers prepare students for reading a range of complex texts by explicitly teaching academic vocabulary that they will need to understand and discuss the content. In the *Real Book: Code*, teachers help students build their word knowledge with Vocabulary Builder activities, which are included in each Code, Word Strategy, and Morphology lesson. The words are selected to align to the decoding or morphology skills students are learning and introduce students to words they will encounter when they read the decodable passage later in the lesson.

In the *Real Book: Workshop*, students receive explicit instruction of nearly 50 words per workshop. In the Language Development lessons, students study word meanings, word parts, and word families, expanding their word knowledge exponentially. Teachers use the research-based Teaching Vocabulary routine to introduce and help students practice using their new words in context.

- **Pronounce:** Teachers model the pronunciation of the word and ask students to repeat it. Students rate their own knowledge of the word.
- **Define:** Teachers read the definition of the word and have students complete it in their *Real Books*.
- **Discuss examples:** Teachers read the first sentence frame and model a possible answer. Students then share other ideas and record one in the book. Then, repeat this process for the second example.
- **Review:** After teaching each word, teachers encourage students to choose the correct Target Word to complete each sentence frame.

When students need additional vocabulary practice, teachers can use these strategies to develop word meaning, morphology, and word analysis skills. Topics include:

- synonyms/antonyms,
- multiple-meaning words,
- idioms,
- compound words,
- prefixes/suffixes,
- homophones, and
- root words.

Teachers explicitly instruct students to recognize and identify word families, or terms with the same root as the Target Word. Additionally, in the Whole- and Small-Group instruction, teachers engage students in academic discussion to encourage the use of new vocabulary terms in context.

Comprehension

Comprehension is the ability to make sense of what you read (NICHD, 2000). According to the Simple View of Reading, reading comprehension is the product of word recognition and language comprehension (Gough & Tunmer, 1986). Comprehension is the ultimate goal of learning to read: Beginning readers benefit from instruction that introduces them to a variety of strategies to help them understand different kinds of texts and their text structures, and older students who find reading challenging need opportunities to ask and answer questions about what they read, and they need direct instruction on strategies to monitor their comprehension (Vaughn et al., 2022).

Reading with comprehension is an incremental cognitive process that includes analyzing words and their syntactic roles in phrases, sentences, or paragraphs, and connecting the results of this analysis to information in the text or one's own background knowledge. Knowledge in this case includes the meanings of words, rules of grammar, knowledge of events and temporal relations, episodes, scenarios, emotions, and characters. Often, to comprehend fully, readers must make inferences beyond what the text actually states, a process that can involve establishing meaning within and between sentences and drawing on individual background knowledge (Castles et al., 2018).

Research on effective reading instruction has shown that part of beginning comprehension instruction is teacher modeling of the comprehension strategies that mature readers use automatically. The daily read-aloud period is an ideal means for this instruction—so long as teachers remember that merely reading aloud is not enough. Students need to be actively involved in asking and answering questions, making predictions, or explaining characters' motivations or other actions in what they are hearing. Researchers have found positive relationships between students' reading growth and the extent to which they have engaged in "analytic talk" during the back-and-forth with teachers during read-alouds (Wilkinson et al., 2015).

Additionally, one of the great advantages of introducing students to reading comprehension skills by giving them opportunities to read books at the right level is that the experience reinforces that the students themselves do indeed have the capacity to become successful readers (Sisk et al., 2018).

At the same time, the WWC Practice Guide on interventions for students in Grades 4 through 9 (Vaughn et al., 2022) recommends that teachers also introduce all students, including those who struggle, to "stretch" or challenging texts because they expose students to complex ideas and information and also use interesting, varied writing styles. In doing so, teachers model strategies for reading such texts, "think aloud" about their reading strategies, ask questions about content, and emphasize that students need to be asking themselves questions and applying strategies to better understand what they are reading. Using the "reading for teaching" (Alston & Barker, 2014) approach to preparing for these lessons can make them more impactful.

A meta-analysis conducted by Wright and Cervetti (2017) found that students who received explicit instruction on the vocabulary in a text that teachers thought might be challenging comprehended better than students not receiving such instruction. This instruction was especially impactful if the words were technical, or Tier 2 words. Crosson and McKeown (2016) found that explicit instruction in bound Latin roots (e.g., *voc* as in *vocal*, *advocate*, *vocalize*, *vocabulary*, *vociferous*) had a positive influence on students' comprehension.

Text complexity and rigor

Many state standards require that all students read grade-level, complex texts, but many readers are not able to do so independently. Texts have multiple characteristics that work together to gauge complexity (Lawrence et al., 2022). The first characteristic is word complexity, which is determined by examining the orthographic and morphological features of the words in the text.

For example: How familiar will students find the words in general? Are many of the words polysyllabic? How easy will unfamiliar words be to decode? Do they contain “silent” letters or unfamiliar morphemes? In short, unfamiliar vocabulary or words that are challenging to decode add to text complexity before even considering other text features.

Thoughtful and informed instruction and scaffolding can help students tackle complex text. Teaching students how to pay close attention to the text, reread, annotate the text with notes in the margin, identify the author’s purpose and text structure, circle confusing words or sections, talk about the text with others, and ask text-dependent questions can be beneficial in helping students comprehend complex text (Liben & Liben, 2013).

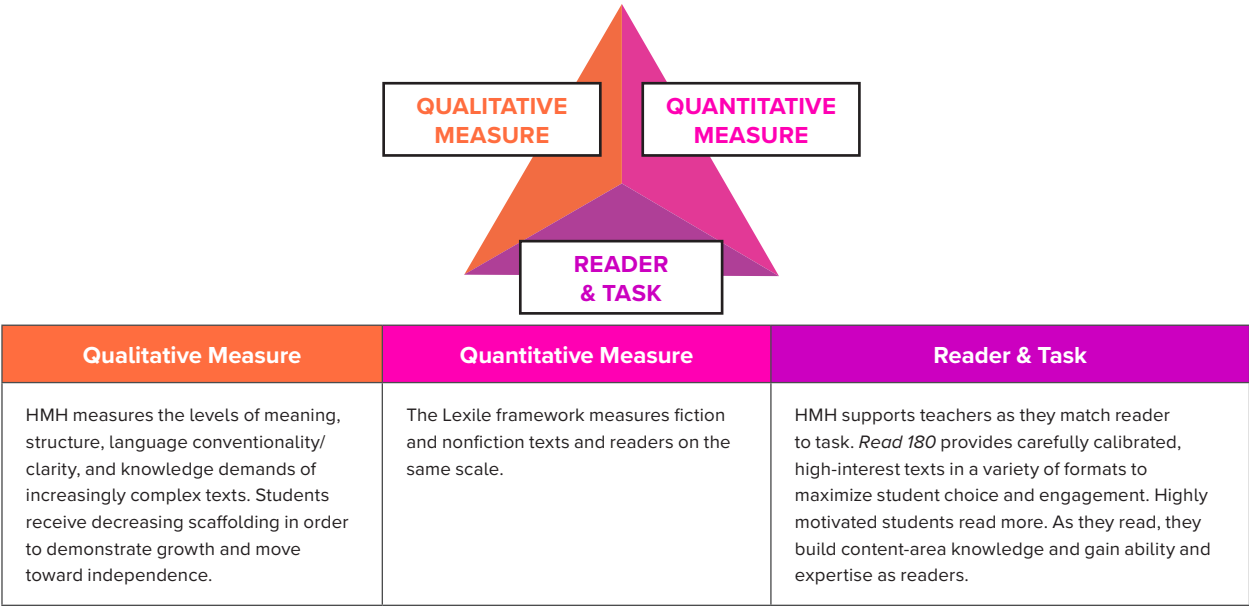
Many factors other than word difficulty also contribute to the complexity of a text. Among these are sentence length; unconventional text structures and features such as signal or clue words or phrases, headings, subheadings, typography, paragraph structure, and graphic displays; or supportive materials such as glossaries or appendices (Kucan & Palincsar, 2018). Comprehension can falter when such text features are unfamiliar to students, even if they are familiar with the actual content being discussed. Additionally, if texts lack cohesion—the characteristics of the text that help the reader connect ideas within sentences, paragraphs, or whole texts—students often find it difficult to make accurate sense of what they read (Graesser et al., 2011).

It is important to consider all of these factors when assessing the complexity and readability of a text. When teachers have identified and understand aspects of text,

including total text complexity, which may cause students to struggle, they are better able to make sense of students’ mistakes or faulty comprehension (Meneses et al., 2018).

Studies indicate that exposure to a wide range of texts in multiple genres strengthens understanding of the relationships among different words and concepts—building a “word consciousness” that enables the reader to more easily interpret the meanings of previously unencountered words (Adams, 2009). Having access to books in multiple genres gives students choices, which can be inherently motivating to all readers, but it also ensures that students at different reading levels will be able to access the content they need to participate in learning.

Immersion in complex texts is one of the best ways to help students develop mature language skills and the conceptual knowledge they need for success in school and beyond (Bridges, 2014). Immersion also allows students to move from surface learning to the deeper levels of learning needed for academic success (Fisher et al., 2016). However, teachers need to examine texts that students will read in advance. Alston and Barker (2014) coined the phrase “reading for teaching” for the kinds of preparatory reading that teachers must do before asking their students to read a new text. They advise that teachers read to identify distinct components of the text and overall characteristics such as complexity that may challenge some students when they read but that would be completely familiar to more experienced readers. Students’ challenges may stem from new or technical vocabulary, lack of background knowledge, or stylistic elements, such as flashbacks, which enhance a text’s appeal but may be completely new to student readers.



How Read 180 aligns to the research

Read 180 guides students from highly supported reading toward independent mastery of increasingly complex text, enabling students of all reading levels to access content-rich complex texts. The Text Complexity Triangle measures the three components of text complexity: Quantitative (Lexile measure), Qualitative, and Reader & Task.

The Qualitative components of text complexity considered by *Read 180* include those identified by Coh-Metrix as the most important factors in readability: narrativity, syntactic simplicity, word concreteness, referential cohesion, and deep cohesion (Graesser et al., 2011). As students progress through the Student App, the texts that they encounter become relatively more complex in each of these dimensions. The relative complexity of each of these dimensions is offset by the other dimensions, providing scaffolds for the students to read and comprehend increasingly complex texts.

Read 180 provides teachers with the tools to expertly match reader to text and task. The variety and volume of texts in *Read 180* provide varying degrees of complexity and scaffolding, allowing students to access texts at the appropriate level of challenge and move toward independence. The adaptive technology in *Read 180* customizes instruction and practice according to students' Lexile measures and other quantitative and qualitative factors that make up the student's Learner Profile. This instruction provides continual opportunities for all students, including English learners and students with disabilities, to experience success and demonstrate progress. Throughout *Read 180*, each reading is marked with an icon displaying its Lexile measure and complexity level to assist teachers in effectively matching readers with appropriately leveled texts.

During Whole- and Small-Group learning starting from the *Real Book: Code*, students focus on comprehending passages after learning specific phonics skills. The structure of the Code lessons reinforces the concept that comprehension is the ultimate goal of reading—once students crack the code and learn to decode words in connected text.

Using the above dimensions, each *Real Book: Workshop* entails a series of increasingly complex texts—a diverse array of classic and contemporary literature as well as challenging informational texts in a range of subjects. Each workshop supports students in accessing complex texts through a narrow reading approach in which students read a series of increasingly challenging texts with overlapping topics and recurring academic vocabulary. Each new text builds on the previous media and texts, providing students with the background knowledge, vocabulary, and confidence needed to access complex texts that might otherwise have been too challenging.

A *Real Book: Workshop* includes two types of texts: Fluency Texts and Workshop Texts. The first text in a workshop is always a Fluency Text that introduces the workshop topic and serves to build knowledge about the topic. Workshop Texts that follow are more complex and represent a variety of text types and lengths. The texts within a *Real Book: Workshop* are sequenced to build on each other in order of increasing difficulty. The background knowledge and vocabulary that students develop from initial selections allow them to move from simple to more complex text. Multiple reads, explicit vocabulary learning, teacher-led close reading, and *Real Book* scaffolds support students as they work toward reading increasingly complex and grade-level texts. The *Real Book: Workshop Teaching Guide* includes a Heads-Up section with challenges that students may experience with each text.

Comprehension skills and strategies

Comprehension results from a reader's interaction with texts and can be thought of in terms of multiple levels. When readers read at the literal level, they “get the gist” of what the text says. When readers read at the inferential level, they figure out what a text means but does not state directly. Reading with evaluative skills means that readers analyze the text, for example, to determine if they agree with what the author has said or if the text has changed their own perceptions. Teachers' questions at these different levels provide students models for how they should be thinking about what they read.

Years of research (Okkinga et al., 2018) have shown that readers develop specific skills and strategies to decode words and figure out unfamiliar vocabulary, but they also need to learn strategies for comprehending what they read. Strong readers have developed a full repertoire—a veritable toolkit—of strategies, such as previewing text, looking for morphological clues in unfamiliar words, asking oneself if text is making sense, noting confusing text for further review, rereading text that seems confusing, or summarizing text after reading.

Teachers can help their students develop their own toolkit of reading strategies by modeling strategies they use as they read and then explain what they are doing. This toolkit would include strategies such as:

- predicting what will happen next in a literary text or what will be presented in an informational text,
- visualizing or forming mental images that can make the text more “real” or contribute to remembering what is being read,
- making connections between what the reader already knows and what is being presented,
- inferring or drawing on both one's own knowledge and the text to draw conclusions, and
- evaluating the text or forming positive or negative opinions about what has been read.

Teachers' modeling occurs as they read a potentially challenging passage orally to their students and then “think aloud” as they make sense of what they are reading. The messages teachers want to communicate is that readers should attend to and monitor their understanding and ask themselves questions. They also should have ways to improve their comprehension in real time as they are reading (Duke & Cartwright, 2021).

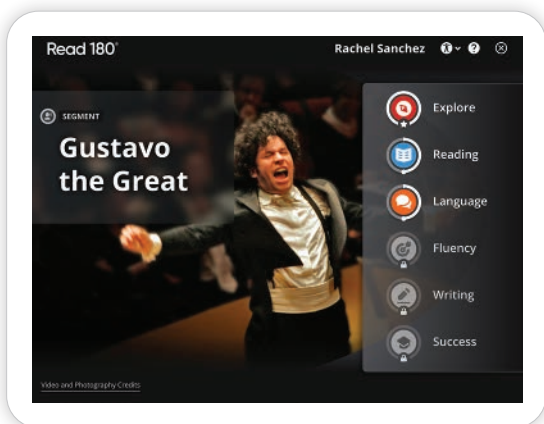
How Read 180 aligns to the research

The Comprehension segments of the *Read 180* Student App are designed for students who need comprehension skills development. Students enrolled in Comprehension segments engage in instructional activities across a range of topics organized into six Learning Zones. Once students select their segment, they complete a specific progression of Zone activities in each session. In the Reading Zone, students read a text within their zone of proximal development, then practice fluency and apply comprehension and vocabulary strategies. Students first engage with the text through a modeled read and then revisit the text through a set of close reading activities. These texts are followed by comprehension questions that cover various comprehension skills such as identifying main idea and details, compare and contrast, cause and effect, author's point of view, summarization, etc.

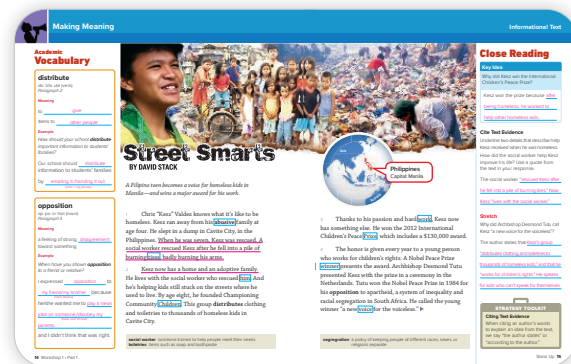
Each *Real Book: Workshop* includes Making Meaning lessons that build comprehension skills. Each workshop opens with a Fluency Text, an accessible informational text that builds knowledge about the workshop topic. Workshop texts span a variety of text types and progressively increase in complexity within and across workshops. Workshops include two types of Making Meaning lessons:

- Text-based lessons ask students to engage in close reading of a specific workshop text.
- Comprehension lessons teach students a specific comprehension strategy they can apply across texts.

Within the Independent Reading rotation, students apply their comprehension skills as they read high-interest books independently. The reading logs, graphic organizers, and Quick Writes are designed to help students organize and reflect their learning. In addition, quizzes are a way to measure their comprehension and whether they could transfer their comprehension skills to new texts.



Student App Comprehension Segments



Making Meaning Lessons

Independent reading and read-alouds

Systematic, rigorous cognitive research conducted over many decades has revealed that reading not only builds our brains but also exercises our intelligence (Bridges, 2014). Reading is a rich, complex, and cognitive act that provides us with a great opportunity to exercise our intelligence in ways that we lose if we do not read (Dehaene, 2009). This is true for reading on one's own in traditional paper format, reading material presented in digital form, or listening to what is being read aloud on audiobooks.

Decades of research have shown that avid readers are also skillful readers and writers. They have more knowledge about the conventions of language in areas such as spelling, punctuation, grammar, and vocabulary. They also know more about the world (Bridges, 2014).

Students will not become successful independent readers unless they are given the chance to practice reading independently. Giving students opportunities to choose texts that interest them and to decide on paper or digital mode for reading enables them to read more complex texts because they are motivated and often knowledgeable about the topic (Liben & Liben, 2013).

It is important that parents and teachers read to their children and students every day. Reading aloud together is one of the best ways for children to learn to read. The most important thing is to let children set their own pace and have fun during the experience (American Academy of Pediatrics, 2015).

Findings from the Kids & Family Reading Report (Scholastic, 2015) showed that 54% of children ages 0–5 are read aloud to at home 5–7 days a week, and 40% of children ages 6–11 who are no longer read aloud to at home wish that they were. Among a wide range of age groups, 83% of kids say that they liked a lot the times that their parents read to them aloud at home, and they wish their parents had continued to read to them after they reached school age.

The report also stated that half of children aged 6–17 who read independently as a class at school (52%) say it is one of their favorite parts of the day and wish it would happen more often. Almost all children in this age range (91%) say that their favorite books are ones that they choose themselves. One third of children aged 6–17 (33%) say their class has a designated time during the school day to read a book of their choice independently, but only 17% do this every or almost every school day (Scholastic, 2015).

Research on students' use of digital and print text suggests that middle-grade students could benefit from direct instruction for comprehending digital text along with practice interacting with digital texts. In particular, students need to develop specific strategies for comprehending and evaluating digital text instead of relying primarily on the strategies they use with print text (Davis & Neitzel, 2012; Leu et al., 2017).

Literacy researchers Gina Biancarosa and Gina S. Griffiths (2012) offer several recommendations for teachers to integrate technology and digital texts into their existing classroom routines. In particular, they argue that technology should be viewed as one of the many tools that teachers use to prepare students for literacy in a digital age. When incorporating digital tools into a classroom, their recommendations include selecting evidence-based technology, providing ongoing support to teachers using the technology, and making good use of the data provided by the technology.

How Read 180 aligns to the research

Read 180 ensures that students make reading part of their daily routine by dedicating one of the three Station Rotations to Independent Reading. Texts in the Independent Reading rotation provide engaging and respectful content that is delivered at the appropriate level of the student. Students also have the option of choosing more challenging texts that are aligned with their interests.

The *Read 180* Independent Reading library consists of print, digital, and audio texts that help students apply their new decoding, fluency, vocabulary, and comprehension skills as they build knowledge across all *Read 180* Knowledge Clusters. There are the Foundational Skills paperbacks and eBooks, general paperbacks and eBooks, eReads, and grade-level audiobooks.

Foundational Skills paperbacks and eBooks are a collection of 56 high-interest texts for students who are developing decoding skills.

- Each book includes focus skills aligned to the Student App Code segments.
- The Read Aloud feature in the eBooks promotes listening comprehension and provides auditory support to striving readers as they decode text. The read-aloud audio support allows students to listen to fluent reading as they follow along in the print text. This audio support helps students link speech to written language.
- Students can activate a read-along highlight that highlights each sentence as the audio plays, enabling students to more easily track the text.
- Some striving readers benefit from limiting the amount of text they see at one time. Students can use settings to adjust the size of the page and whether to view a single or double page.

Paperbacks and eBooks are a wide-ranging collection of 30 literary and informational paperbacks and 46 eBooks that span a wide range of reading levels organized by Lexile. These paperbacks include a variety of genres, such as historical fiction, graphic classics, and debates, as well as a variety of topics, such as action and adventure, government and politics, humor, and art. Many of the selections include content that reflects ethnic, cultural, and linguistic diversity of students in America. About half of the titles are informational.

Students build knowledge, enhance their vocabulary, and broaden their perspective as they read. Students are invited to select books of their interest and at their current reading level. This reading choice increases students' ownership of their learning, motivating them to read each day. Each stage includes 30 titles, with five copies of each title.

eReads are a collection of 36 leveled nonfiction articles aligned to each topic in the Student App. The articles, written at the higher end of the Lexile bands, stretch student readers as they deepen content knowledge.

Grade-level audiobooks consist of five grade-level books per stage that are authentic, unabridged grade-level texts that allow students to access the same complex literature that their peers are reading. This allows students to build a broader knowledge base with a wider range of books while also experiencing the skills and strategies needed to read and comprehend difficult text. Every audiobook includes a paperback copy and a recorded reading accessed by selecting the appropriate title on Ed. The *Read 180* audiobooks include a unique metacognitive feature—students hear two voices when listening to an audiobook:

- The audiobook narrator reads the text aloud, modeling fluent phrasing and reading expression as the student follows along in the paperback.
- The Reading Coach models the comprehension, vocabulary, and self-monitoring strategies that successful readers employ while reading.

Read 180 offers Independent Reading supports and scaffolds for students and teachers. In the digital Independent Reading experience, students can access additional supports, such as text-to-speech and a dictionary. The resources available to teachers include:

- summaries of each book;
- questions that can be used for one-on-one conferences with aides, students, and parents; and
- ideas for final projects, such as book reviews and letters to authors.

Independent Reading is designed to foster student choice and a love of reading, but it also includes checkpoints for accountability and teacher insight on student progress.

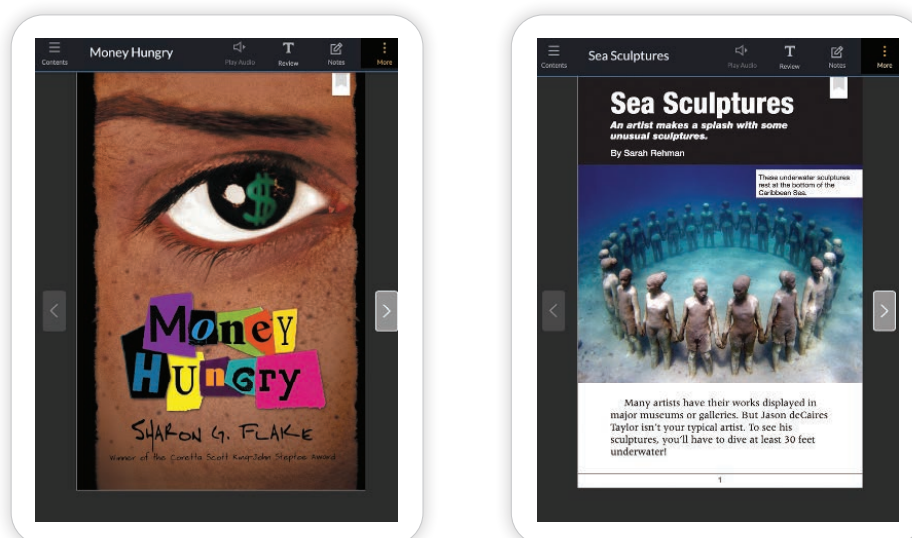
Daily reading logs help students maintain focus and synthesize information from daily reading. This allows students to track their progress toward the goals they set at the beginning of the year. Students can log their progress in the *Real Book* as well. Incorporating daily reading logs into teachers' assessment plans ensures students are consistently focused. Other resources such as text-specific graphic organizers, Quick Writes, and discussion prompts are available to further deepen students' understanding of the book. In addition to daily reading logs, teachers can have students keep **reading journals** about what they have read, recording their

progress once a week or twice a month. Teachers can ask students to apply the same skills students are practicing during whole and small group when completing their journals, or they can use reading journal prompts.

After finishing an Independent Reading book, students can take the **Independent Reading quizzes**. Students can see the books they have completed and can then choose to take either a Standard quiz or a Challenge quiz. The choices that students make will give the teacher insight into their mindsets, motivation, and challenge-seeking behaviors. The teacher will know how many books students have read and how they have challenged themselves.



Paperbacks and Audiobooks



eBooks and eReads

Knowledge Building

Background and content knowledge

Builders of statistical models about reading development find that readers' levels of knowledge and the ways in which they organize the knowledge in long-term memory predict their reading ability (Cabell & Hwang, 2020; Talwar et al., 2018). Readers' knowledge includes vocabulary, information about how language works in print, and, of course, knowledge of the world at large. Knowledge predicts distinct variance in models of reading comprehension that include vocabulary (Ahmed et al., 2016). Knowledge also includes what one knows about concepts, things and places, experiences, and cultural perspectives. Students will always differ in the amount of knowledge about these and other factors they possess, but fortunately, knowledge is a malleable factor in learning.

Content knowledge and reading are inextricably intertwined—reading cannot progress beyond decoding without a foundation of content knowledge. The ability to comprehend a text depends greatly on the knowledge of the subject that the reader brings to that text. Hirsch (2014) proposed a program that enriches students' knowledge as a vehicle for reading improvement. More recently, Willingham (2018) has drawn on cognitive psychology and neuroscience in understanding the relationships between students' content knowledge and reading comprehension. He stresses the importance of a teacher's role in building a student's knowledge base by pointing out that, without background knowledge, students will not fully comprehend what they read. Additionally, Wexler (2019) argues that teaching comprehension skills and strategies in the early grades is not adequate unless accompanied by instruction that builds students' background knowledge and vocabularies. She points out that children coming from higher income homes are often advantaged in school because they have had opportunities to acquire more academic vocabularies and content knowledge outside of school settings.

A meta-analysis conducted by Filderman et al. (2021) further substantiates the importance of background knowledge in reading comprehension. The researchers analyzed 64 studies that focused on reading comprehension achievement with students in Grades 3–12. The results showed significant positive effects on reading comprehension due to interventions and instructional approaches that emphasized the development of background knowledge along with strategy instruction.

Teachers need to remember that the content students need also includes language arts knowledge; that is, how language “works.” Even students who read widely may not know the names and characteristics of different genres, stylistic elements like metaphors, or different text structures. Enthusiastic student writers need to know about the structure of different ways to present their ideas, the names of these types of writing, and their purposes. Students need to experiment with and master different ways of researching what they want to write about and to learn more about ideas they have read. Some students may discover this literacy-related knowledge on their own—or at least some of it—but systematic efforts to build this knowledge is also essential.

People construct new knowledge and understandings based on their existing knowledge (Bransford et al., 2000), and knowledge of the subject matter is necessary in order to understand what is read (Hirsch & Pondiscio, 2010). Teachers play a large role in building students' background knowledge, through what they teach and discuss and what they encourage students to read (Cabell & Hwang, 2020; Connor et al., 2017). As such, students need to have opportunities to read high-quality, complex, and engaging texts that allow them to study a topic for a sustained period of time and from different perspectives. Infusing these content-rich texts into the ELA curriculum allows students to spend an extended part of the school day not only reading but also gaining knowledge that will allow them to read more complex texts in the future (Wattenberg, 2014).

Students' reading selections should represent multiple genres so that they experience not just the broad differences between expository/informational texts and narrative/literacy texts, but also the varied ways in which authors' writing in these genres presents their ideas. Reading across multiple genres has many advantages for students, including familiarizing them with diverse writing styles, building their vocabularies and background knowledge, and introducing them to writing forms that may be effective in motivating them to read more extensively (Lazowski & Hulleman, 2016; Wigfield, 2008).

Of course, some striving readers or multilingual learners may not be able to access such books because of their high readability level and because their content is unfamiliar. To the best of their ability, teachers need to ensure that all students have equal opportunities to learn; doing so requires providing options and alternatives—for example, by using videos or websites that anchor instruction (CAST, 2011).

Technology can play a role by providing both direct, explicit instruction and structured experiences to enhance anchored instruction, each at different levels depending on the complexity of the task. The most effective interactive learning environments take into consideration the needs of a particular situation (Zydney & Hasselbring, 2014). Making content available digitally, with assistive strategies such as vocabulary help, provides striving readers with opportunities to build content knowledge along with their peers.

Dynamic images and sounds are especially helpful for students with limited background knowledge and multilingual learners (Hasselbring & Glaser, 2000; Lacina, 2004). Using multiple representations of video, audio, or web-based information with struggling students gives them an authentic base of experience in abstract domains, thus making abstract information more concrete (Heo, 2007).

Presenting content in multiple formats and then reinforcing the content, perhaps by posting a summary chart on the wall as a reference, can be thought of as "mini-anchors." Through this reinforcement, students who may need extra exposure to ideas or skills get what they need, and other students have references or reminders. In this way, learners have multiple ways to perceive, engage with, and interact with instructional content (Zydney & Hasselbring, 2014).

How Read 180 aligns to the research

Read 180 is designed to help students acquire and activate the background and content knowledge that is essential to reading comprehension. *Read 180* content is organized by topic into Knowledge Clusters so that students can explore content that fascinates them and drives their enthusiasm to deepen their knowledge as they read to learn and explore.

The Knowledge Map provides a visual of the Knowledge Clusters that align the content students are learning across all three program rotations. The *Read 180* Knowledge Map represents a cross-disciplinary journey toward development of content knowledge for both school and life, exploring science, social studies, literature, culture, technology, engineering, arts, and mathematics.

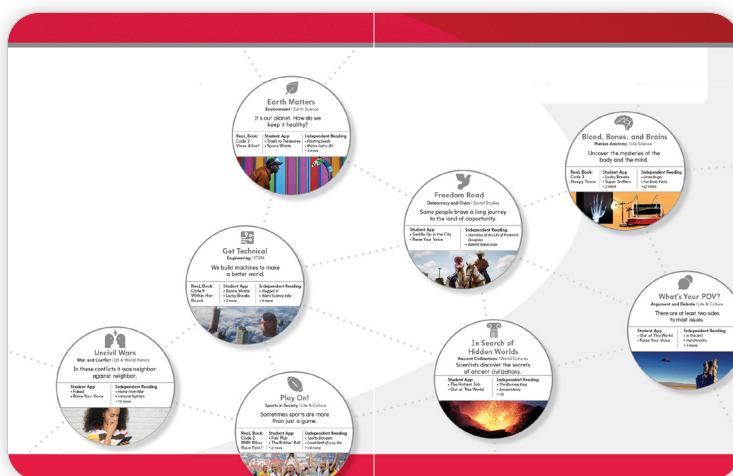
Before reading a text in the *Real Book: Workshop* or in the Student App, students watch an Anchor Video that provides them with the content and vocabulary knowledge they need to comprehend the text. These Anchor Videos not only contribute immediately to improved comprehension of the texts that students read but also give students knowledge that they can transfer to unfamiliar texts, allowing them to build more knowledge and continue to read more in a virtuous cycle. The combination of video and vocabulary support is especially helpful for English learners who may have gaps in context information and/or academic language.

At the core of *Read 180* are multitudes of informational texts that stretch across the content areas, such as social studies, science, literature and the arts, and contemporary social issues, in order to build the domain knowledge that is critical to reading comprehension across disciplines.

By spending an extended period of time within a Knowledge Cluster, students develop the knowledge that comes from deep and meaningful study of a topic. Through this engaging, diverse content, *Read 180* readings help students develop the strong base of world knowledge and interdisciplinary literacy skills that they need in order to better comprehend texts across the curriculum.

Read 180 makes systematic and extensive use of mental models to help students build background knowledge and improve comprehension of texts. *Read 180* exposes students to multiple text types in order to build students' world knowledge and prepare them to comprehend across the content areas. The content in all components of *Read 180* reflects diverse perspectives, allowing students to both reflect on their own experiences and explore new concepts and points of view.

Read 180 includes specific instructional routines to build students' content knowledge, such as the academic discussion routine, which helps build background about a particular concept that is critical to the Workshop Texts. As part of this routine, students brainstorm, write, exchange, record, and report on their ideas. Students also use the Vocabulary routine to learn key content-area vocabulary words that appear in subsequent texts. This routine enables students to learn new themes, discuss examples, and practice using the vocabulary prior to encountering these words in texts. Additional resources on the Ed platform include lessons that teachers can use to build students' background knowledge and promote mental model development during Whole-Group Learning.



The Knowledge Map

Language Development

Language should be used in the classroom to bridge information gaps and communicate ideas and information. The purpose of language is to communicate in real-life ways and for many purposes. To meet rigorous standards, students need to learn how to use language to clearly communicate their ideas and questions about what they are learning (Zwiers, 2014). Decades of research show that there is a strong reciprocal relationship between reading comprehension and knowledge of both conversational and academic language (Baumann et al., 2003; Duke & Pearson, 2002; Gersten et al., 2001; Lawrence et al., 2022).

Academic language

Academic language refers to the form of the English language that is expected in situations such as the discussion of topics across the curriculum, making arguments, defending propositions, and synthesizing information. Written and spoken academic discussion is significantly different from informal discussion, as academic language is characterized by specific types of vocabulary, text structures, and grammatical structures (Dutro & Kinsella, 2010; Snow, 2010). Successful students learn first to understand and then to use academic language, essentially by expanding their linguistic repertoires—their ability to use oral language more expansively and to understand academic language that they hear and read (Molle & Wilfrid, 2021). Students who are experiencing challenges can obtain the same levels of proficiency if they receive support and are given both opportunities and time to reach mastery.

Students' language repertoires expand to include academic language through participation in activities where they hear and begin to use its various forms. For example, they learn the specialized syntactic structures and terminology that are associated with academic instruction and content areas and that differ from their everyday conversational ways of talking. Ultimately, students who can understand their teachers' academic language can use it themselves.

The interaction between academic language and academic content is often considered a great challenge for multilingual learners, but researchers (Molle & Wilfrid, 2021; Thompson et al., 2016) have suggested new ways of thinking about this situation, ways that acknowledge and take advantage of students' strengths. Multilingual learners can benefit from participation in discussions where teachers use academic language in a scaffolded way that provides assistance as needed with technical language but does not sacrifice content rigor (Leung & Valdés, 2019). For example, teachers may specifically highlight portions of a reading that need attention—a practice that can also benefit striving readers. Through this approach, multilingual learners gain new linguistic tools as they acquire content and most likely feel part of a learning community.

Teachers should feel comfortable using academic language but must remember that their students—both multilingual learners and native English speakers—may struggle to express their ideas or answers to questions in a formal way. Such seemingly inarticulate comments often belie the depth of students' processing of new content, which can be especially true for multilingual learners who are thinking about content in their first language (Otten et al., 2019).

How Read 180 aligns to the research

Read 180 provides a comprehensive and systematic approach to developing the language skills of students. Through carefully scaffolded reading, writing, and speaking activities, students learn the phonological, morphological, syntactical, and semantic structures of English—particularly academic English. In Whole- and Small-Group Learning, high-utility academic vocabulary is taught through a research-based instructional routine, promoting understanding of words that students will encounter in all subject areas.

In each *Real Book: Workshop* Whole- and Small-Group lesson, teachers teach and assess two or three language goals focused on vocabulary, language functions, and language of reading, writing, and speaking. Language functions stem from the linguistic demands of a lesson task and focus on high-leverage language that will serve students in other contexts. Across the year in *Read 180*, students who are engaged in *Real Book: Workshop* develop expressive language skills to:

- discuss,
- exchange ideas,
- reflect,
- report,
- compare/contrast,
- make connections/associations,
- collaborate, and
- offer feedback.

Read 180 also provides explicit and systematic instruction on word-learning strategies through *Real Book: Workshop* Whole- and Small-Group Learning. This instruction gives students the tools they need to learn new words independently.

Recursive vocabulary in reading selections encourages frequent review, practice, and reinforcement of targeted words.

In the *Real Book: Workshop*, Language Development lessons develop students' morphological strategies, helping them develop tools to unpack unfamiliar words as they read. Students have the opportunity to practice the academic language they have learned in Whole- and Small-Group Learning in discussions with their peers.

These discussions help to develop students' oral language skills using the language of school. Giving students time to practice and develop oral language is especially helpful for students who are striving readers and multilingual learners, as well as students with disabilities.

Independent reading materials in *Read 180* provide further exposure to increasingly advanced vocabulary and include supports such as graphic organizers to help students comprehend the vocabulary and content.

At the beginning of each Comprehension segment of the Student App, students complete the Explore Zone. In the Explore Zone, students are introduced to context-relevant vocabulary words in the Anchor Video and then complete activities that activate their vocabulary and real-world knowledge before reading the passage. During the Language Zone of the Student App, students build and expand their academic vocabulary knowledge through language-based activities that investigate word families, words in context, synonyms and antonyms, and examples and non-examples. Students complete practice activities using definitions and context sentences for each word—crucial supports that can help struggling readers and English learners alike acquire vocabulary as they read. In the Reading Zone, students practice words-in-context skills during the Close Read activity, which includes words-in-context questions for three power words per level.

The screenshot shows the 'Language Development' section of the Student App. It features two main activities: 'Prefixes pre- and re-' and 'Context Clues'. The 'Prefixes pre- and re-' activity includes a table for students to record the meaning of words with the prefixes 'pre-' and 're-'. The 'Context Clues' activity provides instructions on how to use context clues to determine the meaning of unknown words in phrases.

Prefixes pre- and re-

Word Families

Word	Prefix	Meaning
1. <u>pre</u> dict	pre-	to say something before it is known
2. <u>re</u> peat	re-	to do something again
3. <u>re</u> write	re-	to write something again
4. <u>re</u> play	re-	to play something again

Use Context

Read each sentence. Use the context clues to determine the meaning of the word in the sentence.

- One way to predict the predict is by looking at the prefix.
- After they repeat the speech several times before he considers it to be finished.
- After his organization rewrite the rules for the toasters before it releases them.
- After some replay, when he was four years old, he did not replay.

Context Clues

Context is the way a word is used in a sentence. A word's context comes from other words, phrases, and sentences around it. Context clues can be questions or statements that help you determine the meaning of unknown words in phrases.

These sentences from "Sweet Street" provide clues to the meaning of the word **hazard**.

"You also should help how to protect themselves from the **hazards** of street life. The teachers **warn** about **hazards** and how to **avoid** accidents."

The first sentence tells that hazards are something kids need to protect themselves from. The second sentence states that kids should help "how to avoid accidents."

Based on these clues, what do you think **hazard** is?

The context clues help me figure out that hazards are things that are dangerous or risky.

Identify Context Clues

Circle the word used in the last sentence for the bolded word in each sentence. Then write the word or words that provide context for the meaning of the word.

- After he received several types of **reception**, including an award and a letter from Governor Tula, he **accepted** the award. (a) reception (b) accepted (c) award (d) letter
- A local worker was able to **adapt** first, and he became part of the local worker's family. (a) adapt (b) became (c) part (d) family

Analyze Context Clues

Read each sentence. Circle the word you understand the meaning of the word in the sentence. Then write the meaning of the word.

- After teachers **hazard** children about **hazard** and provide them with **hazard** tools. (a) hazard (b) hazard (c) hazard (d) hazard
- Children who do not go to school might **decide** to **go** to school. (a) decide (b) go (c) go (d) go

Language Development Lessons

Speaking and listening skills

Not only do teachers of young students model the difference of socially appropriate speaking voices (e.g., “indoor” and “outdoor” voices), but they also begin to introduce the concept of “academic” and “conversational”, or “formal” and “informal”, speech. It is essential to stress that the goal of instruction in speaking is to expand students’ range of speech patterns so that the conventions of effective speaking in different contexts become almost second nature to young learners.

Kinsella (2013) advises teachers to talk to their students about different “registers,” although teachers may not use this term, which is common in texts on rhetoric. This means that they will be teaching their students to speak and listen with comprehension to academic or formal language without giving up on their vernacular conversational modes of speaking. She reminds teachers that students do know about this—they most likely speak to their grandparents or the principal in ways that are highly different from how they talk to peers, and they probably listen to these grownups more carefully than to friends on the playground. Spoken and written language in an academic register is marked by more technical and precise word choices as well as varied and complex sentence styles and grammar because it is produced for various formal situations.

Students also benefit from guidance on how to interact productively in pairs or small groups. Efforts to have students collaborate can easily derail if students do not understand the give-and-take of speaking and listening or the subtle cues of body language in group situations where they work toward a common goal.

Teachers have a responsibility to help their students learn how to listen, as well as speak, in school and in both formal and informal settings. “Learning to listen” may seem like an unimportant educational goal, but there are specific strategies that students need to learn. For young learners, active listening is a full-body experience in which listeners utilize various techniques to help them focus on a speaker in order to learn from them or understand what the speaker is saying.

Although most students seem to know intuitively how to listen while their teacher reads an engaging story to them, they may not know how to listen attentively in other formal settings. Teachers can provide them with guidelines about being polite and quiet. However, embedding direct instruction in speaking and instruction seems to be less important than teaching academic language or reading and writing conventions, such as using context clues to figure out the meanings of unfamiliar terms or attending to logical connectors (such as “because of this . . .”), claims and counter claims (such as “on the other hand . . .”), or the general logical flow of what a speaker is saying.

How Read 180 aligns to the research

Read 180 provides a systematic approach to developing students' speaking and listening skills. For striving readers, it is particularly important to provide opportunities to speak about rich academic content, listen to model reading, and engage in active discussion, which is why *Read 180* is designed with daily routines for students to engage and collaborate with their teacher and peers in meaningful discussion. Through these daily discussions about text, students develop facility with academic and conversational English practice expressing their own ideas and responding to those of others.

Oral language is an integral component of the *Read 180* instructional path. Recognizing that striving readers need highly structured and teacher-mediated opportunities for academic discussion, *Read 180* instruction builds structured academic conversation into every lesson. These scaffolded speaking and listening tasks provide students with frames to help structure their responses and ensure that they use the target vocabulary and grammatical structure. During these daily conversations, teachers use structured engagement routines to provide a consistent format for discussion and help hold all students accountable for engaging in conversation. Students engage in these academic discussions one-on-one both with the teacher and their peers.

Academic discussions help develop the oral language skills that students can use to communicate across the content areas while also providing an opportunity for students to summarize and share what they have learned.

In addition, Student App Code Segments' Success Passages include fiction and nonfiction texts that are read aloud, exposing students to thought-provoking, grade-level text. In the *Read 180* Student Library, students find the key idea of the text and respond both orally and in writing to text-based questions. Audiobooks provide engaging models for pronunciation, phrasing, and prosody. With sound and articulation models in the software, students can record themselves and compare their pronunciation and articulation against the model.

In each *Real Book: Workshop*, students also complete an Effective Expression lesson. Students read about a career connected to the workshop content during Whole-Group Learning. Then, students break into small groups to develop and present a project specific to that career. Students work collaboratively through the planning, drafting, writing, and editing process. Students then present their projects, applying the specific presentation skill introduced in each workshop.

Effective Expression Career Focus: Social Worker

Problem Solver by Jordan D. Brown

Luis Burrola
Luis Burrola is a social worker in Santa Fe, New Mexico. He helps students to achieve and grow with his partner, practitioners and former working with Communities In Schools of New Mexico, he provides resources to help hundreds of students and their families overcome challenges.

Supporting Every Student
Luis Burrola is determined to help every student succeed in school and in life. He is an upstart social worker at Ortiz Middle School in Santa Fe, New Mexico. When students ask him to describe his job, he says, "I make sure that when you get here, all you have to focus on is school."

Many students face challenges that prevent them from doing their best. So, Burrola makes sure that students have enough school supplies, clothing, and food. He assures them, "If you need a snack because you didn't eat breakfast, I'm here for you. If you need a notebook, I'm here for you."

Burrola is skilled at motivating students who are not confident. When kids complain, "This is too hard, I can't do it," Burrola knows how to respond. He tells them stories of when he was struggling. "If I can do it, you can do it," he says.

Burrola is also a role model for his students. He attended Ortiz Middle School and had to wrestle with many of the same challenges they do. "I can relate to my kids," he says. "My life wasn't easy growing up. When I was eight months old, my father died, so I never got to meet him." His mother inspired him to never stop trying. He also gained confidence from Breakthrough, a summer program he started attending in sixth grade. Breakthrough provides support to help students graduate high school. At Breakthrough, Burrola met teachers who believed in him.

Changing Career Paths
For college, Burrola went to Texas Tech University. His goal was to study business and open his own restaurant. Then he considered a career in teaching because he enjoyed working with kids. He discovered that he did not enjoy planning lessons and grading homework, but he loved working with kids. He realized they appreciated his energy and kindness. His college advisor suggested he become a social worker.

Today, Burrola runs a program called The Hornet Connection, named after the middle school's mascot. Its goal is to help fifth grade students feel more comfortable about moving to the middle school. Burrola helps these students feel more confident and positive about changing schools.

Words to Live and Work By
Luis Burrola shares these ideas about his work:

"To be an effective social worker, you need a lot of patience. Many students and parents will make mistakes because they're nervous. You also need to be resilient. There are days when things will not go right. But if you enjoy helping people, then that is a great job."

"As a social worker and a coach, I motivate kids to become more confident in themselves. I tell them, 'You can achieve big goals, but you have to work very hard for them.'"

Upside: seeing students turn their lives around • **Downside:** can't fix every problem

Stand Up 51

Effective Expression Lesson

Writing

Reading-writing connection

Reading and writing go hand in hand. By identifying and explicitly discussing the features of different texts, teachers can support students' comprehension and offer models for writing. The ability to write effectively is critical to reading development, and writing about texts requires that students engage deeply with what they have read (Duke et al., 2021). Writing instruction can have a positive impact on students' reading skills and comprehension, particularly when students analyze and interpret texts in writing, write summaries, and answer questions about them in writing.

Teachers can use writing instruction as a tool to promote knowledge and as a mechanism for higher-order thinking (Graham & Hebert, 2010; Hebert et al., 2013). To be well prepared for college, the workplace, and life, students need opportunities to develop critical thinking skills, which include discussing and critiquing different viewpoints in order to form and justify their own stance (Carnegie Council on Advancing Adolescent Literacy, 2010; Lewis & Moorman, 2007).

There have been several important meta-analyses of research about writing instruction and its relationship to reading. For example, a meta-analysis investigating the relationship between different writing activities and reading comprehension found that extended writing activities and writing summaries of what they could remember about a text had greater effects on students' comprehension than answering questions. Another meta-analysis determined that teaching students the following strategies has moderate to strong evidence for improving student writing: (a) planning, drafting, sharing, evaluating, revising, and editing; (b) regulating the writing strategies they are taught; (c) spelling, handwriting, and keyboarding; (d) setting clear and specific writing goals; and (e) working with others to plan, draft, revise, and edit their papers (Graham et al., 2012).

Finally, a more recent meta-analysis (Graham et al., 2018) found that when literacy instruction balances reading and writing—with no subject dominating more than 60% of instructional time—students' reading comprehension improves significantly.

Multilingual learners benefit from significant, structured opportunities to engage in academic discourse through speaking and writing (Francis et al., 2006; Kinsella & Feldman, 2005). One approach to accomplishing this goal is the Pathways Project, which provides sustained, intensive professional development on teaching cognitive, text-based analytic strategies for writing to multilingual learners (Olson & Land, 2007). The approach has been well studied, including in a multiyear, federally funded experimental study, and has been found to be successful at meeting its goals, especially improving the academic writing of multilingual learners (Olson et al., 2017). In addition, more Pathway students passed their state's high school exit exam than did students in the control condition (Olson et al., 2019).

Process of writing

Researchers agree that writing should be taught in all subject areas and, on the whole, for at least one hour per day. Writing allows students to have extended opportunities to think about, manipulate, and transform ideas and reflect on their existing knowledge, beliefs, and confusions (Troia, 2014). Troia notes that youth who cannot effectively convey thoughts and ideas through writing are more likely to receive lower grades.

Students need guidance on how to write effectively, and that comes through teachers' use of the writing process. During the writing process, students must engage in a multistep process requiring them to use many skills simultaneously throughout goal setting, planning, drafting, evaluating, revising, and editing. This process is a major recommendation in both What Works Clearinghouse practice guides about teaching writing both for elementary grades (Graham et al., 2012; 2018) and for secondary grades (Graham et al., 2016, 2018).

When learning how to write, students must study mentor texts to understand the specific craft moves that highly skilled authors make in their work. Additionally, students must have ample opportunities to practice writing themselves. As Troia (2014) notes, this includes writing activities that align strongly with ELA instruction and practice, such as literary analysis and writing in response to reading, as well as writing that supports content knowledge. Additionally, students need to summarize and synthesize ideas from various sources, thereby building their capacity to write for different audiences and purposes.

In their meta-analysis of successful writing instructional practices, Graham and Perin demonstrated that explicit instruction in “writing strategies, which involves teaching students strategies for planning, revising, and editing their compositions” (2007, p. 77) had the most significant effect on students’ performance as writers. The strategies can be highly specific, such as teaching students effective ways to organize and write an essay. The strategies can also be more transferable, such as guiding students with a mnemonic device, like a graphic organizer, for planning their work. Providing students with a variety of opportunities for scaffolded practice, such as sentence frames, is essential as they develop robust skills that can transfer across a variety of writing contexts at all stages of the writing process.

The presence of computers in classrooms has the potential to change how students learn to write, and the WWC practice guides on writing (Graham et al., 2012; 2018; Graham et al., 2016; 2018) recommend that students learn to type and take advantage of word-processing features when learning to be writers. There are advantages to integrating technology into the writing curriculum, including its motivational features and the extent to which feedback is easy to provide and respond to when writing in digital format. One striking disadvantage, however, is that student writers may confuse using features such as spelling or grammar checkers with the hard work of revising their written products. When this happens, students tend not to think as deeply about their writing as when revision involves crossing out and presenting ideas in new ways.

As demonstrated by the experiences of athletes, artists, actors, and other performers, practice is essential in the development of expertise (Lemov et al., 2016). The same goes for the skill of writing, in which sustained, ongoing practice requires careful attention to instruction in the classroom, as well as the feedback that we provide to our writers. Put another way, when students write a lot, their writing improves, especially when they receive support from their teacher and when they share constructive

feedback and ideas with their peers. Researchers find that these effective writing strategies are beneficial for all types of learners, including multilingual learners and minority students (Olsen et al., 2017).

Feedback

Though providing guided writing practice is critical, the act of writing, in and of itself, is not enough to help students become strong writers. Multiple forms of feedback—from teachers, and to and from peers—as well as reflection on one’s own writing, are all powerful tools for improving writing performance (Fisher et al., 2016). Indeed, Hattie (2012) found feedback to be one of the most powerful tools teachers can incorporate into their instruction.

High-quality feedback encourages students to think about their own thinking; that is, to be metacognitive. Students do this as they identify successful traits in their own writing and the writing of others. In addition, feedback helps students develop self-regulatory skills so they can learn about their own learning. “When students have the metacognitive skills of self-assessment,” argue Hattie and Timperley, “they can evaluate their levels of understanding, their effort and strategies used on tasks, their attributions and opinions of others about their performance, and their improvement in relation to their goals and expectations” (2007).

Although in-the-moment feedback can be invaluable during learning, guidelines do exist on how to optimize the feedback (Brookhart, 2008; Fisher et al., 2016). For example, teachers should provide feedback on the major aspects of writing that relate to the assignments’ learning goals. They should also consider students’ developmental levels or ability to absorb and act on the feedback. Furthermore, teachers have many choices for the mode of feedback—a brief comment during the writing process or an oral or written comment—and they need to select the most appropriate mode for each student and situation. By tying targeted feedback to specific writing strategies, teachers can emphasize the skills that students need in their journey toward writing proficiency.

Finally, related to the impact of peer review and self-review, Sanchez et al. concludes that studies demonstrated that both self-grading and peer grading positively affected subsequent achievement performance (2017). In short, peer review—when done well—can make a significant difference in students’ writing.

How Read 180 aligns to the research

Read 180 embraces the reciprocal relationship between reading and writing and provides the rigorous writing instruction that is necessary for students to become proficient readers and writers. Based on the research of Dr. Steve Graham and Dr. Karen Harris, students learn a process to successfully plan, organize, and write (POW) responses to text. Students using the *Real Book: Workshop* have multiple opportunities to write narrative, informative, and argument pieces, and they learn, practice, and apply strategies specific to each of these genres.

In addition to a strategy that will guide them through the writing process, students will learn genre-specific strategies to use as they plan and write narrative, informative, and argumentative pieces.

In narrative writing, students learn, practice, and apply the WWW+2 (Who, When, Where, What, How) strategy; in informative writing, students learn, practice, and apply the TIDE (Thesis Statement, Idea, Details, Ending) strategy; and in argumentative writing, students learn, practice, and apply the TREE (Topic Sentence, Research, Evidence, Ending) strategy.

Students practice the WWW+2, TIDE, and TREE strategies and receive the scaffolds, including sentence frames, sentence starters, and graphic organizers, that are most appropriate to their writing levels. They receive immediate personalized feedback in addition to the more detailed feedback provided by peers and their teachers. Writing prompts and scaffolds, such as sentence frames, echo those that students encounter through teacher-mediated practice in the *Real Book*, thereby increasing students' competence and confidence in writing.

Throughout Whole- and Small-Group Learning, *Read 180* writing instruction emphasizes writing with a purpose, as well as writing that develops content knowledge and reading skills.

These purposeful writing activities—and the associated discussions—help students to log the “miles on the tongue” that Dr. Kate Kinsella has found is vitally important to language development for English learners. *Read 180* writing instruction provides carefully guided opportunities for students to engage in many different types of writing, from simple sentences to multi-paragraph essays.

In paragraph-length constructed response writings and multi-paragraph essays, students follow the steps of the writing process: planning writing, organizing ideas using graphic organizers, composing a draft, and revising for clarity, conventions, and purpose.

Writing is then shared through peer feedback and a variety of publishing opportunities. This systematically scaffolded writing process helps students explore and extend their knowledge through writing, and it guides them in clearly conveying ideas using academic language.

Throughout *Read 180*, grammar, usage, and mechanics are taught systematically and in context in accordance with the research of Dr. Kate Kinsella. Analyzing and evaluating a model paper before writing helps make expectations transparent and aids struggling writers in visualizing the demands of the assignment. After writing, students use the routines they are taught during Whole-Group and Small-Group Learning to read, score, and respond to a partner's writing. These multiple opportunities for feedback provide the support that students—including multilingual learners and students with disabilities—need to gain confidence and independence with English grammar and writing for academic purposes.

In the Student App, the Writing Zone engages students in writing activities at appropriate levels of complexity with the supports and scaffolds they need in order to be successful writers.

The screenshot shows the 'Writing' app interface. The top bar is green with the word 'Writing' on the left and 'Informative Paragraph' on the right. Below the bar, there are two main sections: 'Plan Your Paragraph' and 'Organize Your Paragraph'.

Plan Your Paragraph

Writing Prompt
Write a paragraph explaining how Malala Yousafzai's life has affected the world she lives today.

Identify Prompt and Purpose
This prompt is asking me to explain how Malala Yousafzai's life has affected the world today.

Choose Precise Language
Complete the chart with two precise words that could replace each everyday word in phrases.

Everyday	Precise
help others	advance provide aid contribute to society
group	organization community team
help	assist aid benefit

Organize Your Paragraph

Take notes for your paragraph in the graphic organizer below.

Topic Sentence and Central Idea
Write a topic sentence to state the central idea of your paragraph.
Malala Yousafzai's life has made her even more determined to fight for the rights of girls to education. School is important to improve their lives.

Details
Collect details to support your central idea.

Text Evidence: What You Text Say	Text Evidence: What You Text Say
"She was a speech in support of education for all children."	"Malala Yousafzai is a brave girl who has helped to change the world."
"We will open the educational doors to support the education of educational opportunities for girls in the developing world."	"Malala Yousafzai is a brave girl who has helped to change the world."
"Education is the only solution. Education is."	"Malala Yousafzai is the most important girl in the world."

Write Your Paragraph
Now write your paragraph, or write it in a separate piece of paper. Read it again, and correct any errors before you publish it.

Writing Lessons

Social and Emotional Learning

CASEL framework

As defined by the Collaborative for Academic, Social, and Emotional Learning (CASEL), social and emotional learning (SEL) is “the process through which children and adults acquire and effectively apply the knowledge, attitudes, and skills necessary to understand and manage emotions, set and achieve positive goals, feel and show empathy for others, establish and maintain positive relationships, and make responsible decisions.” The body of research around SEL continues to demonstrate that there is a wide array of benefits associated with SEL that begin during early childhood and continue through adulthood (Mahoney et al., 2018).

Research supports the notion that SEL instruction is crucial not only to enhance students’ well-being but also to increase students’ academic achievement. A meta-analysis of school-based SEL programs found that in follow-up assessments, which took place an average of 3.5 years after the last intervention, these programs led to student gains of an average of 13 percentile points higher than students not in SEL programs (Taylor et al., 2017).

However, the benefits of SEL do not stop there. The research overwhelmingly shows that there are also many crucial real-life benefits for students now and in the future. These benefits include, but are not limited to, improved social behavior and emotional well-being, better physical and mental health, higher graduation rates, greater lifetime earnings, and reduced criminal activity and substance use (Mahoney et al., 2018). A recent, large meta-analysis of 82 research studies involving 100,000 students worldwide found that this impact was long term, lasting from 6 months to 18 years after an intervention was implemented (Taylor et al., 2017). Another study on SEL found results in a return on investment of 11 to 1, such that for every \$1 invested there is an \$11 return (Belfield et al., 2015). Benefits were the same regardless of students’ socioeconomic background, race, or school location.

Because SEL can go beyond individual students to impact schools, the communities they serve, and our greater global society, it has become an area of focus for school districts across the nation. Creating classrooms where SEL practices prevail—“where the minds and spirits of children can thrive” (p. 9)—has become a priority for leaders from education, research, policy, business, the military, and more as we move from a nation at risk to a nation at hope (National Commission on Social, Emotional, and Academic Development, 2018). The importance of social-emotional health became all the more apparent during COVID-19-related school closures when students no longer felt part of a school community.

CASEL provides a SEL framework that takes an ecological approach to social and emotional development. CASEL guidelines recognize that multiple environments, including the classroom, school, and student’s home and community, interact to support or inhibit social and emotional development. It also incorporates a focus on SEL curriculum and instruction, schoolwide practices and policies, and family and community partnerships so that SEL instruction is SAFE: Sequenced, Active, Focused, and Explicit. More than just a program or series of lessons, SEL is about how teaching and learning happen as well as what teachers choose to teach and where learning will occur. The breadth of the framework is illustrated by the CASEL “wheel,” which shows the five key core competencies that can “educate hearts, inspire minds, and help students navigate the world more effectively” (CASEL, 2019).

The five key elements of the CASEL wheel are:

1. **Self-awareness:** individuals' ability to recognize and label their emotions, recognize their strengths, and build skills related to confidence and self-efficacy
2. **Self-management:** regulating one's actions, thoughts, and emotions in any situation or environment by demonstrating impulse control, stress management, self-motivation, perseverance, goal setting, and organizational skills
3. **Social awareness:** understanding that other people have different perspectives and are worthy of respect, having empathy for others and appreciating diversity, and listening to and working to understand other people
4. **Relationship skills:** creating and maintaining healthy relationships with people regardless of their abilities or backgrounds, demonstrating positive social engagement by communicating clearly, working cooperatively, negotiating conflict, and seeking and offering help
5. **Responsible decision-making:** when making personal and social choices, considering ethics, safety, and social norms; analyzing situations; recognizing and solving problems; and reflecting, evaluating, and demonstrating ethical responsibility

Recently, CASEL has begun advocating for what it is calling “transformative SEL” (Jagers et al., 2019). The CASEL wheel with its five inner components and outer rings remains the same, but refinements focus more intensely on the need to transform inequitable settings and systems and to promote social justice. CASEL advocates for reaching these goals through the following four means:

1. Civic engagement through partnerships among students and adults who share power and decision-making
2. Academic content that addresses issues of race, class, and culture
3. Instruction that honors and makes connections with students' lived experiences and identities and deliberately scaffolds learning to build each student's understanding of others' lived experiences
4. Instruction that enhances and foregrounds the social and emotional competencies needed for genuine civic engagement



© Collaborative for Academic, Social, and Emotional Learning (CASEL)

How Read 180 aligns to the research

Teachers of *Read 180* classrooms begin by establishing a safe learning environment for all intervention students. The programs are designed to increase student engagement, promote positive behaviors, and motivate students to succeed while teachers build strong relationships with their students.

Self-Awareness. Building on existing structures that instill a sense of belonging and purpose, *Read 180* helps students become aware of their own academic mindset and behaviors. The program includes a focus on growth mindset, which helps to build students' knowledge of growth mindset and increase their awareness of their own mindsets. Students cultivate a growth mindset by approaching learning tasks with perseverance. In addition, the Gradual Release approach used in all *Read 180* instruction ensures that students gain confidence as they move from full support to independent work, taking on increased responsibility for their own learning. This approach results in building students' self-efficacy.

Self-Management. Positive behavioral supports provide a continuum of supports increasing in intensity on the degree of students' behavioral and social needs. These supports also promote students' self-regulation. Students can monitor their own learning in the Student App, which allows students to motivate themselves toward achieving their goals through badges earned with each skill and as they confer with their teacher. Tracking academic learning and goals increases students' intrinsic motivation, classroom engagement, and the desire to continue to succeed. Students can also track and monitor their own progress through the use of additional tracking logs for each *Read 180* rotation.

Relationship Skills. Instructional routines such as Oral Cloze, Think (Write)-Pair-Share, and Peer Feedback encourage students to collaborate with one another while engaging with the scaffolded materials that structure and support their responses. The instructional routines help to create a learning environment in which students can actively participate in a nonthreatening and flexible way while building relationships with one another. In addition, during Independent Reading, students may express their knowledge through book conferences with the teacher, collaboration with classmates, and presentation projects with the class.

Social Awareness. The programs' authors created text sets and a library that reflects the diversity of the nation's population. Students connect with content in the lessons, Anchor Media, and Independent Reading Library. This content features a balance of genders and ages; diverse cultures, ethnicities, and religions; people of different abilities; and people of various socioeconomic status. Texts were selected to ensure that facts were accurately represented and authentically inclusive. Students see themselves and their classmates reflected in the text selections provided, thereby deepening their understanding and encouraging empathy of people of various backgrounds.

Responsible Decision-Making. Text selections incorporate stories with characters making constructive and respectful choices about actions and behaviors, encourage students to self-reflect on their own decision-making skills in challenging scenarios, and include problem-solving discussions in response to real-life issues.

Mindset and self-efficacy

Students' academic mindsets play an important role in making them more engaged in learning, more resilient in the face of setbacks, more willing to persevere when they encounter challenges, and ultimately more academically successful. An influential report by the University of Chicago Consortium on School Research (CCCR) defined four important constructs that make up academic mindset:

1. Sense of belonging as a member of an academic community
2. Self-efficacy or confidence that one has the capacity to accomplish meaningful learning tasks and produce the desired results (Brozo & Flynn, 2008)
3. Recognition of the relevance or purpose of their work
4. Growth mindset

Growth mindset, the fourth construct, is an individual's belief that, through effort and perseverance, they can become better at something (Dweck & Yeager, 2019; Farrington et al., 2012). In the case of reading, growth mindset is seen when students seek to improve their strategies for comprehension and apply those strategies purposefully so that they can persevere through difficult texts. A recent meta-analysis of 49 rigorous studies of approaches to improve students' noncognitive attributes, including mindset, showed significantly positive effects on word-reading fluency and reading comprehension (McBreen & Savage, 2021). Among the attributes the approaches sought to impact were students' mindsets regarding themselves as readers and their sense of the long-term value of reading in their lives.

Skills such as individuals' perseverance, curiosity, conscientiousness, optimism, and self-control instill growth mindset and grit in students, allowing them to continue to try even when they encounter challenges. These attributes have more to do with character than with cognition and should be taught alongside daily curricular instruction. Perseverance refers to the tendency to pursue long-term goals with sustained effort and hard work. It has been shown to predict achievement in academic and vocational domains (Duckworth et al., 2009; Duckworth & Quinn, 2009).

Measures of executive function are highly correlated to measures of growth mindset, self-efficacy, and reading achievement (Miller et al., 2013). Executive function encompasses students' abilities to control their cognitive processes, including planning, organizing, reasoning, and working memory. As an example, students with strong executive function abilities make connections across word meanings and language at many different levels of text—orthography, words, phrases, sentences, paragraphs, or a longer section (Yu et al., 2018). Still, it is only recently that the importance of executive function is discussed as an actual contributor to reading success or difficulty.

Over 30 years ago, Wang and colleagues suggested that metacognition was most likely “the most powerful predictor of learning” (1990). It follows that students who have an easier time learning to read tend to be metacognitive; that is, they think about the strategies they are using and the sense they are making of what they are reading. This process leads them to adjust the strategies they use and try other strategies, as needed, to achieve comprehension. Some metacognitive strategies that foster reading growth include setting goals while reading, regulating progress, and employing mastery-oriented strategies to reach comprehension goals (Molden & Dweck, 2006; Pressley & Afflerbach, 1995). Learning to use these metacognitive strategies assists struggling students in realizing that their reading abilities are fluid, not fixed. It encourages them to persist in the face of difficulty and avoid the tendency to convince themselves that they are “bad” readers.

While brief interventions can prove successful at helping students establish a growth mindset, more lasting change can be effected through daily activities that reinforce the importance of growth-mindset. Schools and classrooms that reinforce growth mindset messaging place the focus on learning rather than performance and make learning more enjoyable for students (Yeager et al., 2013).

How Read 180 aligns to the research

Read 180 develops academic mindset and behaviors as well as executive function, and it encourages learning strategies critical for success in college and career. Building on existing structures that instill a sense of belonging, self-efficacy, and purpose, *Read 180* adds a focus on growth mindset. This focus helps to build students' knowledge of growth mindset and increase their awareness of their own mindsets. *Read 180* also helps teachers internalize and operationalize growth mindset for themselves and their students. Additionally, the program supports students and teachers in making connections between their academic mindsets, behaviors, and performances over time.

Growth mindset is integrated into *Read 180* using five principles, which reach across program components (Whole- and Small-Group Learning, Student App, and Independent Reading):

1. Teach how the brain changes learning and how focus and effort can lead to academic success.
2. Build a growth-mindset classroom culture where students and teachers have the language to talk about academic mindsets and behaviors.
3. Communicate feedback that focuses on process, not abilities.
4. Model and teach positive learning behaviors.
5. Illuminate connections between mindset, behavior, and performance.

During the first two weeks of *Read 180*, teachers and students begin to build their academic community with the Getting Started lessons. In these lessons, students investigate what it means to have a growth mindset and experience how the brain changes with learning.

They set goals for the school year and beyond and learn about other *Read 180* students who struggled academically but continued to work hard with effort and focus until they were able to achieve their goals. This set of lessons helps students understand their own mindsets and how they can “build their brains” with positive learning behaviors. The concept of a fixed versus growth mindset is introduced from the very beginning of the year, so students and teachers have language to discuss mindset and behavior. They can work together to overcome challenges with effort and perseverance.

Throughout the course of *Read 180*, students cultivate a growth mindset by approaching learning tasks with perseverance. The Gradual Release approach used in all *Read 180* instruction ensures that students gain confidence as they move from full support to independent work, taking on increased responsibility for their own learning.

The Student App also reflects important principles of engagement and motivation—critical for struggling readers. Students can track their progress toward and mastery of reading skills through the Student Dashboard. Monitoring their progress will build students' self-efficacy as they witness their growth and progress through *Read 180*.

The Student App provides patient encouragement to students, along with immediate individualized feedback that can be particularly beneficial to multilingual learners and students with disabilities. Universal design principles in the technology bolster the confidence of multilingual learners and students with disabilities. Additionally, first-language support features augment the learning process for ELs. This access to information about their progress and achievements not only motivates students, but also builds their awareness of who they are as learners and guides them in setting and working toward academic goals.



Growth Mindset Lesson

Student engagement, motivation, and agency

Motivation, which refers to active, self-regulated actions, is an academic enabler that is essential to reading achievement (Toste, 2020). Agency refers to one's capacity for setting their own goals, reflecting on their achievement, and acting in ways that have the potential to effect change (Lin-Siegler et al., 2016; Schaffner et al., 2016). Students who are motivated to read well and to whom teachers have given agency over their learning immerse themselves in their reading—for pleasure, to satisfy their curiosity, or to discover information. Students who are motivated to read assert their agency by setting their own goals for their reading and maintaining focus by avoiding distractions; ultimately, they obtain the outcomes they want as they read (Schunk & Bursuck, 2016).

Fortunately, motivation and student agency are both malleable factors, in that teachers can build students' interest in, motivation for, and engagement with reading (Barber & Klauda, 2020; Guthrie & Wigfield, 2017). For example, giving students agency or choice about what they read and how they read (in print or digital form) are among the interventions that can enhance motivation and increase the amount of time that students spend reading. Writing about student agency, Williams (2017, p. 12) suggested that when teachers shift from “controlling reading” to focusing their “abilities, expertise, and knowledge on enabling student agency in their reading,” they see “profound” results.

Students' engagement with and motivation for reading have generated a large and robust body of research, but this research has depended on what is now a fluid definition of these constructs. Today's students read paper-based and digital texts both in and out of school, and researchers, such as Coiro (2021), are calling for a broadening of the current conceptualization of what it means to read.

How Read 180 aligns to the research

Read 180 includes personalized learning technology that is designed to increase students' intrinsic motivation, as well as their ability to read. *Read 180* provides multiple opportunities for students to take ownership over their learning by setting goals and carefully tracking their mastery of lesson content. The Gradual Release Model, used throughout the program, leads to ownership over learning, as responsibility for performing a new skill is gradually transferred from teacher to student.

The Student App helps sustain the learners' engagement and interest by scaffolding, encouraging, and reinforcing their efforts, and offering individualized corrective feedback according to the student's performance. Students watch exciting Anchor Videos that build mental models for reading that help to captivate students' interest. In the Success Passages in the Foundational Skills sequence and in the Success Zone, students read high-interest, engaging passages that include the concepts they have been studying.

Read 180 leverages the power of technology to motivate students and provide structured engagement opportunities. Students who are not drawn to print media but voluntarily spend hours on the computer can use a tool they value to master skills they need. The Student App provides real-time feedback and encouragement

that is private, nonjudgmental, and respectful of students, and the endless patience of the computer cannot be overemphasized as students have opportunities to try, try again. Students who need extra support with a particular skill will encounter multiple opportunities to practice with fresh content.

The *Read 180* Independent Reading Library and Anchor Media are high interest, age appropriate, relevant to students' lives, and able to generate and sustain student interest, particularly to motivate the older striving reader. Throughout, reading materials are carefully matched to students' current reading levels as they progress through the program, ensuring that they experience success while being appropriately challenged. In addition to providing titles matched to students' current level of performance, passages in the *Real Book: Workshop* include fiction and nonfiction Stretch texts that expose students to more challenging grade-level text.

The Student App provides students with metrics and achievements as they learn. As students complete Code Topics in the Student App, they are awarded badges. Students can view their badges on the Skills Board, where they can see what achievements they have unlocked and flip each badge to review the foundational skills aligned to each badge.



Code Skills Board

Metacognition

The term metacognition was first used by Flavell (1979), who defined it as knowledge and understanding based on reasoning related to one's own cognitive occurrences dealing with certain materials. More simply put, it is the process of "thinking about one's thinking." Instructing students to actively think about what they are learning is to help them become more aware of their learning process. In reading, metacognition is an approach students use to be aware of different strategies they can utilize in order to read and comprehend the text. Some of the metacognitive strategies that researchers (Channa et al., 2015; Pressley et al., 1998) document are the pre reading planning strategy where students survey the text or predict what the text will be about (Brown & Palincsar, 1987), the monitoring strategy where independent or self-regulated readers take responsibility of their own reading and monitor their comprehension level (Thiede et al., 2003), the think-aloud strategy where students articulate their thoughts aloud (Rosenshine & Meister, 1992), the questioning strategy that allows students to evaluate their understanding of the text while reading (Livingston, 2003), and the self-regulatory strategy that involves actions directed toward certain student goals in order to gain new knowledge to better understand the text (Gall et al., 2010). Researchers find that students' comprehension increases when metacognitive strategies are used during and after reading (Boulware-Gooden et al., 2007).

How Read 180 aligns to the research

Developing metacognitive strategies builds student confidence in reading. Making up over 15% of each *Real Book: Code*, S.M.A.R.T. Lessons (Strategies for Metacognition, Academic Language, Reading, and Thinking) pre-teach essential decoding and morphology concepts and academic vocabulary. Each S.M.A.R.T. lesson opens with direct instruction on new key concepts that build student understanding and scaffold their ability to use academic language. Students then complete Crack the Code activities, where they apply new skills independently.

Crack the Code

Recognizing & Using Compound Words

Recognizing and Using Compound Words



This paper tells the news. It is a **newspaper**.

A **compound word** is formed from two smaller words. Often, you can predict the meaning of a compound word from the meanings of its smaller words.

Word List

Read the words. Then circle the compound words.

1. <u>bedroom</u>	5. <u>sunset</u>
2. admit	6. <u>daydream</u>
3. <u>backpack</u>	7. unreal
4. basket	8. <u>rainbow</u>

Split It

Draw a line between the two smaller words that form each compound word. Then write the smaller words on the lines.

1. daylight <u>day</u> <u>light</u>	5. treetop <u>tree</u> <u>top</u>
2. doorknob <u>door</u> <u>knob</u>	6. waterfall <u>water</u> <u>fall</u>
3. eyegight <u>eye</u> <u>sight</u>	7. baseball <u>base</u> <u>ball</u>
4. birdcage <u>bird</u> <u>cage</u>	8. hotdog <u>hot</u> <u>dog</u>

Match It

Find the compound word that matches each meaning. Write the letter of the meaning on the line.

Compound Word	Meaning
1. anthill <u>b</u>	a. a case for holding books
2. fingerprint <u>c</u>	b. a hill that ants make
3. bookcase <u>a</u>	c. a print taken from a finger
4. toothbrush <u>e</u>	d. a pain in your head
5. headache <u>d</u>	e. a brush to clean your teeth

Write It

Read the words in the box below. Draw a line between the two smaller words that make up each compound word. Then use the words to fill in the sentence blanks.

pancakes firefighter surprise homesick loudspeaker

- My dog wakes up at sunrise.
- My father makes us pancakes for breakfast every Saturday.
- The principal made the announcement over a loudspeaker.
- When my brother went to sleep-away camp, he became homesick.
- The people in the burning building were saved by a brave firefighter.

Real Book: Code Lesson

60 | Read 180 Evidence Base

Context of Learning

Digital learning

The COVID-19 pandemic compelled educators, parents, and children to adapt many of their everyday routines, including their traditional learning environments. Lacking technology, this adaptation to “online learning” would not have been possible. Without minimizing the challenges that teachers and students faced or the severity of the so-called “digital divide,” technology provided a lifeline for many students and enabled teachers to continue to teach.

In many ways, experiences during the pandemic made many teachers and students far more “tech savvy” than they had previously been and accelerated them toward becoming “digital citizens.” According to the International Society for Technology in Education (ISTE), digital citizens use technology for many purposes. Certainly, they communicate with others, search for information, and engage through social media; as they do, they are, of course, careful—for example, keeping their passwords secure. But they learn to reason about what they read online and to distinguish between fact and fiction, engage with others for many purposes, and connect with their broader environment. In engaging with others, they are respectful of all people and their perspectives, even if their perspectives are different (Fingall, 2021).

Of course, technology in its many forms has been a part of the educational landscape for a long time. As evidence of this, for over a decade, All4Ed (www.all4ed.org), a national nonprofit organization advocating for educational equality, has designated one day in February as National Digital Learning Day (#DLDay) and maintains an online library where teachers can find proven ideas for using technology with their students.

Personalized Instruction with adaptive technology

The forms and functions of literacy are always evolving, in part to respond to changes in readers’ needs and, recently, to reflect how technology has changed the ways in which readers can access and make use of text (Leu et al., 2017). This evolution is reflected in classrooms too, where well-designed blended learning solutions offer many positive benefits for students, especially striving readers.

Five aspects of technology that can be game changers for students are that it is:

1. adaptive,
2. effective at facilitating practice that leads to mastery,
3. available anytime and anywhere,
4. effective at gathering and processing data for use by teachers and as direct feedback to students, and
5. motivating (Hasselbring, 2012).

Adaptive technology harnesses Universal Design for Learning (UDL) principles by providing a flexible design from the start; it also has options for customization. UDL instruction provides students with scaffolds, such as text read-aloud software or embedded vocabulary assistance, and can be personalized to ensure that students progress at an appropriate rate. Essentially, instruction starts from where students actually are academically and not where we would have imagined them to be (Hayman & Wilson, 2020).

In this way, all learners can access sustained instruction that is varied and robust enough to be effective (CAST, 2011). Research on UDL is generally positive, although application of UDL principles takes many forms. An analysis of 13 eligible studies found that the approach has the potential to increase engagement and access and improve students' academic and social outcomes (Ok et al., 2017).

Many technology-based programs monitor students' actions and process data in real time as students work. They provide students with feedback on their improvements in even, small increments and select subsequent activities to reinforce what has been learned while moving students forward.

Positive feedback on behavior improves short-term, intrinsic motivation to continue to work hard, and contributes to long-term motivation (Burgers et al., 2015). Such feedback can be incredibly motivating for students who feel they have never experienced success in school (Hasselbring & Bausch, 2006). Most technology-based programs also allow teachers to monitor students' day-to-day progress, see which concepts may be holding them back, and then use that information to create an individualized learning plan or reteach necessary concepts and skills.

One report (RAND Corporation, 2014) found that charter schools that had implemented personalized learning programs saw students improve in reading and math over the national average on standardized tests. Another report from the Stanford Center for Opportunity Policy in Education (SCOPE) cited three factors that affect the achievement of at-risk adolescent students who use educational technology: the interactive nature of the technology, the ability of the technology to encourage students to explore and create rather than repetitively practice skills, and effective interaction between teachers and the technology (Darling-Hammond et al., 2014). The report emphasized that personalization makes the best educational technology far more effective than "computerized workbooks." It also emphasized that computer technology alone is not enough: Students do their best when they also interact with teachers and fellow students.

Giving students agency

The motivating potential of technology is promising, especially for students whose reading is below expectations. Researchers have documented that students' motivation, especially their intrinsic motivation, decreases as they grow older, perhaps because they feel they have little control over their learning environment (Schaffner et al., 2016). Part of technology's potential comes from its ability to give students agency. Students experience agency when, with some teacher guidance, they can engage in activities that are relevant to their learning needs and are at the right level, and thus can succeed at what they do. Including technology as part of students' learning increases their opportunities to experience success; for almost everyone, especially students caught in what they perceive to be a personal cycle of failure, success is a tremendous motivator.

How Read 180 aligns to the research

Read 180's innovative technology harnesses learning theory and pedagogical principles to deliver individualized and personalized instruction tailored to each student's needs and interests. The adaptive technology embedded into the Student App customizes and scaffolds individual practice and application of word recognition, spelling, vocabulary, language, fluency, comprehension, and writing skills. The adaptive pacing of skills practice in the Student App helps students achieve automaticity, freeing cognitive capacity for higher-order processes. In addition, embedded assessments throughout the Student App are designed to continuously assess and place students according to their levels of mastery of learned and new information, and to customize corrective feedback to students' specific errors.

The power of *Read 180's* technology enables the program to assess student knowledge and skills, respond to individual student differences, differentiate and scaffold instruction, provide corrective feedback, monitor student progress, and offer teachers data to guide students to become proficient readers and learners. Based on FastTrack assessments, students can progress more quickly through the skills they have mastered and repeat the topics in which they need additional practice. These characteristics constitute instructional practices that have been shown to be highly beneficial to striving readers, students with disabilities, and multilingual learners.

Read 180 builds a Learner Profile that takes into consideration the students' mastery of academic skills (measured through their performance on reading comprehension, fluency, word recognition, language/vocabulary, spelling, and writing activities) as well as their academic mindset (measured through their usage and activity in the Student App and help-seeking and challenge-seeking behaviors). The Learner Profile is informed by the software's algorithm to consistently provide students with instruction and practice on skills and strategies within their zone of proximal development. In addition, advances in speech-recognition technology enable the Student App to monitor their behaviors and provide feedback to ensure that students stay on task.

Blended learning solution

Blended learning can be described in two ways. The first is as a formal education program in which a student learns through online delivery of content and instruction while having some control over time, place, path, and/or pace; the second is as a supervised education program that occurs in a “brick-and-mortar” location (O’Byrne, 2018).

Providing a fundamental redesign of instructional models, blended learning seeks to accelerate students’ progress toward academic proficiency. Students can move ahead when they are ready, and those needing more instruction, practice, or time receive what they need (Horn & Staker, 2014).

At a systems level, the goal for using blended learning is to develop schools that are more productive for both students and teachers by personalizing instruction. In this way, blended learning can ensure that the most appropriate resources and interventions are available for students at the time they need them—before the onset of challenges that could hinder students’ ability to progress along a normal learning trajectory (Bailey et al., 2013).

Increasingly, technology is included as a key part of an instructional program or a supplement to traditional hard-copy materials. Use of technology creates a blended learning environment that combines students’ independent work on computers or tablets with other instructional groupings. The approach has two primary benefits: (1) teachers usually receive timely reports on what students have done and how they are progressing, and (2) students’ independent work is personalized based on their actual progress and needs. Furthermore, computer-based reading programs allow students to access assistance and receive feedback on their work. Such real-time support allows students to take full advantage of their independent reading practice.

Blended learning has the potential to bring accessibility, affordability, and customization that might previously have been complicated, expensive, and impractical for teachers in large classes of students with diverse learning needs. In this way, blended learning can transform learning experiences for students by recognizing and adapting to their individual stores of knowledge and skills, experiences, and interest (Shemshack & Spector, 2020).

Although more research on blended learning is needed, evidence is mounting about its effectiveness. For example, in one large, randomized controlled trial with 2,017 treatment and 1,504 business-as-usual students (Macaruso et al., 2020), the blended-learning treatment students showed greater gains on a standardized reading test than control students. Furthermore, their reading gains were uniform across grades and ethnic groups.

Blended learning offers a hybrid model that integrates face-to-face and digital learning in ways that can lead to greater educational equity, opportunities, and efficiencies for students and their teachers. Aspects of the curriculum that can most effectively be presented through traditional teacher–student interactions continue as usual, but aspects that lend themselves to computer delivery are presented through that mode. For example, some students may watch instructional videos, follow along in audiobooks, or read digital texts independently while their teacher works with small groups or individuals.

Some models of blended learning follow a hybrid pattern that builds upon and enhances a regular classroom system while not disrupting it. In this model, teachers provide some students with in-person learning, while fellow classmates participate in the same instruction remotely. Through this approach, asynchronous teaching methods can be used to supplement synchronous, face-to-face instruction. This use of hybrid learning became very familiar to teachers, students, and parents as schools partially reopened after full-remote learning during the COVID-19 pandemic.

Having access to technology is, of course, essential to creating a productive blended or hybrid learning environment, but access is becoming more plentiful. According to the 2018 International Computer and Information Literacy Study (ICLS) (National Center for Education Statistics, 2018), 50% of U.S. eighth-grade teachers reported using desktop computers, notebooks or laptops, netbook computers, tablet devices, or smartphones when teaching—and doing so every day. In 2019, 29% of U.S. fourth graders who participated in the Progress in International Reading Literacy Study (PIRLS) assessment reported using a computer or digital device one or more hours per day for English language arts (ELA) work. Respondents to the 2019 PIRLS teacher survey reported that they use digital devices and materials as a supplement to traditional materials (46% for electronic textbooks, 75% for educational games, and 76% for reading-related websites and apps).

How Read 180 aligns to the research

HMH has embraced a blended learning approach to instruction since the first version of *Read 180*. *Read 180* combines the best practices of teacher-led instruction, personalized adaptive technology, and independent reading components to synergize the most effective learning principles and to accelerate students' learning.

Teacher-led instruction

In the Whole- and Small-Group Learning rotations, teachers provide systematic, explicit instruction in foundational literacy skills and comprehension strategies, moving from simple to more complex skills and texts. Teachers can differentiate and target skill gaps within the Whole- and Small-Group guided curriculum, which is available in print or online for teachers and all types of learners.

Student app

The *Read 180* Student Application (Student App) complements the teacher-led Whole- and Small-Group Learning with systematic instruction on skills and activities that customize and scaffold individual skill practice. Students work independently in the web-based adaptive Student App, which provides each student an intensive, individualized learning experience based on their responses. Students are able to choose their path through the Student App and work at their own pace—two factors that are critical to an effective blended learning program. The Student App continuously collects data about student performance and provides continual personalized feedback to the student, freeing the teacher to focus on targeted, direct instruction for the Whole-Group and Small-Group Learning.

Independent reading

The *Read 180* Independent Reading rotation is designed to integrate student choice, checkpoints for accountability, and opportunities for teachers to gain insight on student progress. Students browse a digital and print library to select independent reading texts that are at their reading and interest level. The high-interest, leveled texts help students build fluency, vocabulary, comprehension, and confidence. Students also take quizzes to assess their comprehension of each text.

Teacher support

All *Read 180* teachers have access to Ed, which provides online support for planning instruction, monitoring learning, and differentiating instruction—critical to effective intervention. On Ed, the teacher can:

- instantly access real-time data about student performance,
- analyze data and results to inform instruction,
- plan effective instruction,
- access guidance on reviewing and reteaching skills based on data,
- access rubrics and grade student performance on writing assignments and fluency readings,
- access professional learning resources, and
- participate in a community of educators and access all resources through an educative curriculum.

Therefore, the combination of effective teacher-led instruction, usage of adaptive technology that personalizes students' learning pathways, independent reading practice, and ongoing teacher support for the primary and secondary classrooms provides the best evidence-based instructional practices to raise students' literacy achievement.

Community of learners

Educators should strive to create a classroom environment that fosters appreciation and respect for all cultures, languages, and dialects. The practice of creating a culturally responsive environment begins with noticing one's own biases and building relational trust with students by honoring their stories and listening to their emotions (Gay, 2018; Ladson-Billings, 1995; National Equity Project, 2020; Paris, 2012). Practices and approaches that support culturally and linguistically diverse students who are often marginalized in schools build their confidence and competency to achieve academic success (Aronson & Laughter, 2016; Darling-Hammond & Cook-Harvey, 2018).

By leveraging students' background knowledge, home languages, and home experiences, teachers can make classroom instruction more relevant and meaningful. This asset-based approach helps enhance instruction; increase students' interest, participation, and learning; and can improve teacher-student relationships (Neri et al., 2016; Brooks & Karathanos, 2009).

Make real-world connections

In our diverse society, schools should be a place where all students feel welcomed, appreciated, and encouraged. The following are some of the recommended practices for creating an inclusive environment:

- Honor judiciously and respectfully, how each student is unique. Emphasize that differences are to be celebrated.
- Stay mindful of the fact that one culture's custom may hold a different meaning in another culture. Discuss examples of what it means for students to be responsible, respectful, and considerate of other's views.
- Expose students to texts that reflect a variety of life experiences.
- Educate students about the history, traditions, and contributions of various groups so that children gain an understanding of their communities.

Cross-linguistic influence on learning

In today's multilingual society, it's increasingly common for students to speak a language other than English at home. A substantial and growing body of research underscores the critical role of multilingual learners' (MLs) home language

in promoting academic achievement. The transferability of literacy skills across languages substantiates the value of strong home-language literacy (Genesee, 2012). Extensive research evidence corroborates these findings, indicating that students with well-developed reading skills in their home language tend to exhibit stronger reading performance in English, thereby affirming the importance of supporting bilingual development from an early age. These findings are further substantiated by multiple meta-analyses that have consistently demonstrated that educational programs incorporating students' native languages yield positive academic outcomes (Genesee & Lindholm-Leary, 2012).

In addition, Lindholm and Aclan (1991) found a significant positive relationship between bilingual proficiency and academic performance in English, particularly in reading and mathematics. Their findings revealed that students classified as "high bilinguals" achieved grade-level proficiency in English reading by fourth grade and in mathematics by third grade, suggesting that robust development in both languages can accelerate academic progress. Further, Relyea and Amendum (2019)'s research found that early reading skills in a student's home language significantly support English reading development in bilingual students. Specifically, their research demonstrated that Spanish-speaking children who entered kindergarten with strong Spanish reading abilities demonstrated greater growth in English reading over time, even outperforming peers who were more fluent in spoken English but had weaker Spanish literacy. These findings suggest a strong cross-linguistic influence, where early literacy in a first language positively impacts second-language reading development. The study emphasizes the importance of nurturing native-language literacy. For families, this underscores the value of reading to their children in any language to support long-term literacy growth.

As described above, literacy skills in a student's home language can significantly support reading development in a second language. Students with strong home-language reading abilities tend to show similar strengths in their second language, a pattern well-documented among multilingual learners in the U.S. (August & Shanahan, 2006; Riches & Genesee, 2006).

Honor home languages and dialects

Creating links between students' home languages or dialects, and the English-learning environment at school is key to fostering a sense of belonging. Educators can support this and foster respect for all languages by asking students to share a few words or phrases in their home languages for the entire class to learn; and show respect and appreciation of children's home languages by learning a few words yourself. For students who speak English dialects, these classroom practices allow students to validate differences in the ways English is expressed, as well as use develop a deeper understanding of the academic content. For monolingual English students, exposure to other languages and dialects, in a natural and supportive environment can enhance their listening skills and assist and accelerate their own academic language development.

Encouraging translanguaging in the classroom is also critical for academic achievement. It honors that students hold multiple languages as one integrated system to better understand the world. Teachers can support translanguaging in numerous ways, including offering students the option of reading a book in one language and summarizing it in another language; using multiple languages during a classroom discussion; taking notes any language; or writing a draft in a first language (Corujo, 2024).

Establish a sense of belonging

Young students' first classroom experiences are often ones of building relationships with their teacher and peers. Classroom interactions continue to shape students' attitudes toward themselves and their ability to learn. Wolf (2007) cites work by Biemiller (1970), who studied students' processes of learning to read. Biemiller found that students who ultimately become the most successful readers "never get arrested in any of the early steps, but move quickly through them" (Wolf, 2007, p. 119). These successful readers perceive that their identities are as learners, and they feel safe and welcome in school (Cohn-Vargas et al., 2021; Steele & Cohn-Vargas, 2013).

As schoolwork becomes more challenging, teachers' support, modeling, encouragement, and feedback build and reinforce students' growth mindsets. Teachers establish a classroom tone that sets clear expectations that all students are learners, mistakes are a part of the learning process, and students' efforts and hard work are valued above all other behaviors. Teachers show they respect and care equally about all students—those who struggle to learn as well as the best readers in the class.

In such classrooms, all students sense that they belong, that their ability and competence can grow, and that they can be successful. In essence, teachers can create a "learning mindset culture," one that not only provides instruction on skills and content knowledge but also builds strategies for perseverance, resilience, and effort.

Steele and Cohn-Vargas (2013) and Cohn-Vargas and colleagues (2021) remind teachers that as they seek to promote a sense of belonging for all students, they need to be aware of group dynamics and the formation of cliques, especially those that may be forming between students who are beginning to perceive themselves as struggling learners or "at risk" for failure. Even if students never hear these actual labels, they may begin to identify themselves as somehow different from peers for whom academics come easily (Learned, 2016). Research has shown that the dynamics in a classroom can change when some students identify themselves as less able to learn than their peers. Some students who mastered the so-called reading "fundamentals" of letter-sound correspondence may begin to falter as their reading tasks become increasingly difficult and they are required to read more deeply and critically (McNamara et al., 2016). For many of these students, initial challenges in school expand as content area reading requires application of higher-level reading strategies.

How Read 180 aligns to the research

The text selected throughout *Read 180* was designed to be inclusive and culturally relevant by incorporating content that reflects our diverse world to provide learners with opportunities to see themselves. The practice of creating a culturally responsive environment begins with noticing one's own biases and building relational trust with students by honoring their stories and listening to their emotions. Teachers begin the year establishing a safe learning environment for all students by acknowledging, accepting, and embracing students' differences. *Read 180* teachers build the trusting relationship students need to thrive by conducting conferences with students to discuss their academic and behavioral goals, their challenges, and their triumphs.

The Independent Reading library includes a number of titles that build social awareness by encouraging students to see the world from a new perspective, feel and show empathy, appreciate others from diverse backgrounds and cultures, and show respect for all people. Using *Read 180*'s diverse and culturally inclusive curriculum, students can tie their learning to their cultures, experiences, interests, and the issues that impact their lives. When students see themselves represented in the curriculum, they feel a sense of belonging and are better able to build trusting relationships with the teacher and others. In the Small-Group Learning setting, students receive instruction unique to their individual learning needs that takes into account the whole student while building meaningful relationships with their teachers.

Teachers and students read through culturally relevant texts. Teachers can tie in the stories with students' personal lives by encouraging students to make connections with the text to learn about others in the community. Teachers reinforce that there are different experiences and viewpoints as illustrated in various texts, which allows all students to have a greater understanding for those who have various backgrounds.

For multilingual newcomers, the Language Launch lessons within *Read 180* provide embedded opportunities to leverage students' cultural and linguistic assets to effectively support their English language development.

- Units and lessons begin with a Heads Up section for teachers that calls attention to important cultural, linguistic, or social-emotional considerations.
- Lessons thoughtfully incorporate guidance and space to encourage students' spoken and written contributions in their home languages while learning English.
- Anchor Videos and authentic texts incorporate translanguaging to validate multilingual learners' use of their full language repertoire.
- Teacher Notes for the lessons include Contrastive Analysis and Spanish/English cognates at point of use so teachers can build students' metalinguistic awareness by explicitly comparing and contrasting their home language with English.
- Students can access bilingual glossaries with the vocabulary taught in Language Launch lessons for the top 12 languages spoken in U.S. schools.

Assessments of and for Learning

When used and interpreted correctly, different forms of assessments provide educators with usable data that allow them to make important claims about the knowledge and skills that students possess (Al Otaiba et al., 2011, 2014). Literacy assessments can enable educators to pinpoint specific skills that students have mastered, determine students' overall literacy proficiency (Gendron, 2012), and gauge students' progress at different points in time. For example, effective assessments enable teachers to determine the extent to which students have mastered and can apply foundational skills, whether they can read and comprehend complex literary and informational texts, and whether they can write effectively to demonstrate what they have learned from their reading (Gendron, 2012).

It is also important for teachers to remember that using a variety of balanced, valid, and reliable assessments enables them to gauge how they are doing in meeting their students' needs and to engage in the important work of figuring out how to present content differently so that all students can learn.

Technology makes it convenient to administer assessments, collect and store data, and compare progress across students. Many reading programs have aligned assessments, which increasingly can be administered online, thereby providing teachers useful and easy ways to collect and analyze students' records.

Even with the relative ease that technology can deliver, teachers may feel that their schools are asking them to do too much testing—at the expense of providing instruction. This may be true in some cases, especially for students whose regular work shows them progressing as expected and even, perhaps, excelling (VanDerHeyden et al., 2018). At the same time, there is strong support for the value that can be gained from collecting initial, periodic, and summative data about students' progress (January & Klingbell, 2020), and then using these data to tailor instruction to students' needs.

There are many different kinds of assessments that are embedded within the fabric of today's schools. They take place at different points in the school year, and although they may serve different purposes, they share the overarching goal of providing teachers with data they can use to tailor instruction.

Screening assessments

Educators often think that screening assessments are valuable primarily when students enter kindergarten, but they can be invaluable for gathering initial information about what students know and can do at the beginning of the school year, when a “new” student first enters a school, or even throughout the school year. To be practical, screening tests are quick to administer and are most useful when tied to the curriculum expectations for the year that students are about to enter. Screening test data can be used for making placement decisions, but they do have limitations. For example, screening test data may indicate potential challenges or a mismatch between what students know and can do and grade-level expectations, but they are not diagnostic in nature. Rather, they can point out “gaps” in students' mastery and the need for specific instruction and building of foundational skills. Screening test data may point to the need for further diagnostic testing to identify strengths and needs and provide appropriate instruction before the needs overpower the strengths that students have developed.

Formative assessments

Teachers use many forms of assessment, including their own observations of students' academic work and their effect or social-emotional well-being. Teachers may undervalue this more personal form of data, but it can be invaluable, especially when coupled with the use of frequent progress-monitoring tools that provide quick glimpses of students' learning. These are curriculum based, and their information can help teachers determine when they need to reteach content. Even as students progress through school and do most of their reading silently, listening to them read orally provides insight into how they are processing the information contained in the words and sentences.

Formative assessments of all types help teachers track students' progress, personalize instruction as needed, and determine what they need to reteach. Progress-monitoring assessments can also be a "first warning" when students are at risk for reading difficulties. Because they are administered frequently and assess a specific body of skills, their data can alert teachers to potential difficulties before misunderstandings and misconceptions accumulate to the point that future learning is jeopardized. As such, they can provide data to help teachers make recommendations for Tier 2 interventions or potentially testing for entry into a Tier 3 program (Al Otaiba et al., 2011; Fien et al., 2015).

Progress monitoring

Progress monitoring is one way of collecting formative data, which includes data about what students have learned so far relative to a specific scope and sequence and to their peers, along with information about the processes they use in their reading. For example,

students' oral reading of a short passage can provide information about their decoding skills and oral reading fluency. Because fluency and prosody are proxies for comprehension, even a short oral reading sample can be a valuable indicator of students' proficiency. For example, depending on the reading selection, students' oral reading will show their accuracy and speed in decoding, their attention to punctuation, and other stylistic features. Most progress-monitoring tools have directions for administering the assessment as well as a guide for interpreting students' results.

Diagnostic assessments

As such, these kinds of assessments—whether teacher-made or commercially developed—provide formative diagnostic information that can guide instructional decision-making about individuals or help teachers form groups for reteaching or enrichment. Many reading programs include short diagnostic assessments and rubrics to be used when evaluating writing.

Increasingly, formative diagnostic assessments are offered digitally and provide dashboards that allow teachers to organize and track formative diagnostic data for individuals and whole classes to make differentiation of instruction and grouping decisions efficient.

Schools that embrace a student-centered learning approach emphasize instruction and assessment that help students connect with and apply what they are learning through culminating performance-based assessments. These schools utilize ongoing, performance-based assessments that focus on mastery. Student-centered schools are more likely to outperform other schools on standardized assessments, graduate more students, help more students become eligible for college, and have students that persist in college (Friedlaender et al., 2014).

Summative assessments

Summative assessments are used at the endpoints of a learning continuum, such as the end of a unit, a chapter, a marking period, or the school year. They measure what students have learned overall. Summative assessments used through the school year provide valuable information about students and about how teachers have taught specific skills or units of study.

Formal and informal performance assessments

Performance assessments are another approach to assessment. In their most formal use, students are asked to demonstrate what they know and can do, for example, by completing an open-ended task, giving a presentation, or conducting and writing up research. Teachers need to use what might be called informal performance assessments as well; this can include students' work samples, responses to questions, and evidence of their motivation and engagement. The availability of the many different kinds of assessments is not meant to diminish the judgments that teachers make by observing, listening, and talking to their students, as well as analyzing the work they produce.

As might be expected, there are some limitations to classroom-based assessments, even if the development of the assessments has complied with best practices for producing valid and reliable measures. For example, not all screening and benchmark/progress monitoring assessments are equally sensitive to the nuances of determining the literacy growth of students who are just learning English (Newell et al., 2020). Additionally, data from assessments that teachers administer themselves may not be completely reliable. Testing individual students takes time, especially if teachers need to explain the format of the assessment and create a positive, safe environment in the midst of the usual classroom activity. These realities do not negate the value of the information these tests can provide, especially when teachers also consider their own observations of students' work and the daily work products that students produce. Therefore, incorporating multiple measures that assess students' skills and abilities from various sources provides a more comprehensive view of students' profiles.

How Read 180 aligns to the research

Read 180 contains a comprehensive system to administer and give actionable feedback for both formative assessments (assessments for learning) and summative assessments (assessments of learning). The *Read 180* assessment system provides ongoing information about student progress that can be used with students, teachers, caregivers, and leaders.

Read 180 assessments include tools to screen and place students, monitor progress, and provide information that can be used to inform instruction. *Read 180* teachers can use either the Growth Measure® or the NWEA MAP Growth Reading assessment®, scientifically based and validated tests, as a screening assessment in the beginning of the year and as an interim assessment in the middle and end of the year. The Growth Measure and NWEA MAP Growth Reading metrics provide several data points that are used to inform the students' Learner Profiles. Other contributions to the Learner Profile include the students' interests; their engagement and motivation, which are tracked through the Student App; and their performance on the Workshop Assessments, which are part of HMH Reading Counts!® independent reading quizzes and can be found in the Student App.

In addition, *Read 180* includes multiple formal and informal formative assessments to monitor student progress on an ongoing basis. There are embedded formative assessments throughout the program found in each *Real Book* lesson (Code and Workshop), on the Student App, and in daily reading logs, graphic organizers, and Quick Writes for Independent Reading.

Technology plays an important role in the *Read 180* assessment system. *Read 180*'s adaptive technology provides students with personalized feedback and teachers with a powerful tool for progress monitoring, as it continuously collects data on students' growth and mastery of new skills that feeds into the students' Learner Profiles.

Summative *Real Book: Workshop* assessments are designed to monitor progress and support instruction and are aligned to core Reading and Language Arts Content Standards. The tests include item formats that students may encounter on standardized assessments so that students will develop strategies for attacking these challenging formats and practice the kinds of thinking these items demand. Students can take interim and end-of-workshop assessments during and after each of six workshops to assess listening and reading

comprehension, critical reading, word study skills, conventions, and writing. Each of these assessments is followed by a Checkpoint lesson.

These Checkpoint lessons provide opportunities to differentiate small-group lessons based on students' assessment results. Checkpoint lessons:

- provide differentiated instruction to target the needs of all students, and
- reinforce key skills and concepts using specific resources targeted to each group's needs.

Independent Reading quizzes serve as a summative assessment of students' comprehension of texts they read during Independent Reading.

Critical thinking and 21st-century skills are assessed at the end of every workshop through projects that assess students' abilities to apply 21st-century skills, such as analyzing information, using technology for communication, and engaging in collaborative work. Scoring guides are used to assess these projects, as well as writing assignments and the Respond & Write activities in the Writing Zone. These scoring guides support students and teachers in reviewing students' work, providing feedback, and revising as necessary.

Read 180®

Workshop 1 End-of-Workshop Assessment (Level b)

DIRECTIONS: This is a reading test. Follow the directions for each part of the test, and choose the best answer to each question.

PRACTICE QUESTION A

Read the sentences. Then answer the question that follows.

Factory owners and employees do not agree on the new schedule. The owners and workers will have a meeting to discuss this dispute.

Which phrase provides a clue to the meaning of the word dispute?

A "Factory owners"
B "do not agree"
C "new schedule"
D "workers will have"

PRACTICE QUESTION B

Read the paragraph. Then answer the question that follows.

Literacy is the ability to read and write. Literacy skills are important. These skills help students in school. They also help people in all types of jobs. Strong literacy skills help people of all ages to communicate and to solve problems.

Which of the following **two** statements are central ideas in the paragraph?

A Literacy skills take time to develop.
B Literacy skills are important for children and adults.
C Literacy skills are taught in special schools.
D Literacy skills support people in many ways.
E Literacy skills are easy to learn.

Read 180 Workshop 1: End-of-Workshop Assessment

Differentiated Instruction

With increasingly diverse students, schools and districts are under pressure to meet rigorous standards and raise student achievement in reading and literacy. Teachers are asked to respond by differentiating their instruction to some extent, but not all scholars and educators agree on whether differentiated instruction works. A systematic review and meta-analysis of 20 years of research (Puzio et al., 2020) included studies of the effects of Tier 1 differentiation provided by the classroom teacher. The analysis found that differentiation did have positive effects on students' literacy fluency, decoding, letter-word reading, vocabulary, comprehension, and writing achievement at the elementary level. It must be remembered that studies of a test-and-differentiate model have shown that teachers use a variety of differentiation approaches, including giving choices and even using an alternate curriculum with some students. Overall, the studies in the analysis did not include information about guidelines that teachers used to determine how and when to differentiate.

Studies have also shown that teachers need support as they learn to differentiate because making the right decisions about how and when to differentiate is not always easy. When teachers are supported to differentiate instruction, students have significantly higher literacy achievement scores, particularly for letter-word ($g = +0.20$, $p = .014$) and writing outcomes ($g = +0.96$, $p < .001$). The most successful programs took very different approaches to differentiation, including individualization, choice, and an alternate curriculum. However, across the studies, there was an alarming lack of information about the decision-making processes used to guide differentiation, and there were no experimental or quasi-experimental studies on guided reading.

Many schools use a Response to Intervention (RTI) approach to achieve differentiation. RTI is a multilevel system that seeks to maximize student achievement by integrating ongoing assessment of student progress with increasingly intensive intervention (National Center on Response to Intervention, 2010). The premise of RTI is that schools need to provide multiple tiers of support. Tier 1 provides classroom instruction and additional tiers of support for students not making adequate progress.

Tier 2 instruction includes interventions designed to address skills that can be strengthened through relatively short-term but intensive instruction, while Tier 3 instruction is designed for more intensive instruction, usually provided one on one or in small groups by a reading specialist. In all tiers of intervention, students benefit from teachers' use of data to determine whether students are making the desired academic gains, and then whether they need modifications in their curricula, materials, or instruction (Duffy, 2008; Fuchs & Fuchs, 2007).

WWC identified five recommendations to assist educators in providing appropriate instruction for struggling students: (1) screen all students for potential reading problems at the beginning and middle of the year; (2) provide time for differentiated reading instruction for all students based on assessments of students' current reading level; (3) provide intensive, systematic instruction on up to three foundational reading skills in small groups to students who score below the benchmark score on universal screening; (4) monitor the progress of Tier 2 students at least once a month; and (5) provide intensive instruction on a daily basis that promotes the development of the various components of reading proficiency for students who show minimal progress after reasonable time in Tier 2 Small-Group instruction (Gersten et al., 2008). More recently, a meta-analysis and research synthesis by Filderman et al. (2018), found positive effects of the model across the full kindergarten to Grade 12 spectrum.

Within the RTI framework, districts can assist students in transitioning to college- and career-ready standards. The focus of an RTI approach supports diverse learners in accessing and meeting rigorous state standards (McIntierney & Elledge, 2013).

Parental involvement is an important part of the RTI model. Schools that implement RTI provide parents with information about their child's progress, the instruction and interventions used, the teachers and staff who are providing the intervention, and the academic and/or behavioral goals for their child (National Center for Learning Disabilities, 2015).

Multi-tiered System of Supports/Response to Intervention

To support students' academic, behavioral, and social needs, many schools have adopted multi-tiered models of intervention. The Multi-Tiered System of Supports (MTSS) creates a coherent continuum of evidence-based, systemwide practices that support a rapid response to both the academic and behavioral needs of students. The approach recognizes the needs of the whole child, both academic and social-emotional. Within MTSS, there is frequent data-based monitoring to inform instructional decision-making so as to empower all students to achieve high standards.

A Response to Intervention (RTI) approach, which is often embedded within the broader MTSS model, uses ongoing assessments to determine students' progress and suggest when and what kind of intervention they may need in order to thrive academically. The approach involves initial screening to identify potential problems, early evidence-based intervention, and progress monitoring to determine next steps for students identified as needing instruction beyond what their Tier 1 classroom teacher provides. Tier 2 instruction increases the time and intensity of students' exposure to foundational aspects of the core literacy curriculum—to “catch students up” and strengthen their skills. Tier 3 instruction is provided to students needing more intensive instruction, such as those identified as eligible for special education services, as well as those capable of benefiting from regular classroom instruction. This ongoing process of assessing and intervening may address potential problems before they hinder students' progress as readers or, in some cases, serve as part of the determination process for identifying students with specific learning disabilities or other disabilities.

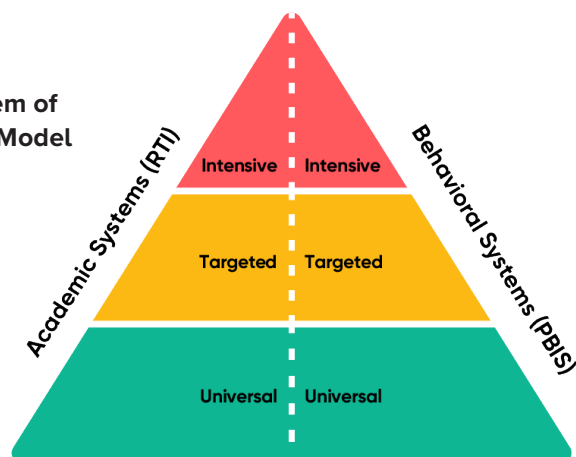
More expansively, Positive Behavioral Interventions and Supports (PBIS) is a system that provides supports that increase in intensity, based on students' behavioral and social needs. The purpose of PBIS is to take a proactive approach to addressing school discipline by promoting positive behaviors schoolwide, identifying problem behaviors early, and responding to and reducing those behaviors through research-based instruction and intervention. To establish a proactive rather than a reactive approach to situations, PBIS stresses the importance of school staff sharing a common vision for their school, a common language for talking about it, and the need for common experiences.

Schools that have a culture that includes PBIS are able to establish the behavioral supports that are needed for all children to achieve both social and academic success. These schools have demonstrated increased achievement on both academic and social measures (Cohen et al., 2007). Recently, the PBIS approach has emphasized the importance of creating equity within each classroom and within schools as a whole (Levenson et al., 2021).

Effective PBIS implementations can be found in schools and districts that:

- foster positive social interactions between students, teachers, and administrators;
- teach behavioral expectations in a socially and age-appropriate way;
- reinforce positive behavior with methods that are targeted toward students; and
- use implementation and student-level data to drive instruction and intervention (Bruhn et al., 2014).

Multi-Tiered System of Supports (MTSS) Model



How Read 180 aligns to the research

Multi-tiered System of Supports and Response to Intervention

Read 180 can meet the needs of all learners through a Multi-Tiered System of Supports (MTSS) approach, a systematic framework for allocating instructional services and resources in response to students’ individual academic and behavioral needs. MTSS employs a multi-tiered model of service delivery to promote efficient responses to students’ needs. Each tier provides increasingly intensive support structure to ensure that students succeed.

The *Read 180* instructional model supports multiple tiers of academic Response to Intervention (RTI) by balancing Whole-Group instruction with Small-Group instruction that is targeted to different skills based on students’ needs. During Whole-Group Learning, the teacher focuses on macro-level skills that all students need.

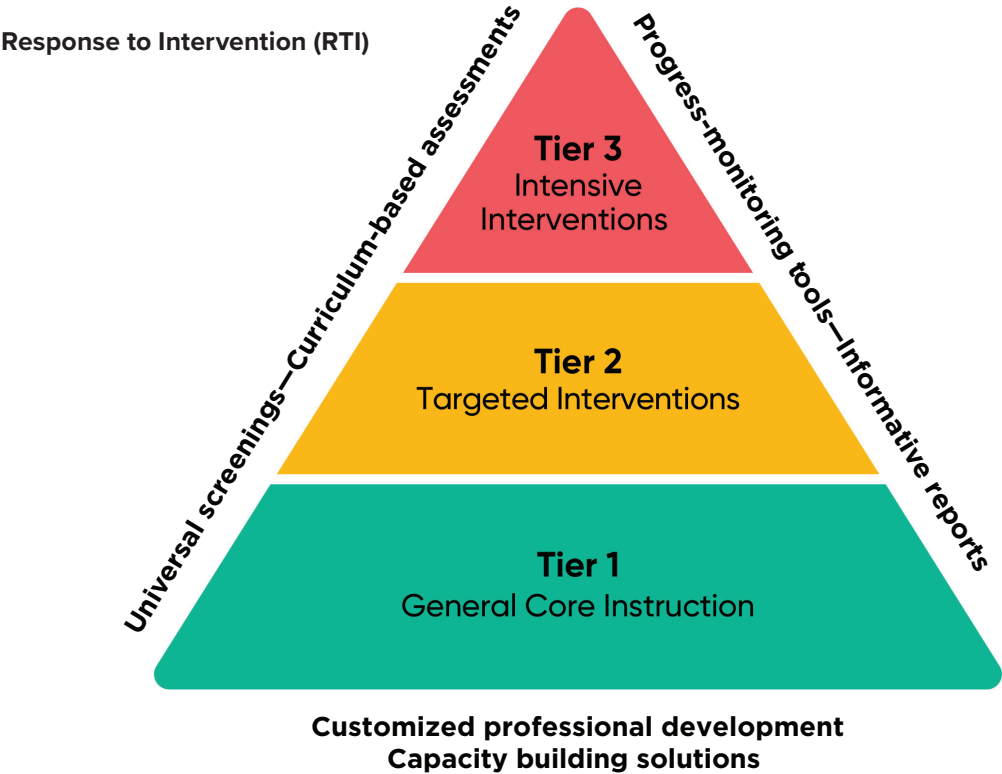
Then, students break into small groups to address their individual needs through instruction on the Student App, Independent Reading within students’ Zone of Proximal Development, and Small-Group direct instruction. This instructional model allows teachers to work with a chosen small group to address individual needs based on assessment data.

The *Read 180* software offers powerful tools for the systematic screening and progress monitoring that are central to an RTI approach, along with customizable training and professional development to ensure that teachers can use the program with a wide array of students, including students with disabilities.

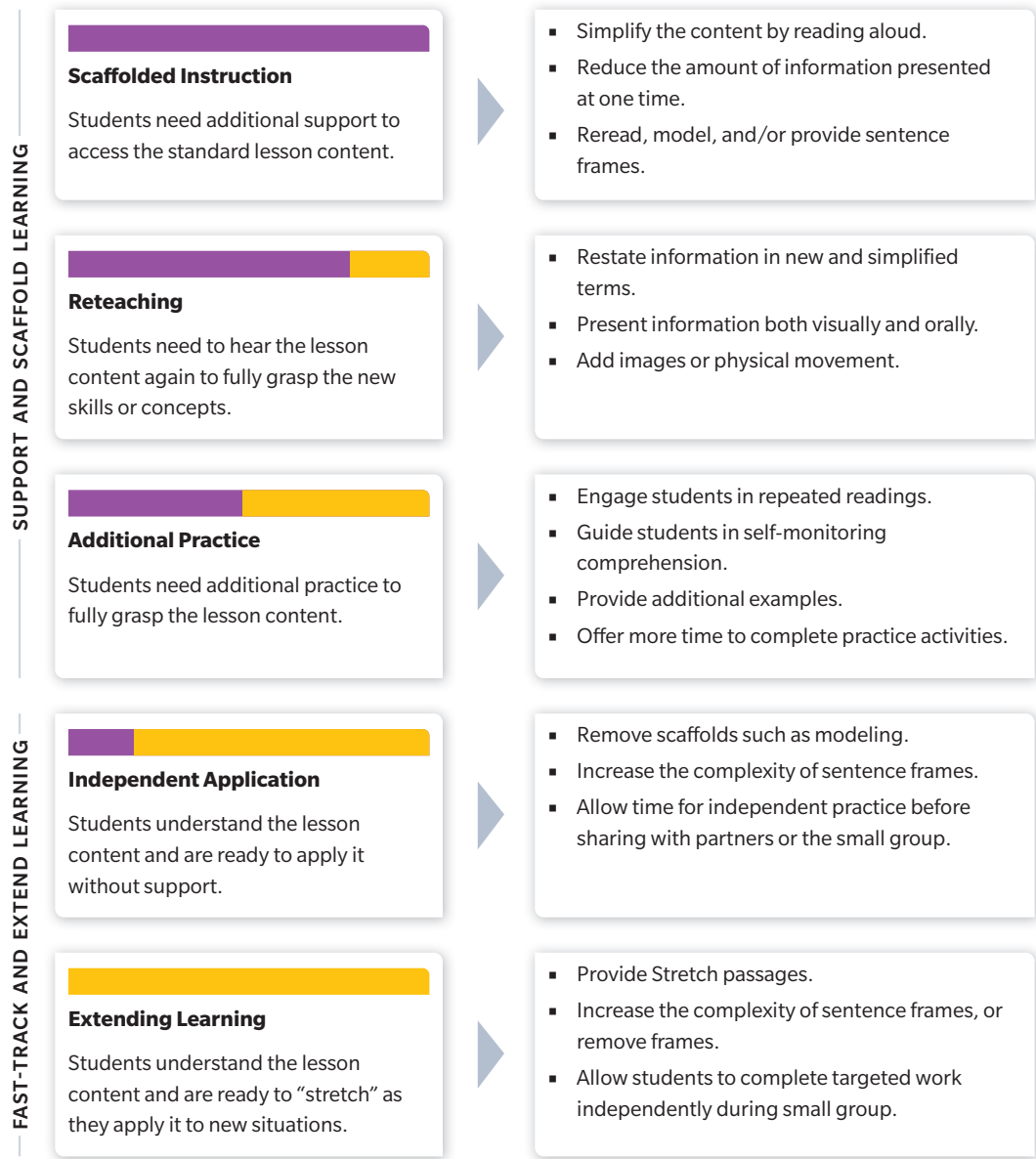
	Whole and Small Group	Student Application	Independent Reading
Academic (RTI)	- Whole-Group Learning provides macro-level skills that all students need, using developmentally and academically appropriate content. - Small-Group Learning addresses students’ individual academic needs by providing targeted instruction based on assessment data.	- Adaptive instruction individually targets students’ academic needs. - Recursive practice through spaced repetition ensures that students have moved new skills into long-term memory.	- The Classroom Library provides a suite of developmentally appropriate, leveled texts. - Students retake quizzes without penalty, providing multiple opportunities to demonstrate comprehension.
Behavioral (PBIS)	- Instructional routines encourage students to engage with the material with scaffolds that structure and support their responses. The instructional routines help to create a learning environment in which students can actively participate in a non-threatening, flexible way. - Lessons follow a consistent Gradual Release and Guided Practice approach, creating a dependable learning environment that allows students to thrive on consistency and predictability.	- Immediate motivational feedback, as students answer questions, promotes engagement and focus. - Students have visibility into their own learning progress, allowing them to set and track learning goals. - The Student App provides patient, recursive instruction, allowing students to learn at a pace comfortable for them.	- Tracking logs and certificates foster motivation as students track their reading progress and celebrate with peers. - Daily reading logs provide opportunity for students to receive immediate feedback, support, and redirection as needed.

Independent Reading e-books and eReads provide numerous supports to help students with disabilities as they read independently. Those supports include a text-to-speech feature, a zoom feature, a digital dictionary, and a highlighting feature. In addition, audiobooks feature a Reading Coach, a narrator who provides comprehension strategies and models fluent reading. During Independent Reading, students may also express their learning through book conferences with the teacher, and collaboration and presentation projects.

The Positive Behavior Intervention and Supports (PBIS) model, which is incorporated throughout *Read 180*, provides embedded supports and procedures for increasing student engagement, promoting positive behaviors, and motivating students to succeed. Instructional routines such as Oral Cloze, Think (Write)-Pair-Share, Idea Wave, and peer feedback encourage students to engage with the material with scaffolds that structure and support their responses. The instructional routines help to create a learning environment in which students can actively participate in a non-threatening and flexible way.



In addition, the *Read 180* program is designed so that Small-Group instruction can continually be adjusted to provide the appropriate level of support from across the continuum of differentiated instruction. The chart below illustrates how *Read 180* integrates the Gradual Release model of instruction through providing scaffolded supports, opportunities for guided practice leading to independent application, and further extending the learning to more challenging texts.



Targeted Instruction With a Continuum of Differentiated Instruction

Universal design for learning

Universal Design for Learning (UDL) is a research-based framework that helps curriculum designers, teachers, and other educators create learning environments that are inclusive and effective for all learners. UDL was defined by the Higher Education Opportunity Act of 2008 as a scientifically valid framework for guiding educational practice that accomplishes the following:

- It provides flexibility in the ways that information is presented, in the ways that students respond or demonstrate knowledge and skills, and in the ways that students are engaged.
- It reduces barriers in instruction; provides appropriate accommodations, supports, and challenges; and maintains high achievement expectations for all students, including students with disabilities and students who are limited English proficient (Higher Education Opportunity Act, 2008).
- It promotes the creation of flexible environments that provide students with a variety of options that allow them to reach their goals in multiple ways.

UDL approaches seek to provide students with multiple pathways into learning, including multiple means of engagement, representation to students, and action and expression. These principles were derived from the three learning networks of the brain: recognition networks (the “what” of learning), strategic networks (the “how” of learning), and affective networks (the “why” of learning).

At any given moment in learning, all three networks are at play. Therefore, the individual variation in all three networks must be considered during the planning or designing of technology (CAST, 2011).

UDL and other instructional practices are frequently used together to produce positive results. For example, Coppola et al. (2019) found that a language arts class studying poetry used a combination of UDL and culturally sustaining pedagogy and saw an increase in students’ participation and learning. Other research (e.g., Baumann & Melle, 2019) on combinations of UDL with specific equity-focused practices seem to enhance students’ engagement and achievement, even for students with educational needs. UDL approaches that integrate technology and traditional practices are also effective for meeting the needs of all students.

Adaptive technology harnesses UDL principles in that it provides a flexible design from the start with customizable options. This flexibility allows all learners to progress from where they are and not where we would have imagined them to be. In this way, all learners are provided with instruction that is varied and robust enough to be effective (CAST, 2011).

How Read 180 aligns to the research

Read 180 instructional materials reflect the principles of Universal Design for Learning (UDL) as they allow access to the content for students at all levels of learning. Individualized learning, provided by adaptive technology, Independent Reading texts, and teacher-facilitated lessons, gives students the opportunity to access the content in an individualized way that suits their learning needs.

Read 180 offers students multiple means of student engagement, content representation, and expressing student learning in the ways outlined below:

Multiple Means of Engagement

- Explicitly teaching and fostering growth mindset
- Providing relevant, developmentally appropriate content across all stages of the program
- Varying sensory input and social demands across the rotations
- Giving immediate, targeted feedback on work in each rotation
- Helping students set and track their own learning and behavioral goals
- Establishing consistent, supportive routines and procedures, with visible cues and timers
- Embedding Whole- and Small-Group engagement routines that foster peer collaboration
- Reading and recording text passages to practice and demonstrate fluency and comprehension in the Student App
- Providing choice in Independent Reading texts and Student App Comprehension segments
- Allowing students to select the level of challenge of Independent Reading quizzes

Multiple Means of Representation

- Launching new learning with Anchor Videos to access or build background knowledge
- Providing modeled fluent read-aloud options across all rotations
- Varying Student App and digital Independent Reading settings for visual, auditory, speed, and physical needs (e.g., alt text, captioning, font size, simultaneous voice and visual cues)
- Structuring Whole- and Small-Group lessons around a Gradual Release model of support
- Including visuals to help pre teach vocabulary and morphology on the Student App
- Providing sentence frames and other scaffolds to support student response
- Supporting organization of new knowledge through a range of graphic organizers

Multiple Means of Action and Expression

- Using a variety of media for students to respond, including print and writing during Whole- and Small-Group and Independent Reading, and digital on the Student App
- Varying the Student App settings to adjust response requirements
- Including physical manipulatives during *Real Book: Code* foundational literacy lessons
- Including sentence frames to support student responses across all rotations
- Using rubrics to provide individualized feedback to student work
- Providing time for teacher-student conferences to reflect on learning and track progress
- Providing both digital and print format assessments to demonstrate what students are learning

Students with disabilities

Many students with disabilities experience challenges as they attempt to learn to read, and their reading difficulties can last throughout their school experiences and beyond. Parents, teachers, and educational researchers recognize that identifying and preventing reading difficulties early in children's school careers has potential long-term benefits to the individual as well as society. The range of disabilities is broad and includes intellectual disabilities, hearing or vision difficulties, physical disabilities, and more (Connor et al., 2014; Ine et al., 2015). Teachers of students with disabilities have the multipart responsibility of meeting their needs and identifying and building on their strengths.

RTI has been shown to be a highly successful approach to early identification and intervention. RTI is a multilevel system for maximizing student achievement by integrating ongoing assessment of student progress with increasingly intensive intervention (National Center on Response to Intervention, 2010). RTI organizes intervention into multiple tiers of increasingly intense interventions for those students not making adequate progress in Tier 1. Tier 2 and 3 interventions are intensified by increasing instructional time, decreasing group size, matching materials to students' levels, modifying presentation modes, and providing corrective feedback (Fletcher & Vaughn, 2009).

Assessment is a key component of RTI because knowing how students are progressing and what they need instructionally allows teachers and specialists to tailor interventions to meet learners' needs (Connor et al., 2014). There are two major levels of assessment:

- Universal screening at program entry to identify students' strengths, weaknesses, and disabilities (such as vision or hearing problems) and point them toward appropriate interventions
- Progress monitoring through students' schooling to determine how they are doing and what aspects of their educational plan need to be modified

Students are also assessed to determine their cumulative learning—that is, what skills and understandings they have gained from instruction and what may need to be retaught.

Specialized assessments may be used with students who are learning English or have specific language-processing difficulties to ensure they are being well served. This is especially important if students have been provided with accommodations to assist in their learning.

For students with disabilities, it is particularly important to use student performance assessment data to monitor progress in order to determine continuing instructional/ remedial needs (National Joint Committee on Learning Disabilities, 2008). Streamlining the regular collection and examination of data, as well as modifying instruction based on what is learned from student data, can benefit all students and be a powerful tool to help make a teacher's job more efficient (Connor et al., 2014).

Differentiated instruction meets students where they are—matching instruction to meet their assessed needs. The approach can significantly improve achievement for all students. For students with disabilities, individually targeted instruction in specific reading skills can improve achievement, both in the targeted skill and in more generalized measures of literacy (Shanahan, 2008; Vaughn & Denton, 2008). Likewise, the provision of accommodations—such as more time to do assignments or assessments, or listening to rather than reading instructions—can mean the difference between success and frustration. Research reviewed by Connor et al. (2014) showed the effectiveness of peer-assisted learning strategies and collaborative learning approaches for students with disabilities. These approaches can enhance the sense of belonging in a school or classroom community that may elude some students with disabilities.

A research synthesis by Wanzek and colleagues found strong evidence to support three instructional recommendations for students with reading difficulties in Grades 4–12: (1) provide explicit vocabulary instruction, (2) use direct and explicit comprehension-strategy instruction, and (3) provide struggling readers with intensive and individualized interventions. From this finding, the authors recommended intensive intervention efforts for students with reading difficulties in Grades 4–12 who do not perform at or near grade level, and supplemental, Small-Group instruction for extended periods of time (Wanzek et al., 2018).

Teachers who rely mostly on Whole-Group instruction do not adequately meet the individual needs of students who need extra literacy support. Rather than using this model, teachers should use performance data to form small groups of students and teach lessons to reinforce students' skills and target their specific skill needs. Students with disabilities particularly benefit from this type of targeted intensive instruction in small and flexible groups.

PBIS models provide clearly defined expectations explicitly taught to all students, which offer an opportunity for students to practice the skills, reinforcement for students who meet expectations, and a system for monitoring student progress (Lane et al., 2006; Sugai & Horner, 2002). PBIS models have been found to be particularly effective in helping students with emotional and behavioral challenges stay on track and experience success (Sugai et al., 1999).

How Read 180 aligns to the research

From its inception, *Read 180* was designed to address the needs of striving readers, and *Read 180* program materials reflect a consideration for the needs of students with disabilities. The research behind the development of *Read 180*'s innovative technology was initially funded by a grant from the U.S. Department of Education's Office of Special Education. Endorsed by the Council of Administrators of Special Education (CASE), *Read 180* supports readers who have unique learning challenges and those who have been identified as in need of special education services.

HMH is committed to designing a digital learning experience that is accessible to all users. Many common elements and features in HMH Ed™, such as the Log In, Discover, Plans and digital content are accessible. The Ed platform is WCAG (Web Content Accessibility Guidelines) compliant to meet the needs of students with a wide range of disabilities—including auditory, cognitive, neurological, physical, speech, and visual disabilities.

Read 180 offers the following accessibility features through the Ed platform:

- Screen readers allow students who have difficulties seeing to access and interact with digital content via audio.
- Magnification tools.
- On-screen keyboard controls allow students to perform all keyboard functions while content is still viewable. This allows students alternatives to using a mouse for navigation.
- Dictation functionality uses speech-recognition software to allow students to use voice commands to navigate content or take notes.

Read 180 offers a wealth of resources for differentiating and adapting instruction based on students' needs. The Student App provides individualized instruction, along with immediate personalized feedback accompanied by modeling and guided practice. Continuous targeted assessments in the Student App check for mastery of skills and identify individual instructional needs. By constantly collecting ongoing data about student performance, the Student App provides critical information for teachers about student progress and individual needs.

For additional progress monitoring, *Read 180* provides a variety of curriculum-embedded, criterion-referenced assessments, including passages for oral reading fluency assessment and *Real Book* Assessments, to regularly track student progress. *Real Book* Assessments measure students' mastery of skills taught during Whole- and Small-Group Learning. These assessments can be used by teachers to inform future individual and Small-Group instruction.

With *Read 180*, teachers and parents can use myriads of point-of-use data and reports to measure student progress toward annual academic and behavioral Individualized Education Programs (IEP) goals. Students with disabilities will particularly benefit from the IEP supports found in *Read 180* as outlined on the following page.

Fulfilling IEP requirements through Read 180

1. Academic Achievement and Functional Performance

- Use Growth Measure results to describe the student's current literacy performance.
- For students who previously participated in *Read 180*, use previous results from the Student App to describe specific literacy strengths and gaps.
- Consider whether the student's disability will impact their ability to fully participate in the *Read 180* classroom. Consider the requirements for each rotation and whether to include accommodations or modifications to the rotation to ensure that the student can fully access the learning. For example, students with physical limitations may need support in the Student App.

2. Measurable Annual Goals

- Use Growth Measure results to track annual reading growth.
- Identify specific completion points and skill mastery levels in the Student App. For example, establish a clear benchmark of total segments completed and/or skill mastery.
- Set target goals for Independent Reading, including quizzes passed at a specified pass rate and/or total texts read.
- Identify appropriate benchmarks for summative Whole- and Small-Group Assessment results, such as *Real Book* summative or workshop assessments.

3. Accommodations and Modifications

- Adjust the learning environment by providing preferential seating, ensuring adequate space for assistive devices or paraprofessionals, posting procedures, providing visual or written cues, etc.
- Adjust the complexity by providing a modeled fluent read of Whole- and Small-Group texts, simplifying sentence frames, providing instructions in writing, providing extended time for tasks, using the audio support in Independent Reading, etc.
- Adjust the volume of work by reducing the number of books or pages read per day in Independent Reading, reducing the amount of response required in Whole- and Small-Group, reducing expectations for the daily reading log, etc.

4. Progress Monitoring

- Growth Measure results
- Student App progress and performance results
- *Real Book* assessment results
- Independent Reading quiz results

Students with dyslexia

According to the National Center for Education Statistics (NCES, 2021), 7.3 million, or 14%, of public school students aged 3–21 received special education services under the Individuals with Disabilities Education Act (IDEA). The most common category of disability—approximately 33%—was specific learning disabilities, with 19% experiencing a speech or language impairment of some sort. Most often, these students experience challenges learning to read, spell, or write. According to the International Dyslexia Association (IDA), dyslexia is the most common cause of these language-processing challenges, and it affects males and females almost equally, as well as individuals from all different ethnic and socioeconomic backgrounds.

Individuals with dyslexia experience a language-based disorder that results from developmental neurobiological and genetic factors that affect the mental processing of oral and written language that results in reading. Many individuals with dyslexia can be thought of as “neurologically diverse,” in that they experience challenges not just with language-related tasks but also with mental processing in general, working memory, expressing oneself orally, and sometimes in other academic areas like math (Asghar et al., 2019; Elliott, 2020).

Dyslexia is a specific diagnostic term and a set of behaviors that are exclusive of many other factors that can lead to short- or long-term reading difficulties, such as lack of motivation, inability to persevere at difficult tasks, or personal circumstances in students’ out-of-school lives (Elliott, 2020; Seidenberg, 2017). The most common educational difficulties experienced by students with dyslexia are in the areas of decoding, spelling, communicating ideas through writing, and reading comprehension (Seidenberg, 2017; Shaywitz, 2003). For many students, learning to read is a struggle—it is hard work—and they may lack the “reading stamina” needed during a literacy block that requires independent work in addition to working with teachers and fellow students. Students experiencing these challenges need extra practice, extra time, and books aligned with their reading level that also engage their interests.

As a specific learning disability that is neurobiological in origin, dyslexia is characterized by an “unexpected difficulty in reading for an individual who has the intelligence to be a much better reader, most commonly caused by a difficulty in the phonological process, which affects the ability of an individual to speak, read, and spell” (Shaywitz & Shaywitz, 2020, p. 100).

Secondary consequences may include problems in reading comprehension and reduced reading experience that can impede growth of vocabulary and background knowledge (IDA, 2020).

Students who are dyslexic struggle in specific areas related to expected reading development (Seidenberg, 2017). These include:

- impaired performance on phonemic tasks, such as letter naming or sounding out words;
- oral reading, which is slow, dysfluent, and full of errors;
- impaired processing speed, shown as slowness in naming familiar digits, colors, and so on, and in poor reading fluency;
- limited knowledge of orthographic structures and frequent spelling errors;
- difficulties with tasks involving verbal working memory or short memory spans; and
- language issues, such as limited vocabulary size, limited knowledge of sentence structures, and difficulty reading aloud with appropriate intonation (prosody).

Dyslexia is an “emergent” disorder; that is, it does not fully manifest itself immediately upon school entry, although students whose reading does not progress along expected trajectories may eventually be found to be dyslexic. Qualitative research (Worthy et al., 2016) showed that early-grade teachers often feel responsible for meeting the needs of all their students, including those who do not respond to beginning reading instruction. Participants in the study also said that they experienced barriers that stymied their efforts to find and provide extra support to struggling students. For example, their schools may have had little information about pedagogy for the youngest striving readers or had confusing policies and procedures for securing extra help.

Fortunately, schools are increasingly identifying students with dyslexia within their RTI framework. In the RTI process, school personnel monitor students’ responsiveness to tiers of intensive, targeted reading instruction. If a student does not meet performance benchmarks with the intervention, and other developmental disorders are ruled out, then the student may be identified as having a reading disability. Based on the diagnosis, teachers can then tailor the reading intervention to the student’s particular instructional needs (Shaywitz et al., 2008).

How Read 180 aligns to the research

Read 180 provides evidence-based instructional practices that meet the needs of students with reading difficulties, such as dyslexia. Instructional interventions for students with dyslexia should be systematic, explicit, diagnostic, and personalized so that students can progress at their own pace. *Read 180* adheres to the Structured Literacy approach, which provides the elements of literacy such as phonology, morphology, sound-symbol, syllables, semantics, and syntax that students need to become better readers.

The Student App provides a systematic scope and sequence that allows students to acquire concepts and skills ordered from easier to more complex to aid in their learning of foundational literacy skills through the Foundational Skills portion. Once they attain adequate phonics and decoding skills, students develop higher-level comprehension skills through the Comprehension portion of the software. Throughout the Student App experience, students with dyslexia benefit from the structured lessons, ample practice, and immediate corrective feedback they receive from the software and through teacher-led Small-Group instruction to develop automatic word-recognition skills. Students also practice reading decodable and high-frequency words in the context of controlled connected text in each segment.

The *Real Book: Code* provides students with targeted instruction on discrete phonics skills and additional practice on topics aligned to the software. Each lesson consists of the five pillars of literacy, and students build their fluency of text reading through instructional routines reinforced by the teacher.

The *Read 180* program also provides numerous instructional scaffolds and guidelines for teachers to provide appropriate accommodations for students' learning:

Cognitive scaffolds

- Review the previous lesson to anchor students in what they will learn today.
- Provide instructions in sequential order, using short, direct sentences. If students appear frustrated or confused, rephrase instructions.
- Chunk the lesson by explaining one step of the lesson at a time, then have students complete that step before moving to the next step.
- Shorten tasks or provide extended time in small groups for students who need more time.

Behavioral scaffolds

- Explicitly teach, model, and reinforce procedures for working with other students.
- Before beginning an engagement routine, allow students sufficient independent time to process information and respond to the task independently.
- Structure partner routines so that each student has an equal amount of time to share and gather information.
- “Nominate a volunteer” to share an exemplary response to a task by pre-alerting the student that you would like them to start the conversation by sharing their strong answer as an example.

Increase accessibility

- Apply the “accuracy only” setting to support students who need more time to respond to questions.
- Activate other support options in the Student App settings, such as enabling large passage text or captioning. Consider using screen magnifiers or plugging the computer into a TV.

Provide additional support

- Provide a bookmark, cardboard strip, window frame, or other markers to help limit the amount of text visible at a time.
- Allow students to reference their reading logs when completing an Independent Reading quiz.
- Allow students to read books with a partner or small group.
- Set up rotations so that students transition from Independent Reading to Small-Group to provide immediate feedback on work completed.
- Play quiet and wordless music to help cover the noise of other rotations.
- Check reading logs daily and provide immediate feedback, celebrating successes for time on-task, pages read, and/or texts completed.

Many researchers and educators stress the importance of securing help for students who may or may not be dyslexic early in their school lives, and early intervention is increasingly being advised (Al Otaiba & Petscher, 2020). Seidenberg (2017) acknowledges that some students do begin to read later than expected, but adopting a “wait to fail” stance is increasingly being discredited as an appropriate approach. Early identification, remediation, and providing accommodations where necessary are critical steps for minimizing these secondary consequences and others, such as the detrimental effects of experiencing repeated failure. Developing a dislike for reading can make problems worse if students avoid reading, convince themselves it is “too hard” for them, and thereby fall further behind.

Effective intervention programs for students experiencing challenges learning to read and for those with reading disabilities have the following characteristics (Berninger & Wolf, 2009; Moats, 2012; Shaywitz, 2003):

- Systematic, direct instruction in phonemic awareness
- and phonics
- Instruction that teaches students to apply these skills to reading and writing
- Supports for speech/sound blending, and application of morphological analysis for word recognition
- Help with handwriting, spelling, and sentence composition, especially for students with dyslexia
- Fluency training
- Rich experiences listening to and using oral language

Interventions for students with dyslexia should be systematic, explicit, and multisensory. They should focus on aspects of reading that have been shown to be most problematic to master, such as reading irregular and nonsense words or rapid naming of letters, words, and numbers (Georgiou et al., 2013). Many individuals with dyslexia require one-on-one help so that they can move forward at their own pace. In addition, students with dyslexia often need a great deal of structured practice and immediate, corrective feedback to develop automatic word-recognition skills.

It is important to remember that students with dyslexia, along with other striving readers and those developing according to expectations, need rich experiences listening to and using oral language that is mentioned above; they also need exposure to a wide and rich range of appropriate narrative and expository literature. Building background knowledge is critical for all students, as is ensuring that students develop positive attitudes toward school.

Students with hearing impairments

Approximately 20% of the population has some degree of hearing loss, ranging from mild or moderate hearing loss in one or both ears (“hard of hearing”) to profound or uncorrectable hearing loss in both ears (“deafness”) (National Institute on Deafness and Other Communication Disorders [NIDCD], 2016). This is particularly troubling as children with mild to moderate hearing loss may fall one to four grades behind without help, with the gap growing over time, and children with more severe hearing loss may not even learn past the third- or fourth-grade level without help (American Speech-Language-Hearing Association [ASHA], 2019).

According to ASHA, children with hearing impairment are affected in several critical ways: (1) delayed speech and language skills, (2) learning difficulties in school, and (3) social isolation and poor self-concept (2019). Much early-reading instruction is oral, and students with hearing loss struggle to master phonemic awareness, phonics, and even sight words (Connor et al., 2014). Since hearing processes are closely intertwined with expressive and receptive language processes at all levels, impairments in hearing can lead to delays in speech and language development, which in turn can lead to delays in academic development, especially in reading, as well as to delays in social-emotional development, especially in forming relationships with peers and adults at school.

Impacted Speech & Language Processes	Affected Reading Processes	Accessibility Features
Receptive/expressive language at the phonology level	• Phonemic awareness • Phonological processing, esp. word recognition and spelling	1. Providing information in sign language and using simpler text that is supplemented by images, graphs, and illustrations 2. Transcripts and captions of audio content 3. Options to stop, pause, and adjust volume 4. High-quality foreground audio that is distinguishable from any background noise
Receptive/expressive language at the word level	Vocabulary, esp. abstract words and multiple meanings	
Receptive/expressive language at the sentence level	• Grammar, esp. syntax • Morphology • Fluency	
Receptive/expressive language at the discourse level	• Comprehension • Organization and cohesion	

Best institutional practices

Students with hearing impairments, especially those who get help early, are highly likely to achieve school success on par with their hearing peers with appropriate interventions that promote language, academic, and social-emotional development (ASHA, 2019). Some specific strategies that encourage and support learning for students with hearing impairments include:

Hearing screenings before instruction even begins to determine the presence, nature, and severity of a hearing impairment, as well as determine the best way to treat the hearing loss (e.g., medical treatment, hearing aids, cochlear implants)

Intervention strategies that focus on lower-level reading skills (on the word level) as well as more complex skills (sentence and discourse levels) (Sullivan & Oakhill, 2015)

- Using picture arrangement tasks to train storytelling and story-structure understanding
- Engaging in imagery-training procedures that utilize qualities of thinking that support comprehension, such as recollection, representation, inference, and evaluation
- Focusing on explicit teaching of comprehension strategies

Opportunities that promote independence with receptive and expressive language and that use their primary language as a means of learning and communicating their knowledge, when needed

Accessibility features to reduce barriers to learning (World Wide Web Consortium Web Accessibility Initiative [W3C WAI], 2022)

- Providing information in students' primary language (which may or may not be sign language) and using simpler text that is supplemented by images, graphs, and illustrations
- Transcripts and captions of audio content
- Options to stop, pause, and adjust volume
- High-quality foreground audio that is distinguishable from any background noise

Assistive technology that can enable communities to become more hearing friendly (Hearing Loss Association of America [HLAA], 2019; ASHA, 2019)

- Frequency modulation (FM) systems, infrared systems, and induction loop systems
- Assistive listening devices
- One-to-one communicators
- Sound-enhancing devices
- Speech-recognition programs that change speech into text
- Closed- and open-captioning

Home-school connection that is promoted such that supports provided at school are also being provided at home with family and caregivers

How Read 180 aligns to the research

Read 180 includes teachers with targeted instructional resources that can be used to accommodate students with hearing impairments.

Whole-group instruction (Teacher-led)

During Whole-Group instruction, teachers focus on macro-level skills that all students need.

- Closed Captioning in Anchor Videos with the use of add-ons such as Chrome Live Captions
- *ReaL Book* (digital and print)

Small-group instruction (Teacher-led)

Teachers provide targeted instruction on lessons and skills students need during the Small-Group rotation.

- *ReaL Book* (digital and print)

Student application software

Software provides personalized practice and immediate feedback on students' performance.

- Select "Closed captioning" for Anchor Videos and all audio instructions on the Class Management tab in Teacher Central.
- Enable the Microphone Bypass setting.
- Text-based button rollover provides a description of button functions.
- [Accommodation] Paraprofessionals and/or interpreters will need to assist with fluency activities.*

*NOTE: When learning foundational literacy skills, students acquire letter-sound correspondence skills by visually associating letters (graphemes) and connecting them aurally with the sounds (phonemes) that the letters represent. For this reason, the software component addressing foundational literacy skills may not apply for deaf and blind students.

Independent reading

Students practice reading engaging, level-appropriate books independently.

Hard-of-Hearing Students

- Paperbacks, eReads, eBooks:
 - Student-driven text size controls
 - Text-to-speech read-aloud with speed controls and highlight by phrase
 - High-contrast mode support on iOS®
 - Digital dictionary
- Audiobooks (raise volume): A Reading Coach on the audiobooks models fluency, comprehension, vocabulary, and self-monitoring strategies. Students have the ability to pause and repeat any recording so that they can work at their own pace.

Deaf Students

- Paperbacks, eReads, eBooks:
- Highlight by phrase
- Digital dictionary

Student application settings

Students with hearing impairments can also progress independently through the Comprehension Segment Explore, Reading (with Microphone Bypass selected), Language, and Writing Zones in the Student Application (Student App). Once those zones have been completed, teachers can reset their segment, allowing students to select a new segment to continue working independently.

Students with visual impairments

A growing body of research provides considerable evidence that associations exist between vision-related learning challenges and academic and social-emotional outcomes for youth, adolescents, and adults, especially for those from lower socioeconomic backgrounds (Slavin et al., 2008; Ihorn & Arora, 2018; Basch, 2011). As over 20% of school-aged children have some kind of visual impairment (Zaba, 2011), researchers and educators are actively looking for strategies and resources to ensure success for these students.

Some of the visual processes highlighted in the research base that are related to the processes involved in learning to read include hyperopia, binocular coordination, and visuomotor integration (Basch, 2011). Issues with one or more of these visual processes can create barriers to learning to read along various dimensions of literacy acquisition; however, the effective application of accessibility features can counteract many of these barriers.

Impacted Speech & Language Processes	Affected Reading Processes	Accessibility Features
Hyperopia: ability to see at a close distance	• Letter and word recognition • Receptive vocabulary • Orthography	1. Enlarging text size and images 2. Customizing fonts, colors, and spacing 3. Listening to text-to-speech synthesis of content 4. Listening to audio descriptions of images and video in multimedia 5. Reading text using refreshable Braille
Binocular coordination: fusion of the sight responses of both eyes through communication between the eyes and brain	Tracking – required for following letters and words across a line of text	
Visuomotor integration: integration between visual perceptual skills and neurological processes	• Decoding • Spelling • Writing	

Alongside learning to read, social-emotional challenges may present themselves to students with visual impairments (Ihorn & Arora, 2018). Vision loss may negatively impact the development of appropriate social skills, and, as a result, students with visual impairments may experience lower self-esteem, thus limiting their sense of mastery over their own lives.

Best institutional practices

While instructional practices that are effective for struggling readers without visual impairments are also effective for struggling readers with them, there are additional best practices that increase accessibility for these students and, thus, foster independence in both academic and social experiences.

1. Visual screenings should be conducted before instruction even begins to determine the presence, nature, and severity of a visual impairment, followed by eye exams and corrective glasses (Slavin et al., 2008; Glewwe et al., 2017).
2. Personalized interventions should be provided that are varied and individualized according to the specific abilities of students by doing the following (Project IDEAL, 2013; Spungin, 2002):
 - Capitalize on users' knowledge, experiences, and adaptive strategies when reading.
 - Provide accessibility to texts and instructional materials in the appropriate media and at the same time as peers, without visual impairments.
 - Promote advocacy and independence through increased opportunities for both.
3. Accessibility features must be integrated to reduce barriers to learning (W3C WAI, 2019):
 - Increased text size
 - Verbal and/or physical cues in place of text
 - Control of lighting variables
4. Assistive and adaptive technology, such as the following, should be provided to improve interactions with text:
 - Screen readers that read aloud web pages for people who cannot read the text
 - Screen magnifiers for people with some types of low vision
 - Control of lighting variables
 - Voice-recognition software and selection switches for people who cannot use a keyboard or mouse
 - An alternative keyboard and/or mouse with reduced speed
 - Adaptive teaching methods that provide students with appropriate instruction at the point in time when they need it most (Hasselbring & Bausch, 2017)
5. Expanded core curriculum for students with visual impairments should be implemented. This core curriculum should incorporate specialized instruction in the following areas (Ihorn & Arora, 2018; Project IDEAL, 2013):
 - Communication and social-interaction skills
 - Orientation and mobility
 - Career education skills, independence, and self-determination

How Read 180 aligns to the research

The blended model of instruction provides teachers with targeted instructional resources that can be used during the Whole-Group or Small-Group rotations to accommodate students with visual impairments.

Whole-group instruction (Teacher-led)

During Whole-Group instruction, teachers focus on macro-level skills that all students need.

- Listen to audio in Anchor Videos
- *Real Book* (see below)

Small-group instruction (Teacher-led)

Teachers provide targeted instruction on lessons and skills students need during the Small-Group rotation.

Low-Vision Students

- *Real Book*:
 - Digital
 - Listening to audio
 - Multi-level zoom
 - High-contrast mode support on iOS
 - Print
 - Large-print editions (NIMAC)

Blind Students

- *Real Book*:
 - Print
 - Braille version (NIMAC)

Student application software

Software provides personalized practice and immediate feedback on students' performance.

Low-Vision Students

- Listening to Anchor Video
- High-contrast color scheme setting
- Large passage text setting
- Anchor passage text provides fluent read-aloud with:
 - Speed controls
 - Word- or phrase-focused read
 - Ability to pause
 - Moving highlight for improved tracking
- Single words within passage text can be clicked to:
 - Hear in isolation
 - See word segmented into parts in larger text size
 - Hear in context with definition

Blind Students

- Listening to Anchor Video

Independent reading

Students practice reading engaging, level-appropriate books independently.

Low-Vision Students

- Audiobooks, eReads, and e-books incorporate:
 - Student-driven text-size controls
 - Read Aloud with speed controls
 - High-contrast mode support on iOS
 - Text-to-speech feature
 - Digital dictionary
- A Reading Coach on the audiobooks models fluency, comprehension, vocabulary, and self-monitoring strategies. Students have the ability to pause and repeat any recording so that they can work at their own pace.

Blind Students

- Audiobooks
- eReads, eBooks: text-to-speech feature
- A Reading Coach on the audiobooks

Students with other disabilities (e.g. ADHD, motor impairments, intellectual, emotional, etc.)

Students with special needs experience many challenges as they learn to read and as they attempt to demonstrate memory for and comprehension of what they have read. The co-occurrence of special needs and reading difficulties is a form of comorbidity, and it often rests with regular and special education teachers to help students navigate through their challenges. Researchers studying students with special needs have found specific manifestations of these disabilities, and providing accommodations to them can contribute to students' receptivity to reading instruction.

For example, students with attention deficit/hyperactivity disorder (ADHD) were found to have more difficulty forming, maintaining, and accessing a coherent mental representation of what they have read, when compared to a matched sample of students without ADHD (Miller et al., 2013). The research showed that, compared to their peers, the mental representation of central and peripheral information in working memory formed by students with ADHD was not strong enough to enable them to retell what they had read. They found this to be true even when controlling for students' word-reading abilities.

Research on links between motor impairment and reading difficulties is relatively limited, but their comorbidity suggests that both deficits could be indicative of an underlying problem with cerebellar function. When Brookman and her colleagues (2013) controlled for language proficiency, they found no evidence of links between deficits in motor skills and reading disabilities but did find significant associations between language impairments and students' ability to perform a task requiring fine motor dexterity and to imitate researchers' hand postures. The links were not strong enough to merit the development of specific interventions, and the researchers point out the cognitive complexity of what may seem to be common language-processing and reading problems.

To the extent possible, students with other disabilities and students with multiple disabilities need to learn to read so that they can reach their potential as students, and ultimately, as adults. Meta-analyses of studies on reading instruction for such students point to the efficacy of using evidence-based instructional approaches that are similar to those used with all other students—such as an emphasis on foundational skills, vocabulary development, and read-alouds—but providing accommodations to meet students' needs (Alquraini & Rao, 2020).

Even though they most likely hold specialized certifications, teachers who work with students who have multiple disabilities benefit from training on how to adapt evidence-based reading instruction for their population, and they need support and resources to provide needed accommodations successfully (McKenna et al., 2020).

Technology provides many new ways to help students with disabilities achieve their full abilities in reading, writing, and other subjects (Mahoney & Hall, 2017). A wide range of platforms is available for teachers to integrate into their instructional approach: They can personalize instruction, provide accommodations, and use assistive technology to give students agency over their learning. Technology gives students tools to assist them as they learn, monitor their understanding, reinforce instruction, and demonstrate their learning. Researchers studying the effectiveness of assistive technology and digital learning (Atanga et al., 2019) caution that these approaches will be effective only when teachers are well trained on their use and can use them appropriately and confidently. These researchers also stress the importance of teaching students how to take full advantage of technology when they understand how to use the tools and can do so independently.

How Read 180 aligns to the research

In *Read 180*, extensive phonics instruction is provided through individualized, modeled practice in structural analysis and continued work on phoneme articulation, coupled with immediate, corrective feedback. Modeled examples of correct articulation of sounds are further presented in *Read 180* audiobooks and during teacher-led instruction. A Smart Coach on the audiobooks models fluency, comprehension, vocabulary, and self-monitoring strategies at important points during reading. Students thus experience firsthand the strategies of a good reader throughout the supported reading of each grade- and age-appropriate book.

Read 180 offers students multiple means of expressing their learning through words and writing. In the software, students read and record text passages to practice and demonstrate fluency. All software and audiobooks include writing prompts and graphic organizers to allow students to show comprehension in a way that suits their needs. In addition, writing prompts are provided in the Writing Zone of the Student App. Assessments in both digital and print format offer multiple means for students to demonstrate their knowledge.

Read 180 instructional materials are designed with the principles of Universal Design for Learning (UDL) to facilitate access to the curriculum for all students. It does so by individualizing and differentiating instruction according to students' reading levels, skills proficiency, and interests.

A multisensory instructional approach allows for multiple means of representation of learning materials. For example, the software, Independent Reading books, audiobooks, Anchor Videos, *Real Book*, and teacher-directed lessons offer variety as a means of accessing lesson content. In addition, the Student App includes captioning of Anchor Videos, an alternate color scheme, and a button-rollover feature that provides a text label for the Student App buttons.

Read 180 content consistently presents images, graphics, and sound alongside printed and electronic text, providing daily opportunities for different types of learners to engage their visual, auditory, and tactile senses.

Multilingual learners

According to NCES, the percentage of English learners in U.S. public schools was 10.2%, or 5.0 million students, in fall 2018, which was up from 9.2%, or 4.5 million students, in fall 2010. NCES data indicate that California has the highest number of ELs, at 19.4% and West Virginia has the lowest, at 0.8%. Data from the Pew Research Center indicate that Spanish is the most common home language of ELs; however, it points out that students classified as ELs actually come from homes where many other languages are spoken.

Students speaking a language other than English who enter today's schools do not constitute a monolith. They speak many languages (including some indigenous languages); have had diverse educational, cultural, and home experiences; and, like all students entering school, have many strengths and needs. ELs within the kindergarten to Grade-12 system are often classified into three groupings:

- Newcomers—individuals who are new to this country or who have been in this country two or fewer years
- SLIFE—students with limited or interrupted formal education
- Long-term ELs—individuals whose oral proficiency in English makes them “socially bilingual” but whose academic language and reading skills are not commensurate with their oral language skills

Although each group has educational needs specific to the amount of time they have been in this country and their educational experiences here, research has shown some commonalities that apply to their educational needs.

Many reading researchers have investigated the development of reading skills by students who are learning English, as well as approaches to addressing the reading challenges these learners face. They have discovered much about the learners' processes and challenges and have been trying out and confirming the efficacy of different approaches for meeting these students' needs.

Many ELs show an insufficient grasp of reading skills when reading in English, and the cause of their challenges can be complex. Using a mixed-methods approach, Lesaux and Harris (2017) studied the reading skills and processes of adolescent Latino English learners (mean age = 13) whose reading was below expectations.

They administered standardized measures of word reading and vocabulary and conducted “think-aloud” interviews to examine participants' reading comprehension processes as they read and responded to a grade-level passage. Participating students demonstrated adequate word-reading skills, but their vocabulary knowledge was below average for their age. They seemed to engage actively in the comprehension process and could paraphrase and make inferences about what they read. However, their self-reports of using these processes were misleading in that their description of the passage as a whole showed incomplete comprehension and substantive misunderstandings of what was communicated. The researchers concluded that the participants lacked relevant background knowledge to understand what they read and also seemed to lack adequate language skills in English.

Cho and colleagues (2019) also studied comprehension processes of ELs and non-ELs exhibiting reading difficulties, focusing specifically on their subjects' linguistic comprehension. They found that both groups had difficulty with word reading—and that the effect of these difficulties was actually stronger for the non-EL students. The researchers combined vocabulary and listening comprehension to develop a linguistic comprehension variable and found this to have a greater effect than word reading on students' abilities. This was particularly true for the EL students. The researchers concluded that reading instruction for ELs can be most effective if it offers a full range of linguistic comprehension skills, including for both word-level and sentence-level understandings. For example, Vaughn and colleagues (2019) followed a cohort of ELs and former ELs for two years who were receiving an intervention to strengthen their reading. These groups were compared to a matched sample of control students. The treatment students scoring low at baseline on sentence reading and comprehension scored relatively higher at posttest on that measure, and students scoring high at baseline on the proximal vocabulary measure scored relatively higher at posttest on that measure.

In preparing the Institute of Education Sciences's What Works Clearinghouse Educator's Practice Guide, "Teaching Academic Content and Literacy to English Learners in Elementary and Middle School" (Baker et al., 2014), a team of researchers and practitioners reviewed the evidence base on how best to support ELs. Their review resulted in the following recommendations for teachers:

- Teach a set of academic vocabulary words intensively across several days using a variety of instructional activities.
- Integrate oral and written English language instruction into content-area teaching.
- Provide regular, structured opportunities to develop written language skills.
- Provide Small-Group instructional intervention to students struggling in areas of literacy and English language development.

The U.S. Department of Education (2016) has published a toolkit designed especially for teaching "newcomers." Instructional guidelines are similar to those in the practice guide, and the recommendations for the classroom environment are applicable to newcomers or to all ELs. For example, instruction should be future-oriented, set high expectations for all students, and focus on students' strengths, not deficits. The curriculum must be rich and engaging, seek to build background knowledge and vocabulary, and create links across curricular areas. Regardless of their background experiences, students are given opportunities to develop their sense of agency and autonomy and are able to monitor their own progress. Just as for their non-ELs, teachers use frequent progress monitoring and other formative assessments to ensure that the instruction their ELs receive is at the appropriate level.

Of the three groupings of ELs, students with limited or interrupted formal education (SLIFE) and long-term English learners (LTELs) may be the most challenging. Often their schooling has been interrupted—for example, as families move around—so they have not received consistent services in any academic area.

SLIFE students' first educational experiences in their home countries may have been interrupted, for example, by war or other displacement; and their enrollment in U.S. schools may have been temporary as families sought permanent homes. As a result, they face challenges learning foundational skills needed for English literacy and accumulating an adequate store of background knowledge.

LTELs' competency in conversational English can mask the underlying weakness in academic language and literacy skills; but when they receive intervention services, the instruction may be geared specifically for English speakers and not to strengthen their overall skills. LTELs in secondary schools are often taught by content-area teachers who have no ability to recognize students' challenges and have no skills for addressing them. Researchers at Hanover Research (2017) studied the evidence to date on LTELs in preparing a brief on instructional strategies to increase their opportunities in school. The brief stresses the urgency of identifying such students and providing them appropriate help as fast as possible. The interventions must be multi-pronged, focusing on language development, literacy development, and students' accumulating academic gaps. Efforts to help students see the relevance of the interventions are important, as are instructors who are able to create trusting relationships with these students.

Meeting the needs of ELs can pose challenges for many schools, but the presence of ELs also brings an opportunity to embrace multicultural and multilingual education. However, Vaughn and her colleagues (2019) and other researchers acknowledge the complexities faced by teachers whose classes contain both EL and non-EL students. These researchers all stress the importance of teacher professional development, resources, and support if teachers who have not had specialized training are to be prepared to help ELs develop adequate literacy skills.

How Read 180 aligns to the research

Read 180 is designed to differentiate instruction and meet all multilingual learners at their levels, whether they are speakers of other languages or other dialects, such as non-standard English, while being respectful of their first language. *Read 180* helps teachers to capitalize on the advantages that multilingual learners bring to the classroom and the support that using their first language judiciously can provide. By focusing on understanding register and academic language, the program helps students build upon their native languages and dialects and provides them the scaffolding and supports they need to “put miles on the tongue” and use academic language effectively.

Throughout *Read 180*, program materials reflect a consideration for the needs of multilingual learners. The program was designed with the recognition that focusing on the needs of multilingual learners highlights important elements of reading instruction, such as building background knowledge and developing academic vocabulary, that are beneficial to all *Read 180* users.

Read 180 includes many supports that are beneficial to multilingual learners who are struggling with reading comprehension and fluency. All multilingual learners can benefit from the individualized instruction provided by Individualized Learning Technology, along with immediate corrective feedback that has been found to be particularly helpful to non-native English speakers. The Student App also provides vocabulary supports, captioning of Anchor Videos, and supports in the eReads and parents materials. These eRead and parent material supports cater to the five major world languages spoken in California (Spanish, Vietnamese, Filipino, Cantonese, and Mandarin). Plus, Spanish translations are designed to help students who have beginning and intermediate English proficiency levels to access the texts, as well as build background knowledge and experience success.

The program’s emphasis on developing academic language and vocabulary reflects practices that have been shown to be particularly effective for multilingual learners, who may struggle with academic language even if they are comfortable with conversational English. Similarly, English learners benefit from supported practice with speaking and listening in the classroom and opportunities to collaborate and discuss concepts with peers. The program’s instructional routines, such as Think (Write)-Pair-Share, scaffold classroom discussion so that multilingual learners can feel more comfortable participating.

Like native English speakers, multilingual learners are able to apply and practice their learned skills with audiobooks and Independent Reading books that are leveled so that students can experience frequent success with reading. In addition, students have the opportunity to practice their oral language skills during Independent Reading book conferences and collaboration and presentation projects. Projects are assigned at the teacher’s direction and may include debates, research projects, multimedia presentations, choral reading, writing dialogue, and more. The multicultural content found across all components of *Read 180* reflects ethnic, cultural, and linguistic diversity, helping multilingual learners find a sense of belonging in their new culturally responsive environment.

Build cross-linguistic connections

Teachers can use the Contrastive Analysis resources available on the Ed platform to help understand how students’ home languages affect their ability to read and produce sounds in English. Teachers will find specific information on positive and negative transfer of skills for sounds, spelling, and grammar usage based on students’ primary languages.

Teachers can also provide the Language Launch Bilingual Glossaries for students to look up new words and meanings to make connections between their home language and English.

Contrastive Analysis and Language Launch Bilingual Glossaries are included in the Resources for Multilingual Learner Support on Ed for the following languages:

- Arabic
- Cantonese
- Filipino
- Haitian Creole
- Hmong
- Korean
- Mandarin
- Portuguese
- Russian
- Somali
- Spanish
- Vietnamese

Teaching language to newcomers (Language Launch lessons)

Language Launch consists of teacher-led digital lessons designed to teach the social, instructional, and content-area language that students need as they learn English for the first time.

- If you teach at a newcomer center or have an English language development class of all students at early levels, then consider teaching Language Launch lessons during whole-class instruction.
- If you have a class with students that span multiple levels of English proficiency or a *Read 180* class that includes intervention students, form a group of students at the early level of English proficiency to teach the Language Launch lessons.

Language Launch digital Teaching Guide

The Language Launch Teaching Guide was designed to support you in meeting the unique needs of your newcomer students. Access the Teaching Guide on the Ed platform for the following resources:

- Planning guides for Units 1–6 with support for getting ready to teach the unit; content that calls attention to important cultural, linguistic, or social-emotional considerations; and lesson objectives and overviews
- Teacher notes that provide directions, model language, scaffolding, and differentiated support
- Essential routines that provide step-by-step guidance for using the research-informed Language Launch routines to maximize student engagement and accelerate language development

Addressing students' foundational skills needs

Depending on class schedules and students' foundational skills needs, you may consider teaching Code lessons after students have completed Language Launch Units 1–3 or teaching Language Launch and Code lessons concurrently.

RealL Book: Code Teaching Guide

Teach the *RealL Book: Code* lessons to provide multilingual learners with explicit instruction in foundational reading skills, which reinforces learning from the instructional software. Access the following Lesson Launch supports for multilingual learners:

- Pronunciation and articulation tips to support you in modeling and forming the sound(s) accurately
- Options for pre-teaching the words from the lesson to help students in connecting meaning to words they decode
- Contrastive Analysis information about the particular sound(s) or skill so you can point out similarities and differences between students' home language

The screenshot displays the 'Short o' Code lesson page from the RealL Book. It includes a 'Multilingual Learner Support' section with the title 'Support Articulation: Short o' and a quote: 'My students say short o words with a long o sound.' The text describes a strategy for teaching articulation by having students repeat words like 'dot', 'hop', and 'not', and then identifying which word contains the short o sound. The page also features a 'Correct & Redirect' section and a 'Multilingual Learner Support' section with a quote: 'My students are having difficulty distinguishing sounds.' The page is numbered 1178 and is titled 'RealL Book: Code 1 • Teaching Guide'.

Use the multilingual learner support strategies to target students' particular articulation and contrastive analysis needs at point of use.

Professional Learning and Community Building

Blended professional learning and services

Connected and personalized professional learning

Long-term connected professional learning includes cohesive features—online coaching, remote observations, online collaboration, and facilitated online communities—all with a focus on how to ensure social and emotional well-being and meaningful student learning in digital environments. Connecting workshops to follow-up learning and support among peers and with coaches can help teachers retain new knowledge, practice new skills, and share innovative, effective approaches that they can scale. A connection between workshops, coaching, and collaboration is essential for a professional learning program to make a difference in student achievement (Aguilar, 2019).

Effective professional learning, whether in-person, online, or blended, offers teachers experiences that are connected and coordinated components so that their learning makes sense and builds proficiency. This approach includes alignment between the study of theory and practice, observation of theory and practice, individual coaching, and further practice and refinement through collaboration. Each of these components is essential to support and build on the content and pedagogy that is learned, observed, and practiced in each of the other components (Rock, 2019).

For schools to support the implementation of high-quality instructional materials, it is critical that teachers use effective professional learning during the launch of the curriculum, which is often when teachers are learning and committing to an instructional approach (Gulamhussein, 2013). Teachers' initial exposure to a concept should engage them through varied approaches and active learning strategies to make sense of the new practice (Bill & Melinda Gates Foundation, 2014; Garet et al., 2001;

Gulamhussein, 2013). An effective professional learning program should be curriculum-based and focus on the targeted content, strategies, and practices (Bill & Melinda Gates Foundation; 2014; Saxe et al., 2001; Wei, 2009), and it should be grounded in the teacher's grade level or discipline (Gulamhussein, 2013).

Online professional development (PD) can help solve resource challenges in implementing a scalable and sustainable model. Online PD platforms can create a peer-to-peer support community, building the capacity of the teaching team to support each other. Perhaps most importantly, online PD allows teachers to experience the agency and personalized learning they are creating for students. The unique opportunity of blended PD is the shift from PD as a one-time or periodic event to PD as an ongoing and embedded practice (Tucker & Wycoff, 2019).

Many school districts and providers of teachers' professional development are moving toward a more personalized model of professional development, taking a cue from the movement toward personalized learning for students. This approach often focuses on short modules, which teachers can choose and then complete on their own time. The modules can incorporate aspects of gamification, micro-credentialing, and online professional development communities. By allowing teachers to choose their own professional development courses and activities and complete them in their own place at their own pace, the professional development will be better matched to their needs. Teachers will be able to set goals, find resources to help them meet those goals, track their progress, and get feedback from supervisors and colleagues (Gamrat et al., 2014; Meeuwse & Mason, 2018).

Coaching

Research has demonstrated that sustained, job-embedded coaching is the most effective form of professional learning, whether it is delivered in person or in a virtual setting. Coaching delivered in person has been most effective when coaches are highly expert and focus their work with teachers on a clearly specified instructional model or program. Other opportunities for teachers to develop their content knowledge of the targeted instructional model (e.g., in courses, workshops, or coach-led learning groups) are also important for successful coaching programs. Online coaching shows promise for being at least as effective as in-person coaching for improving outcomes, though the research base comparing delivery systems is thin. The balance of evidence to date, however, suggests that the medium through which coaching is delivered is less important than the quality and substance of the learning opportunities provided to teachers (Matsumara et al., 2019).

A recent meta-analysis of coaching programs found effect sizes of 0.49 SD on instructional practices and 0.18 SD on student achievement (Kraft et al., 2018). Encouragingly, teachers who received virtual coaching performed similarly to teachers who received in-person coaching for improving both instructional practices and student achievement. The authors identified several aspects of coaching in a virtual setting as potential strengths: increasing the number of teachers with whom a high-quality coach can work, reducing educators' concerns about being evaluated by their coaches, and lowering costs while increasing scalability (Kraft et al., 2018).

A few studies have investigated the relative effectiveness of in-person versus remote coaching (Fishman et al., 2013; Lowry, 2007; Powell et al. 2010; Vernon-Feagans et al., 2015). In Powell et al. (2010), for example, Head Start teachers were assigned to coaching (online or in-person) or comparison conditions. Results indicated positive effects of both online and in-person coaching on the general

classroom environment and students' emergent reading and writing skills relative to the comparison condition. In another study, Vernon-Feagans et al. (2015) compared the effects of in-person literacy coaches and coaches providing support via live webcams.

The results suggested that teachers coached via webcam benefited more than teachers coached in person, specifically on implementation fidelity and reports of self-efficacy. Moreover, although struggling readers made similar gains across literacy measures in both coaching conditions, students in the webcam group demonstrated greater progress on one measure of child literacy.

Virtual coaching can provide a framework for a shared leadership structure that focuses on facilitating teachers' autonomy, self-management, empowerment, and cooperation. Because the coach and the teacher jointly pursue the goal of increased student achievement, virtual coaching provides social support for both parties, leading to enhanced emotional and psychological strength. Any coaching relationship—traditional or virtual—builds on several underlying qualities of both teacher and coach. Chief among them are a willingness to change, a trusting relationship, a high level of initiative, and a personal and organizational commitment to the workplace (Blackman, 2010).

Web-based coaching programs can be operated at relatively lower costs, are scalable, and make it more feasible to pair teachers with coaches who have expertise in their content area and grade level. Results from a randomized field trial documented sizable and sustained effects on both teachers' ability to analyze instruction and on their instructional practice, as measured by the Mathematical Quality of Instruction instrument and student surveys. However, these improvements in instruction did not result in corresponding increases in math test scores as measured by state standardized tests or interim assessments (Kraft & Hill, 2020).

How Read 180 aligns to the research

HMH provides a continuum of connected professional learning through implementation planning and support, coach-led sessions, and on-demand resources to ensure that teachers and students are supported throughout the year. The program's embedded and on-demand support coupled with personalized professional learning and coaching fosters teachers' agency, promotes collaboration, and builds collective efficacy to support teachers' roles as designers of quality instruction.

To support the sustainability of *Read 180* and to ensure optimal implementation of the program across all schools, HMH collaborates with district leadership to create an **implementation plan**. Planning meetings at mid-year and end-of-year provide an opportunity to review growth and keep the implementation on track. An HMH **Instructional Coach** works with teachers and leaders to analyze program data to target individual students' needs and identify next steps for instruction, monitoring, and assessment based on report data.

The **Getting Started With Read 180** is an important part of the learning journey. We know teachers can't take in every detail before they start teaching *Read 180*, so the *Getting Started With Read 180* is streamlined to focus on introducing teachers to their new program and supporting them with preparing for their first weeks. *Getting Started* provides an overview of the *Read 180* learning model and research-based components, and how they work to accelerate reading achievement and build literacy. Teachers have opportunities to explore teaching materials, discuss student placement options, and ask questions to build understanding and confidence to prepare them for a strong start.

The *Getting Started* is the initial step toward a successful implementation. As soon as teachers log into Ed, their teaching and learning platform, they have access to a self-paced **Teacher Success Pathway** designed to support them during their first 30 days of teaching with *Read 180*. A recommended sequence of live sessions and on-demand interactive media, videos, and downloadable resources will help teachers plan, teach, and assess learning using *Read 180*. Teachers can access the topics all at once or in increments as they are ready, and all the resources are there for teachers to revisit as many times as they need. After teachers complete their pathway, they can continue to access a library of on-demand resources in **Teacher's Corner on Ed**.

Additionally, **Leader's Corner on Ed** provides leaders with the knowledge, strategies, and tools they need to support teachers in successfully implementing *Read 180*.

HMH recognizes that professional growth occurs through a sustained learning process in which the personal needs of each participant are systematically and strategically elevated and supported. HMH offers a variety of **Coaching Memberships** that provide personalized support focused on lesson design, instructional practices, content, and data-driven decision-making to ensure continuous improvement over time.

HMH coaches build strong relationships with teachers by modeling high-impact instructional strategies, answering program and practice questions, leading grade-level program sessions centered on evidence of student learning, and helping teachers select, monitor, and achieve goals. By incorporating action steps, gathering data, analyzing evidence, and reflecting, coaching can facilitate measurable results (Taylor & Chanter, 2016).

The program's comprehensive blended professional learning solutions are research based, mapped to a teacher's goals, centered on students, and designed to build the collective capacity and efficacy of leaders and teachers. Collective efficacy within a system has the power to change lives.

Read 180 builds a culture of professional growth through:

- Getting Started training
- Teacher Success Pathways on Ed
- *Read 180* Program Guide
- Teacher's Corner and Leader's Corner resources and live events
- Coaching Memberships

Family engagement

In order for a child to be successful in school, there are numerous critical roles that families play: supporters of learning, encouragers of perseverance and determination, models of educational practices, and advocates of appropriate school environments for their child. Families need the opportunity to learn and grow along with their children and to support the learning and growth of their children in order for partnerships between families and schools to succeed.

Schools and districts that successfully engage families in their children's learning are able to strike a balance between pushing families to support learning and pulling families into the school community. These schools view families as partners in their children's education and provide a collaborative environment that builds relationships between educators and families. They have frameworks that encourage both learning at home and collaborative decision-making.

Having books in the home helps establish a reading culture that continues from generation to generation within families and is independent of education and class. This creates an interest in and desire for books that will promote the skills and knowledge needed to foster both literacy and numeracy, thus leading to lifelong academic advantages.

Children whose parents have lots of books are nearly 20% more likely to finish college. Books in the home are a stronger predictor of college graduation than the educational levels of parents (Evans et al., 2010).

It is very important that families and educators make a firm commitment to encourage adolescent students to read outside of school by finding ways to engage them with texts over the summer as well as before and after school. Moreover, it is critical that students are encouraged to make reading a part of their lifestyle (Alexander, 2014).

For a child to become a reader, time spent with parents or caregivers who engage with their children through books—whether through close readings or discussion of pictures—is what is most necessary. When children not only have access to books but also can share them with reading mentors who love books and reading, they are much more likely to thrive as readers (Bridges, 2014).

How Read 180 aligns to the research

Read 180 provides resources to help families support students' learning and connect with the *Read 180* classroom. *Read 180* includes access to **HMH Family Room**, an intuitive, ever-growing library of on-demand resources created to provide families with engaging, practical recommendations to help their children thrive. Families can access Family Room via their child's Ed login to view assignments, information about *Read 180*, at-home learning support, and tips and videos.

With their children's Ed login, families and caregivers can access:

- their child's assignments and resources;
- on-demand articles, videos, and tips from teachers and other families; and
- resources in both English and Spanish.

The following resources are provided to the families:

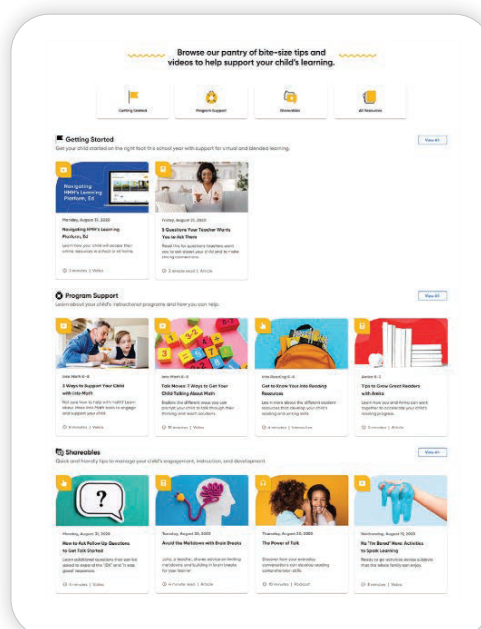
- Getting Started Tips for family members on how to navigate Ed, and questions they can ask their child
- Program Support Information about their child's instructional programs and how family members can help
- Shareable, quick, and friendly tips to manage their child's engagement, instruction, and development

Family Room helps caregivers become familiar with the Ed platform and will provide 24-7 differentiated support about their child's instructional programs and insights on how family members can help. Examples of instructional resources include "5 Questions Your Teacher Wants You to Ask Them," "The Power of Talk," and general support that offers practical recommendations for fostering learning, including tips for avoiding meltdowns, combatting social isolation, and nurturing growth mindset. Resources are available in both English and Spanish.

In addition, each *Real Book Workshop* includes four or five strategies to support teachers in involving and engaging parents, including:

- strategies for soliciting and hearing the concerns, hopes, needs, and insights of parents;
- suggestions for sharing expectations about parent involvement and asking parents about their expectations;
- channels for asking parents what they view as important in helping students succeed and adding those things to classroom practice;
- frequent communications with parents and families (via email, letters, and suggestions for school websites);
- invitations for parent volunteers;
- information on supporting *Real Book* work at home while helping students build independence; and
- information on classroom assignments and the role of homework in reinforcing class discussion/learning.

These strategies are available in the Teacher's Edition throughout the texts and during process writing instruction. Parent reports of student progress, as well as letters to parents, are available in multiple languages. Access to digital books helps students engage with their families over texts.



HMH Family Room

Conclusion

Children's right to literacy

Many educators and parents are aware that literacy expert Phyllis Hunter has declared that reading is a basic civil right for every child and adult in this country. She reminds us all that individuals who are not strategic readers cannot fully participate in a democracy.

There is probably less familiarity with an important suit brought against the Detroit public school system in 2016. Those bringing the suit—many of them parents—charged that students in the city’s schools were being deprived of a basic civil right: access to high-quality educational experiences and current, relevant educational resources. In its historic ruling, the U.S. Court of Appeals for the Sixth Circuit ruled that students’ access to a basic minimum education is a fundamental right protected by the Due Process Clause of the Fourteenth Amendment to the U.S. Constitution. Such an education was “one that can plausibly impart literacy” to all students, regardless of their preschool experiences, the languages spoken at home, the socioeconomic status of their families, and preexisting conditions that might make learning more challenging than usual.

The ruling in this case acknowledges the limits of the courts to dictate educational outcomes, such as specific literacy rates at a given grade level, but it emphasizes the duty of states to ensure that all of their schools provide students with opportunities to become literate.

To meet this all-important goal, the findings of this landmark ruling (Mangan, 2020) emphasizes that a foundational goal for educators should be the attainment of literacy by all students because the “role of basic literacy education in the broader framework of the U.S. Constitution suggests that [literacy] is essential to the exercise of other fundamental rights. This is essential because literacy is ‘a key to opportunity.’”

The Detroit settlement and broader concerns about social justice in schools means that all teachers need to be well trained, supported through high-quality PD, and supplied with current, diverse, and relevant teaching supplies for their students to use. Students need access to these teaching supplies and should be made to feel welcome and valued in their classes, regardless of their backgrounds, language status, or prior achievements. Their progress needs to be monitored frequently using valid and reliable measures, with results used not to segregate them from others but to help teachers tailor instructional programs and make decisions. Additionally, if needed, students need to receive additional instruction to support their learning, and this support should be offered by skilled instructors and in a timely fashion so that small understandings can be addressed before they accumulate. Addressing deficits early and effectively allows students to continue to grow as readers and writers and, ultimately, to become literate adults.

References

- Adams, M. J. (1990). *Beginning to read: Thinking and learning about print*. MIT Press.
- Adams, M. J. (2001). Alphabetic anxiety and explicit, systematic phonics instruction: A cognitive science perspective. In S. B. Neuman & D. K. Dickinson (Eds.), *Handbook of early literacy research* (Vol. 1, pp. 66–80). Guilford Press.
- Adams, M. J. (2009). The challenge of advanced texts: The interdependence of reading and learning. In E. H. Hiebert (Ed.), *Reading more, reading better* (pp. 163–189). Guilford.
- Adams, M. J., & Bruck, M. (1995). Resolving the “great debate.” *American Educator*, 19(2), 10–20.
- Aguilar, E. (2019, November 1). You can’t have a coaching culture without a structure. *Educational Leadership: A Culture of Coaching*, 77(3), 22–28.
- Ahmed, Y., Francis, D. J., York, M., Fletcher, J. M., Barnes, M., & Kulesz, P. (2016). Validation of the direct and inferential mediation (DIME) model of reading comprehension in grades 7 through 12. *Contemporary Educational Psychology*, 44, 68–82. <https://doi.org/10.1016/j.cedpsych.2016.02.002>
- Al Otaiba, S., Connor, C. M., Folsom, J. S., Greulich, L., Meadows, J., & Zhi, L. (2011). Assessment data–informed guidance to individualize kindergarten reading instruction: Findings from a cluster-randomized control field trial. *The Elementary School Journal*, 111(4), 535–560. <https://doi.org/10.1086/659031>
- Al Otaiba, S., Connor, C. M., Folsom, J. S., Wanzek, J., Greulich, L., Schnatschneider, C., & Wagner, R. K. (2014). To wait in Tier 1 or intervene immediately: A randomized experiment examining first-grade response to intervention (RTI) in reading. *Exceptional Children*, 81(1), 11–27. <https://doi.org/10.1177/0014402914532234>
- Al Otaiba, S., & Petscher, Y. (2020). Identifying and serving students with learning disabilities, including dyslexia, in the context of multitiered supports and response to intervention. *Journal of Learning Disabilities*, 53(5), 327–331. <https://www.journals.uchicago.edu/doi/10.1086/659031>
- Alexander, F. (2014). Quoted in Williams, M., “Major drop in teens and reading.” *The Washington Post*.
- Alquraini, T. A., & Rao, S. M. (2020). Developing and sustaining readers with intellectual and multiple disabilities: A systematic review of literature. *International Journal of Developmental Disabilities*, 66(2), 91–103. <https://doi.org/10.1080/20473869.2018.1489994>
- Alston, C. L., & Barker, L. M. (2014). Reading for teaching: What we notice when we look at literature. *English Journal*, 103(4), 62–67. <https://www.jstor.org/stable/24484222>
- Alvermann, D., Unrau, N. J., & Ruddell, R. B. (Eds.). (2013). *Theoretical models and process of reading* (6th ed.). International Reading Association.
- American Academy of Pediatrics. (2015). *Helping your child learn to read*. https://downloads.aap.org/AAP/PDF/Early_Childhood_Parent_Resources.pdf
- American Speech-Language-Hearing Association. (2019). *Effects of hearing loss on development*. <https://www.asha.org/public/hearing/effects-of-hearing-loss-on-development/>
- Anderson, R. C., Hiebert, E. H., Scott, J. A., & Wilkinson, I. A. G. (1985). *Becoming a nation of readers: The report of the Commission on Reading*. <https://eric.ed.gov/?id=ED253865>
- Anderson, R. C., Wilson, P. T., Fielding, L. G. (1988). Growth in reading and how children spend their time outside of school. *Reading Research Quarterly*, 23(3), 285–303.
- Aronson, B., & Laughter, J. (2016). The theory and practice of culturally relevant education: A synthesis of research across content areas. *Review of educational research*, 86(1), 163–206. <https://doi.org/10.3102/0034654315582066>
- Asghar, Z., Williams, N., Denney, M., & Siriwardena, A. N. (2019). Performance in candidates declaring versus those not declaring dyslexia in a licensing clinical examination. *Medical Education*, 53(2), 1243–1252. <https://doi.org/10.1111/medu.13953>
- Atanga, C., Jones, B. A., Kreuger, L. E. & Lu, S. (2019). Teachers of students with learning disabilities: Assistive technology knowledge, perceptions, interests, and barriers. *Journal of Special Education Technology*, 35(4), 236–248. <https://doi.org/10.1177/0162643419864858>
- August, D., & Shanahan, T. (Eds.). (2006). *Developing literacy in second-language learners: Report of the National Literacy Panel on Language-Minority Children and Youth*. Lawrence Erlbaum Associates Publishers
- Bailey, J., Ellis, S., Schneider, C., & Ark, T. V. (2013). *Blended learning implementation guide, version 1.0*. Digital Learning Now.
- Baker, S., Lesaux, N., Jayanthi, M., Dimino, J., Proctor, C. P., Morris, J., Gersten, R., Haymond, K., Kieffer, M. J., Linan-Thompson, S., & Newman-Gonchar, R. (2014). *Teaching academic content and literacy to English learners in elementary and middle school* (NCEE 2014-4012). U.S. Department of Education, Institute of Education Sciences, National Center for Education Evaluation and Regional Assistance (NCEE).
- Barber, A. T., & Klauda, S. L. (2020). How reading motivation and engagement enable reading achievement: Policy implications. *Policy Insights from the Behavioral and Brain Sciences*, 7(1), 27–34. <https://doi.org/10.1177/2372732219893385>
- Basch, C. E. (2011). Vision and the achievement gap among urban minority youth. *Journal of School Health*, 81(10), 599–605. <https://doi.org/10.1111/j.1746-1561.2011.00633.x>
- Baumann, J. F., Kame’enui, E. J., & Ash, G. E. (2003). Research on vocabulary instruction: Voltaire redux. In J. Flood, D. Lapp, J. R. Squire, & J. M. Jensen (Eds.), *Handbook of research on teaching the English language arts* (2nd ed., pp. 752–785). Lawrence Erlbaum.

- Baumann, T., & Melle, I. (2019). Evaluation of a digital UDL-based learning environment in inclusive chemistry education. *Chemistry Teacher International*, 1(2), 1–13. <https://doi.org/10.1515/cti-2018-0026>
- Beck, I. L., McKeown, M. G., & Kucan, L. (2002). *Bringing words to life: Robust vocabulary instruction* (1st ed.). Guilford Press.
- Beck, I. L., McKeown, M. G., & Kucan, L. (2013). *Creating robust vocabulary*. Guilford Press.
- Belfield, C., Bowden, B., Klapp, A., Levin, H., Shand, R., & Zander, S. (2015). The economic value of social and emotional learning. *Journal of Benefit-Cost Analysis*, 6(3), 508–544.
- Berninger, V. W., & Wolf, B. (2009). *Helping students with dyslexia and dysgraphia make connections: Differentiated instruction lesson plans in reading and writing*. Brookes Publishing Company.
- Biancarosa, G., & Griffiths, G. G. (2012). Technology tools to support reading in the digital age. *The Future of Children*, 22(2), 139–160. <https://doi.org/10.1353/foc.2012.0014>
- Biemiller, A. (1970). The development of the use of graphic and contextual information as children learn to read. *Reading Research Quarterly*, 6(1), 75–96. <https://doi.org/10.2307/747049>
- Biemiller, A. (2012). Teaching vocabulary in the primary grades: Vocabulary instruction needed. In E. J. Kame'enui & J. F. Baumann (Eds.), *Vocabulary instruction: Research to practice* (2nd ed., pp. 34–50). Guilford Publications.
- Bill & Melinda Gates Foundation. (2014). *Teachers know best: Teachers' views on professional development*.
- Blackman, A. (2010). Coaching as a leadership development tool for teachers. *Professional Development in Education*, 36(3), 421–441. <https://doi.org/10.1080/19415250903208940>
- Boulware-Gooden, R., Carreker, S., Thornhill, A., & Joshi, R. M. (2007). Instruction of metacognitive strategies enhances reading comprehension and vocabulary achievement of third-grade students. *The Reading Teacher*, 61(1), 70–77. <https://doi.org/10.1598/RT.61.1.7>
- Bowers, P. N., & Cooke, G. (2012). Morphology and the Common Core: Building students' understanding of the written word. *Perspectives on Language and Literacy*, 38(4), 31–35.
- Brady, S. (2012). Taking foundational standards far enough. *Perspectives on Language and Literacy*, 38(4), 19–24.
- Bransford, J., Brown, A., & Cocking, R. (2000). *How people learn: Brain, mind, experience, and school. Expanded edition*. Committee on Developments in the Science of Learning with additional material from the Committee on Learning Research and Educational Practice. National Academy Press.
- Bridges, L. (2014). *The joy and power of reading*. Scholastic
- Brookhart, S. M. (2008). *How to give effective feedback to your students*. Association for Supervision and Curriculum Development.
- Brookman, A., McDonald, S., McDonald, D., & Bishop, D. V. M. (2013). Fine motor deficits in reading disability and language impairment: Same or different? *PeerJ: Life and Environment*, 1. <https://doi.org/10.7717/peerj.217>
- Brooks, K., & Karathanos, K. (2009). Building on the cultural and linguistic capital of English learner (EL) students. *Multicultural Education*, 16(4), 47–51.
- Brown, A. L., & Palincsar, A. S. (1987). Reciprocal teaching of comprehension skills: A natural history of one program for enhancing learning. In J. D. Day & J. G. Borkowski (Eds.), *Intelligence and exceptionality: New directions for theory, assessment, and instructional practices* (pp. 81–131). NJ: Ablex.
- Brozo, W., & Flynn, E. S. (2008). Motivating students to read in the content classroom: Six evidence-based principles. *The Reading Teacher*, 62(2), 172–174. <https://doi.org/10.1598/RT.62.2.9>
- Bruhn, A. L., Hirsch, S. E., Gorsh, J., & Hannan, C. (2014). Simple strategies for reflecting on and responding to common criticisms of PBIS. *Journal of Special Education Leadership*, 27(1), 13–25.
- Burgers, C., Eden, A., van Engelenberg, M. D., & Buningh, S. (2015). How feedback boosts motivation and play in a brain-training game. *Computers in Human Behavior*, 48, 94–103. <https://doi.org/10.1016/j.chb.2015.01.038>
- Burton, A., & Hooper, M. (2021, April). *Trending downwards: Analysis of PISA trends in student reading behavior and attitudes*. Paper presented at the 2021 Annual Meeting of the Comparative & International Education Conference Virtual Conference.
- Cabell, S. Q., & Hwang, H. (2020). Building content knowledge to boost comprehension in the primary grades. *Reading Research Quarterly*, 55(S1), S99–S107. <https://doi.org/10.1080/19415250903208940>
- Carlo, M. S., August, D., McLaughlin, B., Snow, C. E., Dressler, C., Lippman, D. N., Lively, T. J., & White, C. E. (2004). Closing the gap: Addressing the vocabulary needs of English language learners in bilingual and mainstream classrooms. *Reading Research Quarterly*, 39(2), 188–215. <https://doi.org/10.1598/RRQ.39.2.3>
- Carnegie Council on Advancing Adolescent Literacy. (2010). *Time to act: An agenda for advancing adolescent literacy for college and career success*. Carnegie Corporation of New York.
- CASEL. (2019). *Program guide*. <https://pg.casel.org/>
- Castles, A., Rastle, K., & Nation, K. (2018). Ending the reading wars: Reading acquisition from novice to expert. *Psychological Science in the Public Interest*, 19(1), 5–51. <https://doi.org/10.1177%2F1529100618772271>
- Center for Applied Special Technology (CAST). (2011). *What is universal design for learning?* <http://www.cast.org/research/udl>
- Channa, M. A., Nordin, Z. S., Siming, I. A., Chandio, A. A., & Koondher, M. A. (2015). Developing reading comprehension through metacognitive strategies: A review of previous studies. *English Language Teaching*, 8(8), 181–186. <https://doi.org/10.5539/elt.v8n8p181>
- Cheatham, J. P., & Allor, J. H. (2012). The influence of decodability in early reading text on reading achievement: A review of the evidence. *Reading and Writing*, 25(9), 2223–2246.
- Cho, E., Capin, P., Roberts, G., Roberts, G. J., & Vaughn, S. (2019). Examining sources and mechanisms of reading comprehension difficulties: Comparing English learners and non-English learners within the simple view of reading. *Journal of Educational Psychology*, 111(6), 982–1000. <https://doi.org/10.1037/edu0000332>

- Clayton, J., Elliott, R., & Iwata, J. (2014). Exploring the use of micro-credentialing and digital badges in learning environments to encourage motivation to learn and achieve. In B. Hegarty, J. McDonald, & S.-K. Loke (Eds.), *Rhetoric and reality: Critical perspectives on educational technology*, 23–26.
- Cohen, R., Kincaid, D., & Childs, K. E. (2007). Measuring school-wide positive behavior support implementation: Development and validation of the benchmarks of quality. *Journal of Positive Behavior Interventions*, 9(4), 203–213. <https://doi.org/10.1177/10983007070090040301>
- Cohn-Vargas, B., Kahn, A. C., & Epstein, A. (2021). *Identity safe classrooms, grades 6–12: Pathways to belonging and learning*. Corwin.
- Coiro, J. (2021). Toward a multifaceted heuristic of digital reading to inform assessment, research, practice, and policy. *Reading Research Quarterly*, 56(2), 9–31. <https://doi.org/10.1002/rrq.302>
- Connor, C. M., Alberto, P. A., Compton, D. L., & O'Connor, R. E. (2014). *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 (NCSE 2014-3000)*. U.S. Department of Education, Institute of Education Sciences, National Center for Special Education Research. <https://ies.ed.gov/ncser/pubs/20143000/pdf/20143000.pdf>
- Connor, C. M., Dombek, J., Crowe, E. C., Spencer, M., Tighe, E. L., Coffinger, S., Zargar, E., Wood, T., & Petscher, Y. (2017). Acquiring science and social studies knowledge in kindergarten through fourth grade: Conceptualization, design, implementation, and efficacy testing of content-area literacy instruction (CALI). *Journal of Educational Psychology*, 109(3), 301–320. <https://doi.org/10.1037/edu0000128>
- Connor, C. M., & Morrison, F. J. (2012). Knowledge acquisition in the classroom: Literacy and content area knowledge development in early childhood: How young children build knowledge and why it matters. In A. M. Pinkham, T. Kaefer, & S. B. Neuman (Eds.), *Knowledge development in early childhood: How young children build knowledge and why it matters* (pp. 220–241). Guilford Press.
- Coppola, R., Woodward, R., & Vaughan, A. (2019). And the students shall lead us: Putting culturally sustaining pedagogy in conversation with universal design for learning in a middle-school spoken word poetry unit. *Literacy Research: Theory, Method, and Practice*, 68(1), 226–249. <https://doi.org/10.1177/2381336919870219>
- Corujo, J. (2024, April 8). Code-switching vs. translanguaging. *HMH Shaped Blog*.
- Crosson, A., & McKeown, M. (2016). Middle school learners' use of Latin roots to infer the meaning of unfamiliar words. *Cognition and Instruction*, 34(2), 148–171. <https://doi.org/10.1080/07370008.2016.1145121>
- Cunningham, A. E. (1990). Explicit versus implicit instruction in phonemic awareness. *Journal of Experimental Child Psychology*, 50(3), 429–444. [https://doi.org/10.1016/0022-0965\(90\)90079-N](https://doi.org/10.1016/0022-0965(90)90079-N)
- Cunningham, A. E., & Stanovich, K. E. (1997). Early reading acquisition and its relation to reading experience and ability 10 years later. *Developmental Psychology*, 33(6), 934–945. <https://doi.org/10.1037/0012-1649.33.6.934>
- Darling-Hammond, D., & Cook-Harvey, C. (2018). *Educating the whole child: Improving school climate to support student success*. Learning Policy Institute. https://learningpolicyinstitute.org/sites/default/files/product-files/Educating_Whole_Child_REPORT.pdf
- Darling-Hammond, L., Zielesinski, M. B., & Goldman, S. (2014). *Using technology to support at-risk students' learning*. https://www.researchgate.net/publication/299951721_Using_Technology_to_Support_At-Risk_Students'_Learning
- Davis, D. S., & Neitzel, C. (2012). Collaborative sense-making in print and digital text environments. *Reading and Writing*, 25(4), 831–856. <https://doi.org/10.1007/s11145-011-9302-2>
- Dehaene, S. (2009) *Reading in the brain: The new science of how we read*. Penguin Books.
- Dehaene, S., Pegado, F., Braga, L. W., Ventura, P., Filho, G. N., Jobert, A., Dehaene-Lambertz, G., Kolinsky, R., Morais, J. & Cohen, L. (2010). How learning to read changes the cortical networks for vision and language. *Science*, 330(6009), 1359–1364. <https://doi.org/10.1126/science.1194140>
- Duckworth, A. L., & Quinn, P. D. (2009). Development and validation of the Short Grit Scale (GRIT-S). *Journal of Personality Assessment*, 91(2), 166–174. <https://doi.org/10.1080/00223890802634290>
- Duckworth, A. L., Quinn, P. D., & Seligman, M. E. (2009). Positive predictors of teacher effectiveness. *The Journal of Positive Psychology*, 4(6), 540–547. <https://doi.org/10.1080/17439760903157232>
- Duffy, H. (2008). *Meeting the needs of significantly struggling learners in high school: A look at approaches to tiered intervention*. RMC Research Corporation, Center on Instruction.
- Duke, N. K., & Cartwright, K. B. (2021). The science of reading progresses: Communicating advances beyond the simple view of reading. *Reading Research Quarterly*, 56(S1), S25–S44. <https://doi.org/10.1002/rrq.411>
- Duke, N. K., & Mesmer, H. A. E. (2018–2019). Phonics faux pas: Avoiding instructional missteps in teaching letter-sound relationships. *American Educator* 42(4), 12–16.
- Duke, N. K., & Pearson, P. D. (2002). Effective practices for developing reading comprehension. In A. Farstrup & S. Samuels (Eds.), *What research has to say about reading instruction* (pp. 205–242). International Reading Association.
- Duke, N. K., Ward, A. E., & Pearson, P. D. (2021). The science of reading comprehension instruction. *The Reading Teacher*, 74(6), 663–672. <https://doi.org/10.1002/trtr.1993>
- Dutro, S., & Kinsella, K. (2010). English language development: Issues and implementation in grades 6–12. In *Improving education for English learners: Research-based approaches* (pp. 151–207). California Department of Education Press.
- Dweck, C. S., & Yeager, D. S. (2019). Mindsets: A view from two eras. *Perspectives on Psychological science*, 14(3), 481–496. <https://doi.org/10.1177/1745691618804166>
- Ehri, L. C. (1995). Phases of development in learning to read words by sight. *Journal of Research in Reading*, 18(2), 116–125. <https://doi.org/10.1111/j.1467-9817.1995.tb00077.x>
- Ehri, L. C. (2014). Orthographic mapping in the acquisition of sight word reading, spelling memory, and vocabulary learning. *Scientific Studies of Reading*, 18(1), 5–21. <https://doi.org/10.1080/10888438.2013.819356>

- Ehri, L. C. (2020). The science of learning to read words: A case for systematic phonics instruction. *Reading Research Quarterly*, 55(S1), S45–S60. <https://doi.org/10.1002/rrq.334>
- Ehri, L. C., Nunes, S. R., Willows, D. M., Schuster, B. V., Yaghoub-Zadeh, Z., & Shanahan, T. (2001). Phonemic awareness instruction helps children learn to read: Evidence from the National Reading Panel's meta-analysis. *Reading Research Quarterly*, 36(3), 250–287. <https://doi.org/10.1598/RRQ.36.3.2>
- Elliott, J. G. (2020). It's time to be scientific about dyslexia. *Reading Research Quarterly*, 55(S1), S61–S75. <https://doi.org/10.1002/rrq.333>
- Evans, M. D. R., Kelley, J., Sikora, J., & Treiman, D. J. (2010). Family scholarly culture and educational success: Books and schooling in 27 nations. *Research in Social Stratification and Mobility*, 28(2), 171–197. <https://doi.org/10.1016/j.rssm.2010.01.002>
- Farrington, C. A., Roderick, M., Allensworth, E., Nagaoka, J., Keyes, T. S., Johnson, D. W., & Beechum, N. O. (2012). *Teaching adolescents to become learners: The role of noncognitive factors in shaping school performance*. The University of Chicago Consortium on School Research. <https://files.eric.ed.gov/fulltext/ED542543.pdf>
- Fien, H., Smith, J. L. M., Smolkowski, K., Baker, S. K., Nelson, N. J., & Chaparro, E. (2015). An examination of the efficacy of a multitiered intervention on early reading outcomes for first grade students at risk for reading difficulties. *Journal of Learning Disabilities*, 48(6), 602–621. <https://doi.org/10.1177/0022219414521664>
- Filderman, M. F., Austin, C. R., Boucher, A. N., O'Donnell, K., & Swanson, E. A. (2021). A meta-analysis of the effects of reading comprehension interventions on the reading comprehension outcomes of struggling readers in third through 12th grades. *Exceptional Children*, 88(2), 163–184. <https://doi.org/10.1177%2F00144029211050860>
- Filderman, M. J., Toste, J. R., Didion, L. A., Peng, P., & Clemens, N. H. (2018). Data-based decision making in reading interventions: A synthesis and meta-analysis of the effects for struggling readers. *Journal of Special Education*, 52(3), 174–187. <https://doi.org/10.1177/0022466918790001>
- Fingall, J. (2021, October 12). The 5 competencies of digital citizenship [Blog post]. International Society for Technology in Education. <https://www.iste.org/explore/5-competencies-digital-citizenship>
- Fisher, D., Frey, N., & Hattie, J. (2016). *Visible learning for literacy: Implementing practices that work best to accelerate student learning*. Corwin Literacy.
- Fishman, B., Konstantopoulos, S., Kubitskey, B. W., Vath, R., Park, G., Johnson, H., & Edelson, D. C. (2013). Comparing the impact of online and face-to-face professional development in the context of curriculum implementation. *Journal of Teacher Education*, 64(5), 426–438.
- Flavell, J. H. (1979). Metacognition and cognitive monitoring: A new area of cognitive–developmental inquiry. *American Psychologist*, 34(10), 906–911. <https://doi.org/10.1037/0003-066X.34.10.906>
- Fletcher, J. M., & Vaughn, S. (2009). Response to intervention: Preventing and remediating academic difficulties. *Child Development Perspectives*, 3(1), 30–37. <https://doi.org/10.1111/j.1750-8606.2008.00072.x>
- Foorman, B., Beyler, N., Borradaile, K., Coyne, M., Denton, C. A., Dimino, J., et al. (2016). *Foundational skills to support reading for understanding in kindergarten through 3rd grade* (NCEE 2016-4008). U.S. Department of Education. Institute of Education Sciences, National Center for Education Evaluation and Regional Assistance.
- Francis, D., Rivera, M., Lesaux, N., Kieffer, M., & Rivera, H. (2006). *Practical guidelines for the education of English language learners: Research-based recommendations for instruction and academic interventions*. RMC Research Corporation, Center on Instruction.
- Friedlaender, D., Burns, D., Lewis-Charp, H., Cook-Harvey, C. M., Zheng, X., & Darling-Hammond, L. (2014). *Student-centered schools: Closing the opportunity gap*. Stanford Center for Opportunity Policy in Education.
- Fry, E. B., & Kress, J. E. (2006). *The reading teacher's book of lists* (5th ed.). Jossey-Bass.
- Fuchs, L. S., & Fuchs, D. (2007). Progress monitoring in a multi-tiered prevention system. *Perspectives*, 3(2), 43–47.
- Gall, J., Gall, M., & Borg, W. (2010). *Applying educational research* (6th ed.). Pearson.
- Gamrat, C., Zimmerman, H. T., Dudek, J., & Peck, K. (2014). Personalized workplace learning: An exploratory study on digital badging within a teacher professional development program. *British Journal of Educational Technology*, 45(6), 1136–1148. <https://doi.org/10.1111/bjet.12200>
- Gay, G. (2018). *Culturally responsive teaching: Theory, research, and practice*. (3rd Ed.) Teachers College Press.
- Garet, M., Porter, A., Desimone, L., Birman, B., & Yoon, K. (2001). What makes professional development effective? Results from a national sample of teachers. *American Educational Research Journal*, 38(4), 915–945. <https://doi.org/10.3102/00028312038004915>
- Genesee, F. (2012). The home language: An English language learner's most valuable resource. *Colorincolorado*. <https://www.colorincolorado.org/article/homelanguage-english-language-learners-mostvaluable-resource>
- Genesee, F., & Lindholm-Leary, K. (2012). The education of English language learners. In K. R. Harris, S. Graham, T. Urdan, A. G. Bus, S. Major, & H. L. Swanson (Eds.), *APA educational psychology handbook Vol. 3, Application to learning and teaching* (pp. 499–526). American Psychological Association. <https://doi.org/10.1037/13275-020>
- Gentry, R. J. (2000). A retrospective on invented spelling and a look forward. *The Reading Teacher*, 54(3), 318–332. <https://www.jstor.org/stable/20204910>
- Georgiou, G. K., Parrila, R., Cui, Y., & Papadopoulos, T. C. (2013). Why is rapid automatized naming related to reading? *Journal of Experimental Child Psychology*, 115(1), 218–225. <https://doi.org/10.1016/j.jecp.2012.10.015>
- Gersten, R., Compton, D., Connor, C. M., Dimino, J., Santoro, L., Linan-Thompson, S., & Tilly, W. D. (2008). *Assisting students struggling with reading: Response to Intervention and multi-tier intervention for reading in the primary grades. A practice guide* (NCEE 2009-4045). U.S. Department of Education, Institute of Education Sciences, National Center for Education Evaluation and Regional Assistance. <https://ies.ed.gov/ncee/wwc/practiceguide/3>

- Gersten, R., Fuchs, L. S., Williams, J. P., & Baker, S. (2001). Teaching reading comprehension strategies to students with learning disabilities: A review of research. *Review of Educational Research*, 71(2), 279–319. <https://doi.org/10.3102/00346543071002279>
- Gibbon, J. M., Duffield, S., Hoffman, J., & Wageman, J. (2017). Effects of educational games on sight word reading achievement and student motivation. *Journal of Language & Literacy Education*, 13(2), 1–27.
- Gillon, G. T. (2017). *Phonological awareness: From research to practice*. Guilford Publications.
- Glewwe, P., West, K. L., & Lee, J. (2017). The impact of providing vision screening and free eyeglasses on academic outcomes: Evidence from a randomized trial in Title I elementary schools in Florida. *Journal of Policy Analysis and Management*, 37(2), 265–300. <https://doi.org/10.1002/pam>
- Gough, P. B., & Tunmer, W. E. (1986). Decoding, reading, and reading disability. *Remedial and Special Education*, 7(1), 6–10. <https://doi.org/10.1177%2F074193258600700104>
- Graesser, A. C., McNamara, D. S., & Kulikowich, J. (2011). Coh-Matrix: Providing multilevel analyses of text characteristics. *Educational Researcher*, 40(5), 223–234. <https://doi.org/10.3102/0013189X11413260>
- Graham, S., Bollinger, A., Booth Olson, C., D'Aoust, C., MacArthur, C., McCutchen, D., & Olinghouse, N. (2012/2018). *Teaching elementary school students to be effective writers: A practice guide* (NCEE 2012- 4058). U.S. Department of Education, Institute of Education Sciences, National Center for Education Evaluation and Regional Assistance.
- Graham, S., Bruch, J., Fitzgerald, J., Friedrich, L., Furgeson, J., Greene, K., Kim, J., Lyskawa, J., Olson, C. B., & Smither Wulsin, C. (2016/2018). *Teaching secondary students to write effectively* (NCEE 2017-4002). U.S. Department of Education, Institute of Education Sciences, National Center for Education Evaluation and Regional Assistance (NCEE).
- Graham, S., & Hebert, M. (2010). *Writing to read: Evidence for how writing can improve reading*. Alliance for Excellence in Education.
- Graham, S., Liu, X., Aitken, A., Ng, C., Bartlett, B., Harris, K. R., & Holzapfel, J. (2018). Effectiveness of literacy programs balancing reading and writing instruction: A metaanalysis. *Reading Research Quarterly*, 53(3), 279–304.
- Graham, S., McKeown, D., Kihara, S., & Harris, K. R. (2012). A meta-analysis of writing instruction for students in the elementary grades. *Journal of Educational Psychology*, 104(4), 879–896. <https://doi.org/10.1037/a0029185>
- Gulamhussein, A. (2013). *Teaching the teachers: Effective professional development in an era of high stakes accountability*. Center for Public Education.
- Guthrie, J. T., & Wigfield, A. (2017). Literacy engagement and motivation: Rationale, research, teaching, and assessment. In D. Lapp & D. Fisher (Eds.), *Handbook of research on teaching the English language arts* (pp. 57–84). Routledge.
- Hanover Research. (2017). *Effective interventions for long-term English learners*. https://portal.ct.gov/-/media/SDE/ESSA-Evidence-Guides/Effective_Interventions_for_Long-Term_English_Learners
- Hartley, J., & Davies, I. K. (1978). Note-taking: A critical review. *Programmed Learning and Educational Technology*, 15(3), 207–224. <https://doi.org/10.1080/0033039780150305>
- Hasbrouck, J., & Tindal, G. A. (2017). *An update to compiled ORF norms*. University of Oregon, Behavioral Research and Teaching.
- Hasbrouck, J., & Tindal, G. A. (2006). Oral reading fluency norms: A valuable assessment tool for reading teachers. *The Reading Teacher*, 59(7), 636–644. <https://doi.org/10.1598/RT.59.7.3>
- Hasselbring, T. S. (2012). Five reasons readers need technology. *Reading: The Core Skill*, 6(69).
- Hasselbring, T. S., & Bausch, M. E. (2006). Assistive technologies for reading. *Educational Leadership*, 63(4), 72–75.
- Hasselbring, T. S., & Bausch, M. E. (2017). *Building foundational skills in learners with special needs through the use of technology*. Technology in school classrooms: How it can transform teaching and student learning today, 53–70.
- Hasselbring, T. S., & Glaser, C. (2000). Use of computer technology to help students with special needs. *Future of Children: Children and Computer Technology*, 10(2), 102–122. <https://doi.org/10.2307/1602691>
- Hattie, J. (2012). *Visible learning for teachers: Maximizing impact on learning*. Routledge.
- Hattie, J., & Timperley, H. (2007). The power of feedback. *Review of Educational Research*, 77(1), 81–112. <https://doi.org/10.3102/003465430298487>
- Haymon, C., & Wilson, A. (2020). Differentiated reading instruction with technology for advanced middle school students' reading achievement. *Journal of Educational Research & Practice*, 10(1), 70–89. <https://doi.org/10.5590/JERAP.2020.10.1.05>
- Hearing Loss Association of America (HLAA). (2019). *Understanding hearing assistive technology (HAT)*. <https://www.hearingloss.org/hearing-help/technology/hat/>
- Hebert, M., Simpson, A., & Graham, S. (2013). Comparing effects of different writing activities on reading comprehension: A meta-analysis. *Reading and Writing*, 26(1), 111–138. <https://doi.org/10.1007/s1145-012-9386-3>
- Heo, Y. (2007). The impact of multimedia anchored instruction on the motivation to learn of students with and without learning disabilities placed in inclusive middle school language arts classes [Doctoral dissertation, University of Texas]. *Dissertations Abstracts International*, 6812A, 5031. <https://repositories.lib.utexas.edu/handle/2152/3592>
- Hirsch, E. D. (2014). Sustaining the American experiment. In C. E. Finn & M. J. Petrilli (Eds.), *Knowledge at the core: Don Hirsch, Core Knowledge, and the future of the Common Core* (pp. 31–47). Thomas Fordham Institute.
- Hirsch, E. D. (1996). *The schools we need and why we don't have them*. Doubleday.
- Hirsch, E. D., & Pondiscio, R. (2010, June 14). There's no such thing as a reading test. *The American Prospect*, 21(6), A13–A15.
- Hooper, M. (2020, March). Troubling trends: An international decline in reading attitudes. *IEA Compass: Briefs in Education*, 8. IEA.
- Horn, M. B., & Staker, H. (2014). *Blended: Using disruptive innovation to improve schools*. Jossey-Bass.
- Hou, J., Rashid, J., & Lee, K. W. (2017). Cognitive map or medium materiality? Reading on paper and screen. *Computers in Human Behavior*, 67, 84–94. <https://doi.org/10.1016/j.chb.2016.10.014>

- Houchins, D. E., Gagnon, J. C., Lane, H. B., Lambert, R. G., & McCray, E. D. (2018). The efficacy of a literacy intervention for incarcerated adolescents. *Residential Treatment for Children & Youth*, 35(1), 60–91. <https://doi.org/10.1080/0886571X.2018.1448739>
- Ihorn, S. M., & Arora, P. (2018). Teleconsultation to support the education of students with visual impairments: A program evaluation. *Journal of Educational and Psychological Consultation*, 28(3), 319–341. <https://doi.org/10.1080/10474412.2018.1425878>
- Ine, H., Smith, J. M., Smolkowski, K., Baker, S. K., Nelson, N. J., & Chapparo, E. (2015). An examination of the efficacy of a multitiered intervention on early reading outcomes for first grade students at risk for reading difficulties. *Journal of Learning Disabilities*, 48(6), 602–621. <https://doi.org/10.1177/0022219414521664>
- International Dyslexia Association, New Hampshire Branch. (2019). *Just the Facts*. <https://nhdyslexiaida.org/resources/just-the-facts/>
- Jagers, R. J., Rivas-Drake, D., & Williams, B. (2019). Transformative social and emotional learning (SEL): Toward SEL in service of educational equity and excellence. *Educational Psychologist*, 54(3), 162–184. <https://doi.org/10.1080/00461520.2019.1623032>
- January, S. A., & Klingbeil, D. A. (2020). Universal screening in grades K-2: A systematic review and meta-analysis of early reading curriculum-based measures. *Journal of School Psychology*, 82, 103–122. <https://doi.org/10.1016/j.jsp.2020.08.007>
- Juel, C., Griffith, P., & Gough, P. (1986). Acquisition of literacy: A longitudinal study of children in first and second grade. *Journal of Educational Psychology*, 78(4), 243–255
- Kinsella, K. (2013). Cutting to the Common Core: Making vocabulary number one. *Language Magazine*, 12(12), 18–23.
- Kinsella, K., & Feldman, K. (2005). *Structures for active participation and learning*. Scholastic RED.
- Koon, S., Foorman, B., & Galloway, T. (2020). *Identifying North Carolina students at risk of scoring below proficient at the end of grade 3* (REL 2020–030). U.S. Department of Education, Institute of Education Sciences, National Center for Education Evaluation and Regional Assistance, Regional Educational Laboratory Southeast. https://ies.ed.gov/ncee/edlabs/regions/southeast/pdf/REL_2020030.pdf
- Kraft, M., Blazar, D., & Hogan, D. (2018). The effect of teaching coaching on instruction and achievement: A meta-analysis of the causal evidence. *Review of Educational Research*, 88(4), 547–588.
- Kraft, M., & Hill, H.C. (2020). Developing ambitious mathematics instruction through web-based coaching: A randomized field trial. *American Educational Research Journal*, 57(6), 2378–2414. <https://doi.org/10.3102/0002831220916840>
- Kucan, L., & Palincsar, A. S. (2018). Text analysis: Critical component of planning for text-based discussion focused on comprehension of informational texts. *Literacy Research and Instruction*, 57(2), 100–116.
- Kuhn, M. R. (2020). Whole class or small group fluency instruction: A tutorial of four effective approaches. *Education Sciences*, 10(5), 145. <https://doi.org/10.3390/educsci10050145>
- Lacina, J. (2004). Promoting language acquisitions: Technology and English language learners. *Childhood Education*, 81(2), 113–115. <https://doi.org/10.1080/00094056.2005.10522253>
- Lane, K. L., Robertson, E. J., & Graham-Bailey, M. A. L. (2006). An examination of schoolwide interventions with primary level efforts conducted in secondary schools: Methodological considerations. In T. E. Scruggs & M. A. Mastropieri (Eds.), *Applications of research methodology: Advances in learning and behavioral disabilities*, 19, 157–199. Elsevier.
- Lawrence, J. F., Knoph, R., Autumn McIlraith, A., Kulesz, P. A., & Francis, D. J. (2022). Reading comprehension and academic vocabulary: Exploring relations in item features and reading proficiency. *Reading Research Quarterly*, 57(2), 669–690. <https://doi.org/10.1002/rrq.434>
- Lazowski, R. A., & Hulleman, C. S. (2016). Motivation interventions in education. *Review of Educational Research*, 86(2), 602–640. <https://doi.org/10.3102/003465431561783>
- Learned, J. E. (2016). “The behavior kids”: Examining the conflation of youth reading difficulty and behavior problem positioning among school institutional contexts. *American Educational Research Journal*, 53(5), 1271–1309. <https://doi.org/10.3102%2F0002831216667545>
- Lemov, D., Driggs, C., & Woolway, E. (2016). *Reading reconsidered: A practical guide to rigorous literacy instruction*. John Wiley & Sons.
- Lesaux, N. K., & Harris, J. R. (2017). An investigation of comprehension processes among adolescent English learners with reading difficulties. *Topics in Language Disorders*, 37(2), 182–203. <https://doi.org/10.1097/TLD.0000000000000120>
- Leu, D. J., Forzani, E., Rhoads, C., Maykel, C., Kennedy, C., & Timbrell, N. (2014). The new literacies of online research and comprehension: Rethinking the reading achievement gap. *Reading Research Quarterly*, 50(1), 37–59. <https://doi.org/10.1002/rrq.85>
- Leu, D. J., Kinzer, C. K., Coiro, J., Castek, J., & Henry, L. A. (2017). New literacies: A dual-level theory of the changing nature of literacy, instruction, and assessment. *Journal of Education*, 197(2), 1–18. <https://doi.org/10.1177/002205741719700202>
- Leung, C., & Valdés, G. (2019). Translanguaging and the transdisciplinary framework for language teaching and learning in a multilingual world. *The Modern Language Journal*, 103(2), 348–370. <https://doi.org/10.1111/modl.12568>
- Leverson, M., Smith, K., McIntosh, K., Rose, J., & Pinkelman, S. (2021, March). *PBIS cultural responsiveness field guide: Resources for trainers and coaches*. Center on PBIS, University of Oregon. <https://www.pbis.org/resource/pbis-cultural-responsiveness-field-guide-resources-for-trainers-and-coaches>
- Lewis, J., & Moorman, G. (Eds.). (2007). *Adolescent literacy instruction: Policies and promising practices*. International Reading Association.
- Liben, D., & Liben, M. (2013). *‘Both and’ literacy instruction: A proposed paradigm shift for the Common Core ELA classroom*. Student Achievement Partners.
- Lindholm, K.J., & Actan, Z. (1991). Bilingual proficiency as a bridge to academic achievement: Results from bilingual/immersion programs. *Journal of Education* 173, 99–113.
- Lin-Siegler, X., Dweck, C. S., & Cohen, G. L. (2016). Instructional interventions that motivate classroom learning. *Journal of Educational Psychology*, 108(3), 295–299. <https://doi.org/10.1037/edu0000124>

- Lipka, O., Lesaux, N. K., & Siegel, L. S. (2006). Retrospective analyses of the reading development of a group of grade 4 disabled readers: Risk status and profiles over 5 years. *Journal of Learning Disabilities*, 39(4), 364–378. <https://doi.org/10.1177/00222194060390040901>
- Livingston, J. A. (2003). *Metacognition: An overview*. (ERIC Document Service No. ED 414273).
- Lowry, A. E. (2007). Effects of online versus face-to-face professional development with a team-based learning community approach on teachers' application of a new instructional practice [Unpublished doctoral dissertation]. Johns Hopkins University, Baltimore, MD
- Macaruso, P., Wilkes, S., & Prescott, J. E. (2020). An investigation of blended learning to support reading instruction in elementary schools. *Educational Technology Research and Development*, 68, 2839–2852.
- Mahoney, J. L., Durkal, J. A. S., & Weissberg, R. P. (2018). An update on social and emotional learning outcomes. *Phi Delta Kappan*, 100(4), 18–23. <https://doi.org/10.1177/0031721718815668>
- Mahoney, J., & Hall, C. (2017). Using technology to differentiate and accommodate students with disabilities. *E-Learning and Digital Media*, 14(5), 291–303. <https://doi.org/10.1177/2042753017751517>
- Mangan, D. (2020, April 27). U.S. Appeals Court in Detroit schools case says basic literacy instruction is a civil right. *Literacy Now*. International Literacy Association.
- Marzano, R. J., & Pickering, D. J. (2005). *Building academic vocabulary: Teacher's manual*. Association for Supervision and Curriculum Development.
- Matsumura, L. C., Correnti, R., Walsh, M., DiPrima Bickel, D., & Zook-Howell, D. (2019). Online content-focused coaching to improve classroom discussion quality. *Technology, Pedagogy and Education*, 28(2), 191–215. <https://doi.org/10.1080/1475939X.2019.1577748>
- McBreen, M., Savage, R. (2021). The impact of motivational reading instruction on the reading achievement and motivation of students: A systematic review and meta-analysis. *Educational Psychology Review*, 33(3), 1125–1163. <https://doi.org/10.1007/s10648-020-09584-4>
- McInterny, M., & Elledge, A. (2013). *Using a response to intervention framework to improve student learning: A pocket guide for state and district leaders*. https://www.air.org/sites/default/files/downloads/report/Response_to_Intervention_Pocket_Guide_2_0.pdf
- McKeachie, W. J., & Svinicki, M. (2006). *McKeachie's teaching tips: Strategies, research, and theory for college and university teachers* (12th ed.). Houghton Mifflin Harcourt.
- McKenna, J. W., Garwood, J. D., & Werunga, R. (2020). Reading instruction for secondary grade students with emotional and behavioral disorders: A focus on comprehension. *Beyond Behavior*, 29(1), 18–30.
- McNamara, D. S., Jacovina, M. E., & Allen, L. K. (2016). Higher order thinking in comprehension. In Afflerbach, P. (Ed.) *Handbook of individual differences in reading: Reader, text, and context*. (pp. 164–177). Routledge.
- Meeuwse, K., & Mason, D. (2018). *Personalized professional learning for educators: Emerging research and opportunities*. IGI Global.
- Meneses, A., Hugo, E., de los Angeles Garcia, M., & Muller, M. (2018). Facilitating academic text-based discussions in initial teacher education: Evaluating specialized knowledge. *Teaching and Teacher Education*, 69, 119–130. <https://doi.org/10.1016/j.tate.2017.09.019>
- Miller, A. C., Keenan, J. M., Betjemann, R. S., Willcut, E. G., Pennington, B. F., & Olson, R. K. (2013). Reading comprehension in children with ADHD: Cognitive underpinnings of the centrality deficit. *Journal of Abnormal Child Psychology*, 41(3), 473–483. <https://doi.org/10.1007/s10802-012-9686-8>
- Moats, L. (2012). Reconciling the Common Core State Standards with reading research. *Perspectives on Language and Literacy*, 38(4), 15–18.
- Molden, D. C., & Dweck, C. S. (2006). Finding “meaning” in psychology: A lay theories approach to self-regulation, social perception, and social development. *American Psychologist*, 61(3), 192–203. <https://doi.org/10.1037/0003-066X.61.3.192>
- Molle, D., & Wilfrid, J. (2021). Promoting multilingual students' disciplinary learning through the WIDA framework for equitable instruction. *Educational Researcher*, 50(9), 585–594. <https://doi.org/10.3102/0013189X211024592>
- Nagy, W. (1997). On the role of context in first- and second-language vocabulary learning. In N. N. Schmitt & M. McCarthy (Eds.), *Vocabulary: description, acquisition and pedagogy* (pp. 64–83). Cambridge University Press.
- Nagy, W., Berninger, V. W., & Abbott, R. D. (2006). Contributions of morphology beyond phonology to literacy outcomes of upper elementary and middle school students. *Journal of Educational Psychology*, 98(1), 134–147. <https://doi.org/10.1037/0022-0663.98.1.134>
- National Center for Education Statistics. (2018). *International Computer and Information Literacy Study (ICILS) 2018 U.S. results*. <https://nces.ed.gov/surveys/icils/icils2018/theme4.asp?Howoftendo8thgradeteachersuseICTatschool>
- National Center for Education Statistics. (2021). *Students with disabilities*. <https://nces.ed.gov/programs/coe/indicator/cgg/students-with-disabilities>
- National Center for Learning Disabilities, Inc. (2015). *What is RTI?*. <http://www.rtinetwork.org/learn/what/whatisrti?>
- National Center on Response to Intervention. (2010). *Essential components of RTI—A closer look at response to intervention*. U.S. Department of Education, Office of Special Education Programs, National Center on Response to Intervention.
- National Commission on Social, Emotional, and Academic Development (2018). Aspen Institute. <https://www.aspeninstitute.org/programs/national-commission-on-social-emotional-and-academic-development/>
- National Early Literacy Panel (NELP). (2008). Developing early literacy: *Report of the National Early Literacy Panel*. National Institute for Literacy, National Center for Family Literacy. <https://eric.ed.gov/?id=ED504224>
- National Equity Project. (2020). Liberatory design: Mindsets and modes to design for equity. <https://www.nationalequityproject.org/frameworks/liberatory-design>
- National Institute of Child Health and Human Development (NICHD). (2000). *Report of the National Reading Panel. Teaching children to read: An evidence-based assessment of the scientific research literature on reading and its implications for reading instruction. Reports of the subgroups* (NIH Publication No. 00-4754). U.S. Government Printing Office.

- National Institute on Deafness and Other Communication Disorders (NIDCD). (2018). *Quick statistics about hearing*. <https://www.nidcd.nih.gov/health/statistics/quick-statistics-hearing>
- National Joint Committee on Learning Disabilities. (2008). *Adolescent literacy and older students with learning disabilities*. <https://eric.ed.gov/?id=EJ888612>
- National Reading Panel. (2000). *Teaching children to read: An evidence-based assessment of the scientific research literature on reading and its implications for reading instruction* (NIH Pub. No. 00-4769). National Institute of Child Health and Human Development.
- National Research Council (NRC). (1998). *Preventing reading difficulties in young children* (C. E. Snow, M. S. Burns, & P. Griffin [Eds.]). National Academies Press.
- Neri, R., Lozano, M., Chang, S., & Herman, J. (2016). High-leverage principles of effective instruction for English learners. From College and Career Ready Standards to Teaching and Learning in the Classroom: A Series of Resources for Teachers. Center on Standards and Assessments Implementation. <https://eric.ed.gov/?id=ED570911>
- Newell, K. W., Coddling, R. S., & Fortune, T. W. (2020). Oral reading fluency as a screening tool with English learners: A systematic review. *Psychology in the Schools*, 57(4), 1208–1239. <https://doi.org/10.1002/pits.22406>
- Oakhill, J. (2020). Four decades of research into children's reading comprehension: A personal review. *Discourse Processes*, 57(5–6), 402–419. <https://doi.org/10.1002/pits.22406>
- O'Byrne, W. I. (2018). Empowering students as critical readers and writers in online spaces. In *Best practices in teaching digital literacies*. Emerald Publishing Limited. <https://doi.org/10.1108/S2048-045820180000009018>
- Ok, M. W., Rao, K., Brian, R., Bryant, B. R., & McDougall, D. (2017). Universal design for learning in pre-K to grade 12 classrooms: A systematic review of research. *Exceptionality*, 25(2), 116–138.
- Okkinga, M., van Steensel, R., van Gelderen, A. J. S., van Schooten, E., Slegers, P. J. C., & Arends, L. R. (2018). Effectiveness of reading-strategy interventions in whole classrooms: A meta-analysis. *Educational Psychology Review*, 30(4), 1215–1239. <https://doi.org/10.1007/s10648-018-9445-7>
- Olson, C. B., & Land, R. (2007). The Pathway Project demonstrates success with cognitive strategies for reading and writing for English learners. *Research in the Teaching of English*, 41(3), 269–303.
- Olson, C. B., Matuchniak, T., Chung, H. Q., Stumpf, R., & Farkas, G. (2017). Reducing achievement gaps in academic writing for Latinos and English learners in grades 7–12. *Journal of Educational Psychology*, 109(1), 1–21. <https://doi.org/10.1037/edu0000095>
- Otten, S., Keazer, L. M., & Karaman, R. (2019). Teachers' talk about the mathematical practice of attending to precision. *Journal of Mathematics Teacher Education*, 22(1), 69–93. <https://eric.ed.gov/?q=teacher+talk&pg=7&id=EJ1204496>
- Paige, D. D., Smith, D., Rasinski, T. V., Rupley, W. H., Magpuri-Lavell, T., & Nichols, W. D. (2019). A path analytic model linking foundational skills to grade 3 state reading achievement. *The Journal of Educational Research*, 112(1), 110–120. <https://doi.org/10.1080/00220671.2018.1445609>
- Paris, D. (2012). Culturally sustaining pedagogy: A needed change in stance, terminology, and practice. *Educational Researcher*, 41(3), 93–97.
- Powell, D. R., Diamond, K. E., Burchinal, M. R., & Koehler, M. J. (2010). Effects of an early literacy professional development intervention on Head Start teachers and children. *Journal of Educational Psychology*, 102, 299–312. <https://doi.org/10.1037/a0017763>
- Pressley, M., & Afflerbach, P. (1995). *Verbal protocols of reading: The nature of constructively responsive reading*. Erlbaum.
- Pressley, M., Wharton-McDonald, R., Mistretta-Hampston, J., & Echevarria, M. (1998). The nature of literacy instruction in ten grade-4/5 classrooms in upstate New York. *Scientific Studies of Reading*, 2, 159–194.
- Project IDEAL. (2013). Visual impairments. Texas Council for Developmental Disabilities. <http://www.projectidealonline.org/v/visual-impairments/>
- Puzio, K., Colby, G. T., & Alged-Nichols, D. (2020). Differentiated reading instruction: Boondoggle or bust? *Review of Educational Research*, 90(4), 459–498. <https://doi.org/10.3102%2F0034654320933536>
- RAND Corporation. (2014). *How to create adaptive innovation and technology policy*. http://www.rand.org/randeurope/research/innovation_policy/evaluating-science-policy.html
- Rasinski, T. V. (2010). *The fluent reader: Oral and silent reading strategies for building word recognition, fluency, and comprehension* (2nd ed.). Scholastic.
- Rasinski, T. V., & Smith, M. (2018). *The megabook of fluency*. Scholastic.
- Reed, D. K. (2008). A synthesis of morphology interventions and effects on reading outcomes for students in grades K–12. *Learning Disabilities Research & Practice*, 23(1), 36–49. <https://doi.org/10.1111/j.1540-5826.2007.00261.x>
- Relyea, J. E. & Amendum, S. J. (2019). English reading growth in Spanish-speaking bilingual students: Moderating effect of English proficiency on crosslinguistic influence. *Child Development*, 91(4), 1150–1165. <https://doi.org/10.1111/cdev.13288>
- Reyes, R. (2008). Early intervention for hearing impairment: Appropriate, accessible and affordable. *Annals Academy of Medicine*, 37(12), 55–56.
- Riches, C., & Genesee, F. (2006). Literacy: Crosslinguistic and crossmodal issues. In F. Genesee, K. Lindholm-Leary, W. Saunders, & D. Christian, D. (Eds.) *Educating English language learners: A synthesis of research evidence* (pp.64–108). Cambridge University Press. <https://doi.org/10.1017/CBO9780511499913.004>
- Rock, M. L. (2019). *The eCoaching continuum for educators: Using technology to enrich professional development and improve student outcomes*. Association for Supervision and Curriculum Development.
- Rock, M. L., Zigmond, N. P., Gregg, M., & Gable, R. A. (2011). The power of virtual coaching. *Educational Leadership*, 69(2), 42–48.
- Rosenshine, B. B., & Meister, C. C. (1992). The use of scaffolds for teaching higher-level cognitive strategies. *Educational Leadership*, 49(7), 26.
- Rupley, W. H., Nichols, W. D., Rasinski, T. V., & Paige, D. (2020). Fluency: Deep roots in reading instruction. *Education Sciences*, 10(6), 155. <https://doi.org/10.3390/educsci10060155>

- Salinger, T., Choi, L., Zhang, X., & Hoon, D. L. (2021). *Meta-analysis of Read 180*. American Institutes for Research.
- Salinger, T., Moorthy, S., Toplit, M., Jones, W., & Rosenthal, E. (2010). *Implementation matters: Systems for success. A descriptive study of Read 180, Enterprise Edition, in five urban middle schools*. American Institutes for Research.
- Sanchez, C. E., Atkinson, K. M., Koenka, A. C., Moshontz, H., & Cooper, H. (2017). Self-grading and peer-grading for formative and summative assessments in 3rd through 12th grade classrooms: A meta-analysis. *Journal of Educational Psychology*, 109(8), 1049–1066. <https://doi.org/10.1037/edu0000190>
- Saxe, G., Gearhart, M., & Nasir, N. (2001). Enhancing students' understanding of mathematics: A study of three contrasting approaches to professional support. *Journal of Mathematics Teacher Education*, 4(1), 55–79.
- Sayeski, K. L., Earle, G. A., Davis, R., & Calamari, J. (2018). Orton Gillingham: Who, What, and How. *Teaching Exceptional Children*, 51(3), 240–249. <https://doi.org/10.1177/0040059918816996>
- Scarborough, H. S. (2001). Connecting early language and literacy to later reading (dis)abilities: Evidence, theory and practice. In S. B. Neuman & D. K. Dickinson (Eds.), *Handbook of early literacy research* (pp. 97–110). Guilford Press.
- Schaffner, E., Philipp, M., & Schiefele, U. (2016). Reciprocal effects between intrinsic reading motivation and reading competence? A cross-lagged panel model for academic track and nonacademic track students. *Journal of Research in Reading*, 39(1), 19–36. <https://doi.org/10.1111/1467-9817.12027>
- Scholastic (2015). *Kids and family reading report* (7th ed.). <http://www.scholastic.com/readingreport/>
- Schunk, D., & Bursuck, W. (2016). Self-efficacy, agency and volition: Student beliefs and reading motivation. In P. Afflerbach (Ed.), *Handbook of individual differences in reading: Reader, text, and context* (pp. 54–66). Routledge.
- Schwanenflugel, P. J., & Benjamin, R. G. (2017). Lexical prosody as an aspect of oral reading fluency. *Reading and Writing*, 30(1), 143–162. <https://doi.org/10.1007/s11145-016-9667-3>
- Seidenberg, M. (2017). *Language at the speed of sight: How we read, why so many can't, and what can be done about it*. Basic Books.
- Seidenberg, M. S. (2013). The science of reading and its educational implications. *Language learning and development*, 9(4), 331–360. <https://doi.org/10.1080/1547544.1.2013.812017>
- Shanahan, T. (2008). Implications of RTI for the reading teacher. In D. Fuchs, L. S. Fuchs, & S. Vaughn (Eds.), *Response to intervention: A framework for reading educators* (pp. 105–122).
- Shaywitz, S. (2003). *Overcoming dyslexia*. Random House.
- Shaywitz, S. E., & Shaywitz, J. (2020). *Overcoming dyslexia*: Knopf.
- Shaywitz, S. E., Shaywitz, B. A., Fletcher, J. M., & Escobar, M. D. (1990). Prevalence of reading disability in boys and girls: Results of the Connecticut Longitudinal Study. *JAMA*, 264(8), 998–1002.
- Sheffield, B. B. (1991). The structured flexibility of Orton-Gillingham. *Annals of Dyslexia*, 41(1), 41–54. <https://doi.org/10.1007/BF02648077>
- Shemshack, A., & Spector, J. M. (2020). A systematic literature review of personalized learning terms. *Smart Learning Environments*, 7(33). <https://doi.org/10.1186/s40561-020-00140-9>
- Silverman, R. D., Johnson, E. M., Keane, K., & Khanna, S. (2020). Beyond decoding: A meta-analysis of the effects of language comprehension interventions on K–5 students' language and literacy outcomes. *Reading Research Quarterly*, 55(S1), S207–S233. <https://doi.org/10.1002/rrq.346>
- Sisk, V. F., Burgoyne, A. P., Sun, J., Butler, J. L., & Macnamara, B. N. (2018). To what extent and under which circumstances are growth mind-sets important to academic achievement? Two meta-analyses. *Psychological Science*, 29(4), 549–571. <https://doi.org/10.1177/0956797617739704>
- Slavin, R. E., Cheung, A., Groff, C., & Lake, C. (2008). Effective reading programs for middle and high schools: A best evidence synthesis. *Reading Research Quarterly* 43(3), 290–332. <https://doi.org/10.1598/RRQ.43.3.4>
- Snow, C. E. (2010). Academic language and the challenge of reading for learning about science. *Science*, 328(5977), 450–452. <https://doi.org/10.1126/science.1182597>
- Spungin, S. (2002). *When you have a visually impaired student in your classroom: A guide for teachers*. AFB Press.
- Stanovich, K. E. (1986). Matthew effects in reading: Some consequences of individual differences in the acquisition of literacy. *Reading Research Quarterly*, 21(4), 360–407. <https://doi.org/10.1598/RRQ.21.4.1>
- Steele, D. M., & Cohn-Vargas, B. (2013). *Identity safe classrooms: Places to belong and learn*. Corwin.
- Stevens, E. A., Walker, M. A., & Vaughn, S. (2017). The effects of reading fluency interventions on the reading fluency and reading comprehension performance of elementary students with learning disabilities: A synthesis of the research from 2001 to 2014. *Journal of Learning Disabilities*, 50(5), 576–590. <https://doi.org/10.1177/0022219416638028>
- Sugai, G., & Horner, R. H. (2002). The evolution of discipline practices: School-wide positive behavior supports. *Child & Family Behavior Therapy*, 24(1–2), 23–50. https://doi.org/10.1300/J019v24n01_03
- Sugai, G., Sprague, J. R., & Horner, R. H. (1999). Functional-assessment-based behavior support planning: Research to practice to research. *Behavioral Disorders*, 24(3), 253–257. <https://doi.org/10.1177/019874299902400309>
- S., & Oakhill, J. (2015). Components of story comprehension and strategies to support them in hearing and deaf or hard of hearing readers. *Topics in Language Disorders*, 35(2), 133–143. <https://doi.org/10.1097/TLD.0000000000000051>
- Talwar, A., Tighe, E., & Greenberg, D. (2018). Augmenting the simple view of reading for struggling adult readers: A unique role for background knowledge. *Scientific Studies of Reading*, 22(5), 351–366.
- Taylor, R. T., & Chanter, C. (2016). *The coaching partnership: tips for improving coach, mentor, teacher, and administrator effectiveness*. Rowman & Littlefield.
- Taylor, R. D., Oberle, E., Durlak, J. A., & Weisberg, R. (2017). Promoting positive youth development through school-based social and emotional learning interventions: A meta-analysis of follow-up effects. *Child Development*, 88(4), 1156–1171. <https://doi.org/10.1111/cdev.12864>

- Thiede, K. W., Anderson, M. C. M., & Theriault, D. (2003). Accuracy of metacognitive monitoring affects learning of texts. *Journal of Educational Psychology*, 95, 66–75. <http://dx.doi.org/10.1037/0022-0663.95.1.66>
- Thompson, J., Hagenah, S., Kang, H., Stroupe, D., Braaten, M., Colley, C., & Windschitl, M. (2016). Rigor and responsiveness in classroom activity. *Teachers College Record*, 118(5), 1–58.
- Toste, J. R., Didion, L., Peng, P., Filderman, M. J., & McClelland, A. M. (2020). A meta-analytic review of the relations between motivation and reading achievement for K–12 students. *Review of Educational Research*, 90(3), 420–456. <https://doi.org/10.3102/0034654320919352>
- Treiman, R. (1991). Phonological awareness and its role in learning to read and spell. In Sawyer, D. J. and Fox, B. J. (Eds.) *Phonological awareness in reading*. Springer Verlag. https://doi.org/10.1007/978-1-4612-3010-6_6
- Treiman, R. (2017). *The role of intrasyllabic units in learning to read and spell*. In *Reading acquisition* (pp. 65–106). Routledge.
- Troia, G. (2014). *Evidence-based practices for writing instruction* (Document No. IC-5). University of Florida, Collaboration for Effective Educator, Development, Accountability, and Reform Center. <https://ceedar.education.ufl.edu/>
- Tucker, C., & Wycoff, T. (2019). Breaking the mold with blended coaching. *ASCD Express: Coaching for Success*, 15(06). <https://www.ascd.org/el/articles/breaking-the-mold-with-blended-coaching>
- U.S. Department of Education. Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP). (2022). *Reading Assessment*.
- U.S. Department of Education. Office of English Language Acquisition. (2016). *Newcomer toolkit*. <http://www2.ed.gov/about/offices/list/oela/newcomers-toolkit/ncomertoolkit.pdf>
- VanDerHeyden, A. M., Burns, M. K., & Bonifay, W. (2018). Is more screening better? The relationship between frequent screening, accurate decisions, and reading proficiency. *School Psychology Review*, 47(1), 62–82.
- Vaughn, S., & Denton, C. A. (2008). Tier 2: The role of intervention. In D. Fuchs, L. Fuchs, & S. Vaughn (Eds.), *Response to intervention: A framework for reading educators* (pp. 51–69). International Reading Association.
- Vaughn, S., Gersten, R., Dimino, J., Taylor, M. J., Newman-Gonchar, R., Krowka, S., Kieffer, M. J., McKeown, M., Reed, D., Sanchez, M., St. Martin, K., Wexler, J., Morgan, S., Yañez, A., & Jayanthi, M. (2022). *Providing reading interventions for students in grades 4–9* (WWC 2022007). U.S. Department of Education, Institute of Education Sciences, National Center for Education Evaluation and Regional Assistance (NCEE). <https://ies.ed.gov/ncee/wwc/PracticeGuide/29/>
- Vaughn, S., Martinez, L. R., Williams, K. J., Miciak, J., Fall, A.-M., & Roberts, G. (2019). Efficacy of a high school extensive reading intervention for English learners with reading difficulties. *Journal of Educational Psychology*, 111(3), 373–386. <https://doi.org/10.1037/edu0000289>
- Vernon-Feagans, L., Bratsch-Hines, M., Varghese, C., Bean, A., & Hedrick, A. (2015). The Targeted Reading Intervention: Face-to-face vs. webcam literacy coaching of classroom teachers. *Learning Disabilities Research & Practice*, 30(3), 135–147. <https://doi.org/10.1111/ldrp.12062>
- Wang, M. C., Haertel, G. D., & Walberg, H. J. (1990). What influences learning? A content analysis of review literature. *The Journal of Educational Research*, 84(1), 30–43. <https://doi.org/10.1080/00220671.1990.10885988>
- Wanzek, J., Stevens, E. A., Williams, K. J., Scammacca, N., Vaughn, S., & Sargent, K. (2018). Current evidence on the effects of intensive early reading interventions. *Journal of Learning Disabilities*, 51(6), 612–624. <https://doi.org/10.1177/0022219418775110>
- Wattenberg, R. (2014). Complex texts require content knowledge: Will the new English standards get the content curriculum they need? In C. E. Finn, & M. J. Petrilli (Eds.), *Knowledge at the core: Don Hirsch, Core Knowledge, and the future of the Common Core* (pp. 31–47). Thomas Fordham Institute.
- Wei, R., Darling-Hammond, L., Andree, A., Richardson, N., & Orphanos, S. (2009). *Professional learning in the learning profession: A status report on teacher professional development in the United States and abroad (technical report)*. National Staff Development Council.
- Wexler, N. (2019). *The knowledge gap: The hidden cause of America's broken education system and how to fix it*. Penguin Random House.
- What Works Clearinghouse. (2016). *WWC intervention report: Read 180*. U.S. Department of Education, Institute of Education Sciences.
- Wigfield, A. (2008). Role of reading engagement in mediating effects of reading comprehension instruction on reading outcomes. *Psychology in the Schools*, 45(5), 432–445. <https://doi.org/10.1002/pits.20307>
- Wilkinson, I. A., Murphy, P. K., & Binici, S. (2015). Dialogue-intensive pedagogies for promoting reading comprehension: What we know, what we need to know. In L. B. Resnick, C. A. Asterhan, & S. N. Clarke (Eds.), *Socializing intelligence through academic talk and dialogue* (pp. 37–50). https://doi.org/10.3102/978-0-935302-43-1_3
- Williams, P. (2017). *Student agency for powerful learning*. <https://files.eric.ed.gov/fulltext/EJ1136307.pdf>
- Willingham, D. T. (2018). Unlocking the science of how kids think: A new proposal for reforming teacher education. *Education Next*, 18(3), 42–49.
- Wilson, K., & Korn, J. H. (2007). Attention during lectures: Beyond ten minutes. *Teaching of Psychology*, 34(2), 85–89. <https://doi.org/10.1080/00986280701291291>
- Wolf, M. (2007). *Proust and the squid*. Basic Books.
- Wolf, M. (2018). *Reader, come home. The reading brain in a digital world*. Harper.
- World Wide Web Consortium Web Accessibility Initiative [W3C WAI]. (2022). <https://www.w3.org/WAI/>
- Worthy, J., DeJulio, S., Svreck, N., Villarreal, D. A., Derbyshire, C., LeeKeenan, K., Wiebe, M. T., Lammert, C., Rubin, J. C., & Salmerón, C. (2016). Teachers' understandings, perspectives, and experiences of dyslexia. *Literacy Research: Theory, Method, and Practices*, 65(1), 436–453. <https://doi.org/10.1177%2F2381336916661529>
- Wright, T. S., & Cervetti, G. N. (2017). A systematic review of the research on vocabulary instruction that impacts text comprehension. *Reading Research Quarterly*, 52(2), 203–226. <https://doi.org/10.1002/rrq.163>

- Yeager, D. S., Walton, G., Ritter, G., & Dweck, C. S. (2013). *Full-scale implementation of psychological interventions at a large institution: An experimental test* [Unpublished manuscript]. University of Texas at Austin..
- Zaba, J. N. (2011). Children's vision care in the 21st century and its impact on education, literacy, social issues and the workplace: A call to action. *Journal of Behavioral Optometry*, 22(2), 39–41.
- Zimmerman, B. S., Rasinski, T. V., Was, C. A., Rawson, K. A., Dunlosky, J., Kruse, S. D., & Nikbakht, E. (2019). Enhancing outcomes for struggling readers: Empirical analysis of the fluency development lesson. *Reading Psychology*, 40(1), 70–94.
- Zwiers, J. (2014). *Building academic language: Meeting common core standards across disciplines, grades 5-12*. John Wiley & Sons.
- Zydney, J. M., & Hasselbring, T. S. (2014). Mini anchors: A universal design for learning approach. *TechTrends*, 58(6), 21–28.

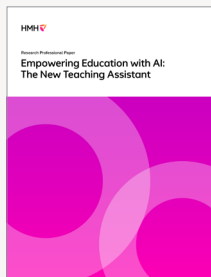
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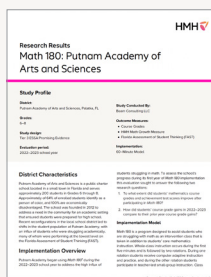
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