i-Ready®

Aligned with the Science of Reading

At Curriculum Associates, we believe all children can learn to read, given they receive the right type of high-quality, research-backed literacy instruction. The ability to read is an essential skill that impacts success in all aspects of life, including academics, employment, health, citizenship, and self-advocacy. *i-Ready* is a supplemental reading program of assessment and instruction built on the principles outlined in this paper. It uses data from the *i-Ready Diagnostic* for Reading to identify each student's next steps in several important Reading domains and then, as a supplement to your core reading program, provides a path of systematic, explicit personalized lessons via *i-Ready Personalized Instruction*.

A large, international body of experimental, quasi-experimental, and peer-reviewed research has emerged from cognitive science, neuroscience, linguistics, developmental psychology, education, and reading experts over the last several decades. This research has been conducted internationally and has converged to inform us how proficient reading and writing develop, what must be taught, and how best to teach it. The resulting evidence points to the following:

- While humans are innately able to pick up spoken language, they are not born with the hardwired ability to read. Therefore, we must systematically teach students how to read, just as we would teach any other learned skill.[1]
- Phonological awareness teaches students how words are broken into sounds. Learning the sounds in words and in phonemes, and then mapping those sounds to graphemes, is vital for students learning to read.[2]
- Students most benefit from phonics instruction that is explicit and systematic and develops automaticity.[3]
- For best results, students should practice reading words in connected texts that enable them to apply recently acquired phonics skills.[4]

The theoretical model behind *i-Ready Diagnostic* and *i-Ready Personalized Instruction* was shaped by the body of research described on the previous page and aligns with the Simple View of Reading.[5] At the core of this model is the understanding that proficient reading consists of two essential but independent component abilities:

- **Word recognition:** The word recognition component requires efficient decoding, accurate sight-word recognition, and fluent word reading.

- **Language comprehension:** The language comprehension component requires knowledge of facts, concepts, syntax, and oral vocabulary so a word can be recognized after it has been fluently read.

Dr. Hollis Scarborough's Reading Rope[6] illustrates the interconnectedness and interdependence of these two components and the many strands that must be woven together to result in skilled reading.
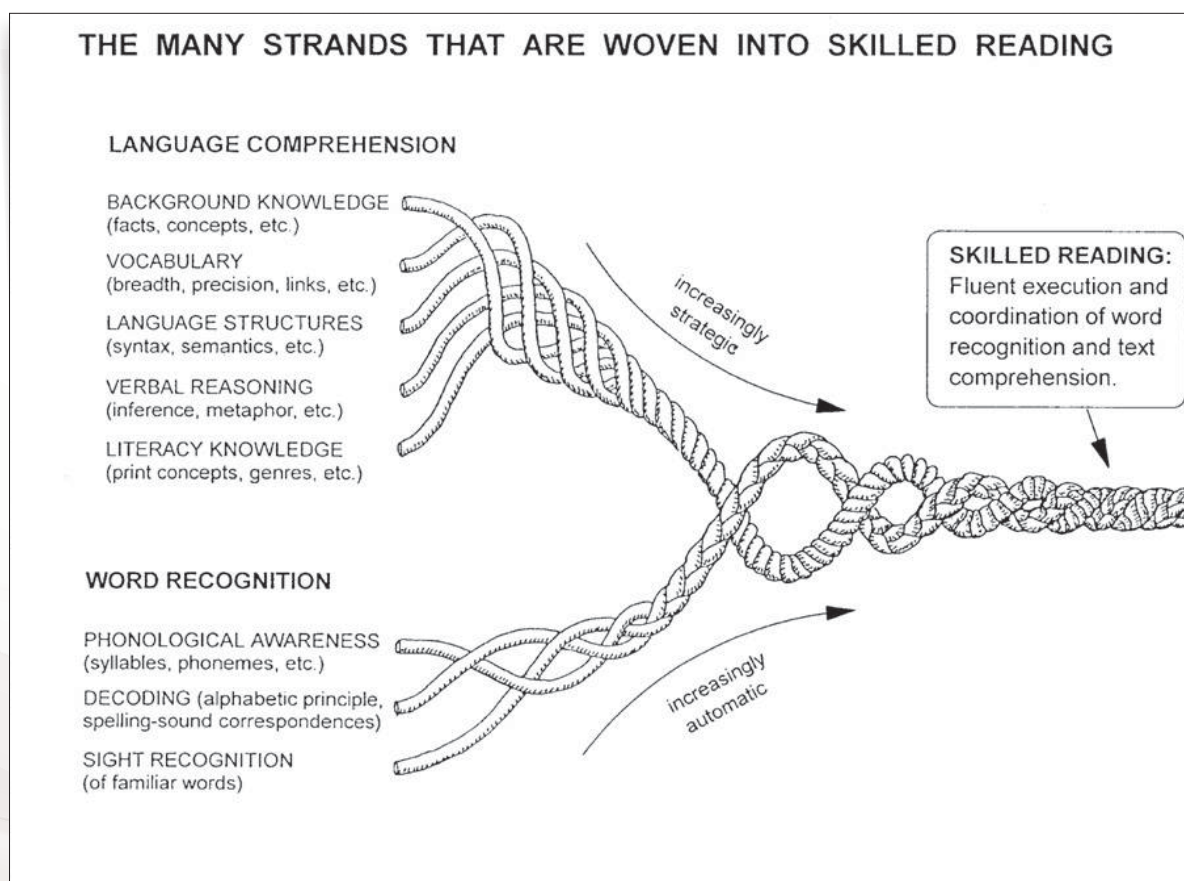
It is important to note that the weaving of the strands is a complex process that also requires skills and knowledge not shown in the diagram, including executive function, knowledge of text type, and establishing a purpose and a plan for reading.

The above image originally appeared in the following publication: Scarborough, H. S. (2001). Connecting early language and literacy to later reading (dis)abilities: Evidence, theory, and practice. In S. Neuman & D. Dickinson (Eds.), *Handbook for research in early literacy* (pp. 97–110). New York, NY: Guilford Press.

i-Ready Assessment

The computer-adaptive *i-Ready Diagnostic* for Reading is designed to be administered to students three times per year and measures several important reading skills. Data-rich reports identify each learner's strengths and instructional needs and recommend next steps for skill building. Both a criterion-referenced score and a normative-referenced score are provided for each of the five specific domains of academic reading ability, all of which are connected to one or more strands of the word recognition and language comprehension components:

Word Recognition	Language Comprehension
• Phonological Awareness (for Grades K–1 and for some students in Grade 2) • Phonics (for Grades K–3 and for some students through Grade 12) • High-Frequency Words (for Grades K–2 and for some students through Grade 8)	• Vocabulary (for Grades K–12) • Reading Comprehension (for Grades K–12)

When student performance shows a need for additional support or shows readiness for above-grade level skills, students see items that are aligned to skill levels appropriate for their needs. Results from the *i-Ready Diagnostic* for Reading are used to point students to Personalized Instruction, which provides explicit instruction in these specific skills, and short, embedded assessments that measure the effectiveness of this instruction.

The *i-Ready Diagnostic* for Reading can also be used with offline companion resources, including:

- Oral Reading Fluency Benchmark and Formative Assessments, which measure reading rate, accuracy, prosody, and comprehension
- Assessments of automaticity and fluency (i.e., rapid automatized naming, letter naming, word/pseudoword reading) and spelling/encoding that are included in Dyslexia Screening with *i-Ready Assessments*

Word-Recognition Assessment

The assessment item banks for Phonological Awareness and Phonics were thoroughly revised and enhanced in 2019 to support dyslexia screening. All items accurately measure important subskills that contribute to word recognition, as indicated by reading science and the International Dyslexia Association (IDA).[7]

Phonological and Phonemic Awareness

i-Ready Phonological Awareness items are designed to assess key skills that have a direct causal link to early reading success.[8] Our Phonological Awareness item bank is aligned to skills that reflect a sequence from larger to smaller units of sound, progressing from blending syllables, to isolating and segmenting initial, final, and medial sounds, to blending, segmenting, and manipulating phonemes (including phoneme addition, deletion, and substitution). The items are designed to target common patterns of error, including phoneme reversal. In fall 2021, we expect to release additional offline Phonological Awareness assessments that can be administered individually to students, allowing educators a closer look at student performance at various grade levels in these important subskills.

Phonics

i-Ready Phonics assessment items are aligned to skills that progress from an emphasis on the phoneme-grapheme level (i.e., letter sounds) to an emphasis on larger units of sound (i.e., digraphs, blends, VC, CVC, then CVCC, CCVC, CCVe words, then multisyllabic words including words with affixes), reflecting a synthetic (i.e., parts to whole) approach to phonics instruction and assessment.[9] Target words and answer choices are based on a systematic, grade-appropriate sequence of phonics skills to elicit evidence of students' ability to apply alphabetic knowledge to word reading. Phonics items are designed to target common error patterns in order to determine how well the student can apply the alphabetic code at different alphabet phases—an essential aspect of word recognition and self-teaching that leads to reading fluency and comprehension.[10] We are currently looking into adding items that assess encoding in the *i-Ready Diagnostic* for fall 2022.

High-Frequency Words

i-Ready Diagnostic High-Frequency Words items assess students' recognition of the most frequently occurring words at their grade level, including words with complex and irregular spelling patterns. Target words at each grade level align to the *i-Ready* instructional scope and sequence for teaching the most frequently occurring words in Grades K–2. For fall 2022, we are currently investigating a transformation of the High-Frequency Words item bank that would allow us to more precisely measure students' ability to accurately and automatically recognize essential high-frequency words and their ability to spell them.

Fluency

i-Ready Oral Reading Fluency Benchmark Assessments consist of narrative and informational grade-level passages. These assessments are administered individually to students in Grades 1–4 up to three times per year to evaluate their overall reading performance. Students are scored by educators on Words Correct per Minute (WCPM), accuracy, prosody, and comprehension. The student's WCPM is compared to Hasbrouck and Tindal oral reading fluency norms to determine whether a student meets grade-level expectations in reading rate. Also available are *i-Ready Oral Reading Fluency Formative Assessments*, which are described in more detail in the *i-Ready Personalized Instruction* section on the next page. For fall 2021, we expect to release additional offline assessments of letter-naming fluency, letter-sound fluency, and word-/pseudoword-reading fluency, which will allow educators to take a closer look at student performance in these important skills that lead to passage-reading fluency. Additionally, for fall 2021, we plan to expand the *i-Ready Oral Reading Fluency Benchmark Assessments* to Grades 5–6.

Language Comprehension Assessment

Vocabulary

Research shows that vocabulary, including knowledge of multiple-meaning words and word relationships, plays a key role in reading comprehension development.[11, 12] Kindergarten vocabulary items assess students' knowledge of grade-appropriate academic (Tier 2) and domain-specific (Tier 3) vocabulary and word relationships. Starting in Grade 1, items expand skills assessed to include morphology (i.e., affixes, base words, inflectional endings) and multiple-meaning words, as advocated by the IDA.[7] Target vocabulary words are based on grade-appropriate comprehension and decoding skills, and word meanings are written in grade-appropriate, student-friendly language.

Reading Comprehension

Kindergarten and some Grade 1 reading comprehension passages are delivered with audio support, and they all are developed to align closely with students' vocabulary and content knowledge. Reading comprehension passages in Grades 2+ are developed to align closely with students' word recognition skills and vocabulary and content knowledge, reflecting a Structured Literacy approach.[11] As grade levels progress, reading passages in the Reading Comprehension domains feature increasingly dense, complex syntax that students must parse in order to deduce meaning. Comprehension items ask text-dependent questions to elicit evidence of students' ability to understand grade-level text and align to key comprehension skills, including retelling, summarizing, inferring, identifying story elements, integrating information, evaluating arguments, analyzing relationships, analyzing text structure, and comparing points of view.

i-Ready Personalized Instruction

The reading lessons in *i-Ready Personalized Instruction* are designed to supplement classroom literacy instruction and bolster the skills of on-grade level, advanced, and striving learners. Assessment data from the *i-Ready Diagnostic* is used to determine each student's learning pathway in i-*Ready Personalized Instruction*. This includes determining which core reading domains a student needs to progress in and which lessons within each domain will be most beneficial.

The lessons themselves have been designed to reflect research and expert opinion about effective reading instruction. There is a carefully planned systematic sequence of instruction, with easier skills taught before harder skills, and new learning building on prior learning so students can continue practicing what they've learned.

Word Recognition	Language Comprehension
• Phonological and Phonemic Awareness (for Grades K–1 and for some students in Grade 2)	• Vocabulary (for Grades K–8)
• Phonics (for Grades K–3 and for some students through Grade 8)	• Reading Comprehension (for Grades K–8)
• High-Frequency Words (for Grades K–2 and for some students through Grade 8)	• Syntax (for Grades 6–8)* *Development is currently underway on syntax lessons for younger students.

Note: Students may be placed in lessons that are below their chronological grade level if their i-Ready Diagnostic *performance shows they would benefit from additional support.*

Word Recognition Lessons

i-Ready Personalized Instruction develops the skills of Phonological Awareness, including phonemic awareness, letter-sound correspondences, sound-spellings, and decoding (including spelling). Students are taught to use their sound and spelling knowledge as a primary strategy for word recognition. Additional *i-Ready* lessons develop students' sight-word recognition of important high-frequency words, including words with irregular spellings and words that are useful for students to read before they have acquired the sound-letter knowledge to do so.

Phonological Awareness

The systematic scope and sequence for *i-Ready* Phonological Awareness reflects the evidence that supports an instructional sequence that progresses from larger to smaller units of sound.[13] Lessons start blending and segmenting of syllables and then briefly address onset and rime. Next, instruction transitions to focusing primarily on individual phonemes, with students being taught how to identify sounds in the initial, final, and medial position of words. Once students can isolate specific phonemes, they learn how to blend and segment words that have increasingly more phonemes, followed by instruction and practice with phoneme manipulation, including addition, deletion, and substitution activities. This progression of explicit instruction guides students toward phonemic mastery—an important component of orthographic mapping.[14]

Phonics

Guided by the findings of the National Reading Panel (NRP), *i-Ready* provides systematic and explicit Phonics instruction in a progression that builds on students' prior learning in Phonological Awareness and addresses all 44 phonemes and their corresponding high-utility sound-spellings, syllables, and affixes.[15] Lessons focus on the most common consonants first, followed by commonly confused letters that sound or look similar. Once students have learned a small set of consonants, they are introduced to a short vowel sound and begin to blend sounds to decode words. Students also work with word patterns to develop their word-attack skills, which are important for reading multisyllabic words.

Because the NRP found that integrating multiple approaches of systematic phonics instruction is the most effective way of teaching phonics, *i-Ready* lessons employ a variety of instructional approaches, including synthetic (i.e., primary focus), embedded, and analytic phonics, to support guided practice and application of explicitly taught skills.[13] Encoding instruction and practice are also incorporated.

Teaching foundational literacy skills is shown to be more beneficial when integrated with opportunities to read meaningful, connected text. As students learn to apply the alphabetic principle to decode words, they develop a self-teaching mechanism that helps them independently learn new words when they read connected text.[15] All *i-Ready* Phonics lessons (with the exception of Letter Learning lessons) build toward a concluding activity in which students apply phonics skills in the context of engaging connected text.

High-Frequency Words

Research shows that a small number of frequently occurring words have an outsized effect on students' success in school.[16] *i-Ready* High-Frequency Words lessons use a five-part instructional routine to teach children how to recognize these essential words. Lessons focus on 100 of the most frequent words from the WFG Corpus,[17] and then proceed to focus on an additional 40 high-frequency words with complex or irregular spelling patterns, which come from the WFG Corpus, Fry, and Dolch.[18, 19]

Fluency

Because oral reading fluency is a strong indicator of overall reading ability[20], *i-Ready Oral Reading Fluency Formative Assessments* provide teachers with multiple narrative and informational passages with a range of text complexity across Grades 1–4. Teachers can use these passages diagnostically to give students practice reading texts aloud as they work to improve their accuracy, automaticity, prosody, and comprehension in order to build reading fluency. Additionally, *i-Ready* Reading Fluency: Instructional Resources point teachers to specific Tools for Instruction—downloadable teacher-led lesson plans—based on a student's performance on the *i-Ready Diagnostic* as well as Oral Reading Fluency Benchmark and Formative Assessments.

Language Comprehension Lessons

Vocabulary

Research strongly suggests that instruction focused on vocabulary development is critical to learning to read with comprehension. Research-based best practices include teaching high-utility words, introducing words in rich and multiple contexts, providing explicit instruction in word meaning, teaching word-learning strategies grounded in morphology, and teaching context clues, with an emphasis on multiple-meaning words.[21] *i-Ready* provides vocabulary instruction across Grades K–8 that is aligned with this research:

- Grades K–2 instruction focuses primarily on a select set of high-utility, academic words students will encounter in a variety of text types and content areas. Lessons provide brief, student-friendly definitions and familiar synonyms, present selected words in rich, multiple contexts, and provide explicit instruction and ample practice for each word.
- Instruction in Grades 3+ focuses primarily on teaching multiple research-based word-learning strategies. Students unlock the meaning of many unknown words by applying their knowledge of morphology, including Greek and Latin affixes, roots, and word families, as well as context clues. The majority of target words in Grades 3–5 lessons have multiple meanings, which requires students to use context to determine which meaning is intended—another research-backed approach to learning vocabulary.

Reading Comprehension

Researchers recommend incorporating multiple genres of writing as part of comprehension instruction, including informational and narrative texts. Informational texts build students' vocabulary and content knowledge, while narrative texts "convey information in ways that spark children's imagination and thought processes."[22] *i-Ready* Reading Comprehension lessons feature complex, engaging, and rigorous informational and narrative texts and make the text central to the learning experience. Passages across Grades K–8 have been carefully selected to introduce important topics, including content knowledge in science and social studies. Grades K–1 lessons offer rich read-aloud experiences for students who cannot yet read independently to build their vocabulary and content knowledge. There are background knowledge supports at the beginning of every Grades K–2 lesson, and optional background knowledge supports appear at point of use in lessons for older students. Texts in all grades include numerous hyperlinked academic vocabulary words, with definitions in English and Spanish.

Research also shows that interactive, strategic processes are critically necessary to the development of reading comprehension and that adaptive scaffolding provided by certain instructional features and technology enhancements can be beneficial.[3, 15] Accordingly, *i-Ready* Reading Comprehension lessons all provide technology-enhanced, individualized scaffolds to support and motivate each reader. While the lessons share a common overall instructional approach, they are differentiated by grade band to meet the changing needs of students at each stage of reading development. For example, Grades K–1 lessons offer rich read-aloud experiences for students who cannot yet read complex texts independently in order to build their vocabulary and content knowledge. Explicit teaching of inferencing occurs in the 3–5 and 6–8 grade bands. In Grades 6–8, dedicated syntax lessons focus on analyzing sentences to strengthen students' syntactic awareness and ensure they can understand ideas within and across sentences in the increasingly complex texts they are reading.

References

[1]Liberman, I. Y., Shankweiler, D., & Liberman, A. M. (1989). *The alphabetic principle and learning to read*.

[2]Metsala, J. L., & David, M. D. (2016). Individual differences in word recognition: Reading acquisition and reading disabilities. In P. Afflerbach (Ed). *Handbook of individual differences in reading*. New York, NY: Taylor & Francis.

[3]Molenaar, I., & Roda, C. (2008). Attention management for dynamic and adaptive scaffolding. *Pragmatics & Cognition, 16*(2), 224–271.

[4]Cheatham, J. P., & Allor, J. H. (2012). The influence of decodability in early reading text on reading achievement: A review of the evidence. *Reading & Writing, 25*, 2223–2245.

[5]Gough, P. B., & Tunmer, W. E. (1986). Decoding, reading, and reading disability. *Remedial and Special Education, 7*(1), 6–10.

[6]Scarborough, H. S. (2001). Connecting early language and literacy to later reading (dis)abilities: Evidence, theory, and practice. In S. Neuman & D. Dickinson (Eds.), *Handbook for research in early literacy* (pp. 97–110). New York, NY: Guilford Press.

[7]Cowen, C. (2016). What is structured literacy? *International Dyslexia Association*. https://dyslexiaida.org/what-is-structured-literacy/

[8]Quinn, J. M., Spencer, M., & Wagner, R. K. (2016). Individual differences in phonological awareness and their role in learning to read. In P. Afflerbach (Ed.), *Handbook of individual differences in reading*. New York, NY: Taylor & Francis.

[9]Spear-Swerling, L. (2018). Structured literacy and typical literacy practices: Understanding differences to create instructional opportunities. *TEACHING Exceptional Children, 51*(3), 201–211.

[10]Tunmer, W. E., & Nicholson, T. (2011). The development and teaching of word recognition skill. In M. L. Kamil, P. D. Pearson, E. B. Moje, & P. P. Afflerbach (Eds.), *Handbook of reading research (IV)*. New York, NY: Routledge.

[11]Coyne, M. D., Neugebauer, S. R., Ware, S. M., McCoach, B., & Madura, J. P. (2015). Vocabulary and its role in early comprehension development. In A. DeBruin-Parecki, A. van Kleeck, & S. Gear (Eds). *Developing early comprehension: Laying the foundation for reading success*. Baltimore, MD: Paul H. Brookes Publishing Co.

[12]Graves, M., & Silverman, R. (2011). Interventions to enhance vocabulary development. In A. McGill-Franzen & R. L. Allington (Eds.), *Handbook of reading disability research*. New York, NY: Routledge.

[13]Goswami, U., & Bryant, P. (2016). *Phonological skills and learning to read*. New York, NY: Psychology Press & Routledge Classic Editions.

[14]Kilpatrick, D. A. (2015). *Essentials of assessing, preventing, and overcoming reading difficulties*. Hoboken, NJ: John Wiley & Sons.

[15]National Institute of Child Health and Human Development. (2000). *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*. Washington, DC: National Institute of Child Health and Human Development, National Institute of Health.

[16]Graves, M. F. (2016). *The vocabulary book: Learning & instruction*. New York, NY: Teachers College Press.

[17]Zeno, S. M., Ivens, S. H., Millard, R. T., & Duvvuri, R. (1995). *The educator's word frequency guide*. Brewster, NY: Touchstone Applied Science Associates.

[18]Fry, E. (1980). The new instant word list. *The Reading Teacher, 34*(3), 284–289.

[19]Dolch, E. W. (1936). A basic sight vocabulary. *The Elementary School Journal, 36*(6), 456–460.

[20]Fuchs, L. S., Fuchs, D., Hosp, M. K., & Jenkins, J. R. (2001). Oral reading fluency as an indicator of reading competence: A theoretical, empirical, and historical analysis. *Scientific Studies of Reading, 5*(3), 239–256.

[21]Baumann, J. F., Edwards, E. C., Boland, E., & Font, G. (2012). Teaching word-learning strategies. In E. J. Kame'enui & J. F. Baumann (Eds.), *Vocabulary instruction: Research to practice*. New York, NY: Guilford Press.

[22]Roskos, K., & Neuman, S. B. (2014). Best practices in reading: A 21st century skill update. *The Reading Teacher, 67*(7), 507–511.

i-Ready®

Curriculum Associates®