Descriptors Regarding
Intervention after Assessment and Dyslexia Identification

This document lists the required components of an instructional program for dyslexia and it demonstrates how the features of the Fast ForWord® K-12 programs correspond to the requirements of most Dyslexia legislation. The Fast ForWord® K-12 program includes ten Fast ForWord® products and all K-12 levels of Reading Assistant™.

Requirements for a Dyslexia Instructional Program: Introduction

Dyslexia Therapy is required to be systematic, multi-sensory, and research based and designed to teach students the following components of reading instruction including without limitation:

i. Phonemic awareness to enable a student to detect, segment, blend, and manipulate sounds in spoken language;

Corresponding Features of the Fast ForWord Family of Programs

Each Fast ForWord program offers exercises that specifically train students in phonemic awareness skills.
- Fast ForWord Foundations I includes three phonemic awareness exercises:
    - Moon Ranch trains phoneme discrimination, auditory processing, and ability to sustain and focus attention.
    - Hoop Nut trains identification and discrimination of phonemes, auditory processing, and working memory ability.
    - Whalien Match trains phoneme discrimination, word recognition, auditory processing, and working memory ability.
- Fast ForWord Foundations II includes two phonemic awareness exercises:
    - Polar Planet trains phoneme discrimination, sound-letter correspondences, and auditory memory.
    - Tomb Trek trains phoneme recognition, grapheme recognition, and working memory ability.
- Fast ForWord to Literacy includes three phonemic awareness exercises:
    - Galaxy Goal trains phoneme discrimination, auditory processing, and ability to sustain and focus attention.
    - Spin Master trains identification and discrimination of phonemes, auditory processing, and working memory ability.
    - Lunar Tunes trains phoneme discrimination, word recognition, auditory processing, and working memory ability.
- Fast ForWord to Literacy Advanced includes two phonemic awareness exercises:
    - Meteor Ball trains phoneme discrimination, sound-letter correspondences, and auditory memory.
    - Lunar Leap trains phoneme recognition, grapheme recognition, and working memory ability.
- Fast ForWord Reading Level 1 includes two exercises that directly train graphophonemic skills:
    - Bear Bags trains students in phonemic awareness, letter identification and auditory memory ability.
    - Magic Rabbit trains students in spelling skills, decoding skills, and sensitivity to letter-sound correspondences.
- Fast ForWord Reading Level 2 includes two exercises that directly train graphophonemic skills:
    - Bear Bags: More Lunch trains students in phonemic awareness, letter identification and auditory memory ability.
    - Magic Bird trains students in spelling skills, decoding skills, and sensitivity to letter-sound correspondences.
- Fast ForWord Reading Level 3 includes Chicken Dog, which trains phonemic awareness, sensitivity to letter-sound correspondences, spelling, and decoding skills.
- Fast ForWord Reading Level 4 includes an exercise, Jitterbug Jukebox, which trains students in spelling skills, decoding skills, and sensitivity to letter-sound correspondences.
- Fast ForWord Reading Level 5 includes an exercise, Wood Works, that that trains students in spelling skills, decoding skills, and sensitivity to letter-sound correspondences.

In Reading Assistant, students use phonemic awareness and decoding skills to orally read the selections at all levels.

ii. Graphophonemic knowledge for teaching the letter-sound plan of English;

Corresponding Features of the Fast ForWord Family of Programs

Before students can accurately learn letter-sound correspondences, they need to have good phonemic awareness skills. But even from before students can master phonemic awareness skills, they need to be able to clearly hear and accurately recognize the speech sounds themselves - in other words, they must be able to process sounds quickly. Sound processing skills are trained in many Fast ForWord programs.

- Fast ForWord Foundations I includes Sky Gym, which trains sound processing, working memory ability, and sound sequencing.
- Fast ForWord Foundations II includes Jumper Gym, which trains sound processing, working memory ability, and serial sound sequencing.
- Fast ForWord to Literacy includes Space Racer, which trains sound processing, working memory ability, and sound sequencing.
- Fast ForWord to Literacy Advanced includes Sky Rider, which trains sound processing, working memory ability, and serial sound sequencing.

Several Fast ForWord programs train students in graphophonemic skills.
- Fast ForWord Foundations II includes three exercises that directly train graphophonemic skills:
  - Paint Match trains letter-sound correspondences and auditory memory ability.
  - Polar Planet trains letter-sound correspondences, phonemic discrimination, and auditory memory ability.
  - Tomb Trek trains phoneme recognition, grapheme recognition, and working memory ability.
- Fast ForWord to Literacy Advanced includes three exercises that directly train graphophonemic skills:
  - Laser Match trains letter-sound correspondences and auditory memory ability.
  - Meteor Ball trains letter-sound correspondences, phonemic discrimination, and auditory memory ability.
  - Lunar Leap trains phoneme recognition, grapheme recognition, and working memory ability.
- Fast ForWord to Reading Readiness includes four such exercises:
  - Packing Pig Goes to Work trains phonological awareness, letter identification, letter-name knowledge, memory abilities, and sustained attention.
  - Packing Pig Has Lunch trains phonological awareness, letter name-symbol association, letter-name knowledge, memory abilities, and auditory perception.
  - Dog Deals the Deck trains phonological awareness, letter-sound correspondences, working memory, and auditory perception.
  - Ghost Coaster trains phonological awareness, letter-sound correspondences, working memory, and auditory perception.
- Fast ForWord Reading Level 1 includes two exercises that directly train graphophonemic skills:
  - Bear Bags trains students in phonemic awareness, letter identification and auditory memory ability.
  - Magic Rabbit trains students in spelling skills, decoding skills, and sensitivity to letter-sound correspondences.
- Fast ForWord Reading Level 2 includes two exercises that directly train graphophonemic skills:
  - Bear Bags: More Lunch trains students in phonemic awareness, letter identification and auditory memory ability.
  - Magic Bird trains students in spelling skills, decoding skills, and sensitivity to letter-sound correspondences.
- Fast ForWord Reading Level 3 includes an exercise, Chicken Dog that trains students in spelling skills, decoding skills, and sensitivity to letter-sound correspondences. Chicken Dog presents 320 of the 500 most commonly used words, as well as the word families mandated by third grade curriculum standards.
- Fast ForWord Reading Level 4 includes an exercise, Jitterbug Jukebox, which trains students in spelling skills, decoding skills, and sensitivity to letter-sound correspondences.

- Fast ForWord Reading Level 5 includes an exercise, Wood Works, that that trains students in spelling skills, decoding skills, and sensitivity to letter-sound correspondences.

iii. The structure of the English language that includes morphology, semantics, syntax, and pragmatics

Corresponding Features of the Fast ForWord Family of Programs

Many Fast ForWord training programs offer exercises that train students in language structure at their skill level:
- Fast ForWord Foundations I includes two exercises that train language structure:
  - Space Commander trains syntax, morphology, grammar, and language and listening comprehension.
  - Ele-bot trains syntax, grammar, working memory ability, and listening comprehension.
- Fast ForWord Foundations II includes Cosmic Reader, which trains grammar and syntax, following directions, working memory ability, and language and listening comprehension.
- Fast ForWord to Literacy includes Stellar Stories trains syntax, grammar, morphology, working memory ability and language and listening comprehension.
- Fast ForWord to Literacy Advanced includes Galaxy Theater, which trains grammar and syntax, following directions, letter-sound correspondences, working memory ability, and language and listening comprehension.
- Fast ForWord Reading Level 1 offers three exercises that train students in linguistic patterns and in comprehension of sentences and longer passages:
  - Quail Mail trains students in understanding conceptual relationships, semantics, syntax, phonological properties, and morphological properties; decoding; vocabulary; and flexible reading.
  - Buzz Fly trains students in literal passage comprehension, understanding of cause and effect, ability to make inferences, working memory ability, vocabulary, and flexible reading.
  - Bedtime Beasties trains students in morphological complexity (the use of pronouns, auxiliary verbs, prefixes, suffixes, and contractions as well as how morphologically important words affect semantics in syntax), vocabulary, paragraph comprehension, and flexible reading.
- Fast ForWord Reading Level 2 offers three exercises that train students in linguistic patterns and in comprehension of sentences and longer passages:
  - Leaping Lizards trains students in sentence comprehension, vocabulary and logical reasoning skills.
  - Ant Antics trains students in syntax, working memory ability, logical reasoning when decoding meaning, vocabulary, and sentence comprehension.
  - Dog Bone trains students in literal passage comprehension, understanding of cause and effect, ability to make inferences, working memory ability, vocabulary, and flexible reading.
- Fast ForWord Reading Level 3 offers five exercises that train students in linguistic patterns and in comprehension of sentences and longer passages:
  - Scrap Cat trains students in understanding conceptual relationships, semantics, syntax, phonological properties, and morphological properties; decoding; vocabulary; and flexible reading.
  - Canine Crew trains students in understanding conceptual relationships, semantics, and phonological properties; decoding; vocabulary; and flexible reading.
  - Twisted Pictures trains students in syntax, working memory ability, logical reasoning when decoding meaning, vocabulary, and sentence comprehension.
  - Book Monkeys trains students in literal passage comprehension, understanding of cause and effect, ability to make inferences, working memory ability, vocabulary, and flexible reading.
  - Hog Hat Zone trains students in morphological complexity (the use of pronouns, auxiliary verbs, prefixes, suffixes, and contractions as well as how morphologically important words affect semantics in syntax), vocabulary, paragraph comprehension, and flexible reading.
- Fast ForWord Reading Level 4 offers five exercises that train students in linguistic patterns and in comprehension of sentences and longer passages:
  - Hoof Beat trains students in understanding semantics, syntax, phonological properties, and morphological properties; decoding; vocabulary; and flexible reading.

- o Lulu's Laundry Line trains students in understanding capitalization and punctuation while building sentence and paragraph comprehension skills.
        - o Goat Quotes trains students in strengthening sentence comprehension and recognizing paragraph structure.
        - o Book Monkeys: Book Two trains students in literal passage comprehension, understanding of cause and effect, ability to make inferences, working memory ability, vocabulary, and flexible reading.
        - o Stinky Bill's Billboard trains students in morphological complexity (the use of pronouns, auxiliary verbs, prefixes, suffixes, and contractions as well as how morphologically important words affect semantics in syntax), vocabulary, paragraph comprehension, and flexible reading.
- Fast ForWord Reading Level 5 offers five exercises that train students in linguistic patterns and in comprehension of sentences and longer passages:
        - o Wood Works trains students in understanding conceptual relationships, semantics, syntax, phonological properties, and morphological properties; decoding; vocabulary; and flexible reading.
        - o Gator Jam trains students in understanding conceptual relationships, semantics, phonological properties, vocabulary, critical thinking and abstract reasoning.
        - o Toad Loader trains students in developing accuracy and fluency in recognizing sentence structures and constructing sentences by manipulating grammatical forms and inflections.
        - o Lana's Lanes trains students in literal passage comprehension, understanding of cause and effect, ability to make inferences, working memory ability, vocabulary, and flexible reading. Students develop multiple reading comprehension strategies using graphic organizers and passage summaries.
        - o Quack Splash trains students in constructing and organizing passages and in understanding and using figurative language.

Reading Assistant allows students to develop language structures as they practice literal passage comprehension, inference, analysis, as well as other reading comprehension skills such as main idea, cause and effect, prediction, using context clues, character traits, figurative language, etc.

iv. Linguistic instruction directed toward proficiency and fluency with the patterns of language so that words and sentences are carriers of meaning

Corresponding Features of the Fast ForWord Family of Programs

The Fast ForWord family of programs offers many exercises that train students in comprehension of linguistic patterns and meaning-based reading skills.
- Fast ForWord Foundations I includes two linguistic and meaning-based exercises:
        - o Space Commander trains syntax, grammar, working memory ability, and listening comprehension.
        - o Ele-bot trains syntax, morphology, grammar, and language and listening comprehension.
- Fast ForWord Foundations II includes Cosmic Reader, which trains grammar and syntax, following directions, letter-sound correspondences, working memory ability, and language and listening comprehension.
- Fast ForWord to Literacy includes Stellar Stories trains syntax, grammar, morphology, working memory ability and language and listening comprehension.
- Fast ForWord to Literacy Advanced includes Galaxy Theater, which trains grammar and syntax, following directions, letter-sound correspondences, working memory ability, and language and listening comprehension.
- Fast ForWord Reading Level 1 offers three exercises that train students in linguistic patterns and in comprehension of sentences and longer passages:
        - o Quail Mail trains students in understanding conceptual relationships, semantics, syntax, phonological properties, and morphological properties; decoding; vocabulary; and flexible reading.
        - o Buzz Fly trains students in literal passage comprehension, understanding of cause and effect, ability to make inferences, working memory ability, vocabulary, and flexible reading.

- - Bedtime Beasties trains students in morphological complexity (the use of pronouns, auxiliary verbs, prefixes, suffixes, and contractions as well as how morphologically important words affect semantics in syntax), vocabulary, paragraph comprehension, and flexible reading.
- Fast ForWord Reading Level 2 offers three exercises that train students in linguistic patterns and in comprehension of sentences and longer passages:
  - Leaping Lizards trains students in sentence comprehension, vocabulary and logical reasoning skills.
  - Ant Antics trains students in syntax, working memory ability, logical reasoning when decoding meaning, vocabulary, and sentence comprehension.
  - Dog Bone trains students in literal passage comprehension, understanding of cause and effect, ability to make inferences, working memory ability, vocabulary, and flexible reading.
- Fast ForWord Reading Level 3 offers five exercises that train students in linguistic patterns and in comprehension of sentences and longer passages:
  - Scrap Cat trains students in understanding conceptual relationships, semantics, syntax, phonological properties, and morphological properties; decoding; vocabulary; and flexible reading.
  - Canine Crew trains students in understanding conceptual relationships, semantics, and phonological properties; decoding; vocabulary; and flexible reading.
  - Twisted Pictures trains students in syntax, working memory ability, logical reasoning when decoding meaning, vocabulary, and sentence comprehension.
  - Book Monkeys trains students in literal passage comprehension, understanding of cause and effect, ability to make inferences, working memory ability, vocabulary, and flexible reading.
  - Hog Hat Zone trains students in morphological complexity (the use of pronouns, auxiliary verbs, prefixes, suffixes, and contractions as well as how morphologically important words affect semantics in syntax), vocabulary, paragraph comprehension, and flexible reading.
- Fast ForWord Reading Level 4 offers five exercises that train students in linguistic patterns and in comprehension of sentences and longer passages:
  - Hoof Beat trains students in understanding semantics, syntax, phonological properties, and morphological properties; decoding; vocabulary; and flexible reading.
  - Lulu's Laundry Line trains students in understanding capitalization and punctuation while building sentence and paragraph comprehension skills.
  - Goat Quotes trains students in strengthening sentence comprehension and recognizing paragraph structure.
  - Book Monkeys: Book Two trains students in literal passage comprehension, understanding of cause and effect, ability to make inferences, working memory ability, vocabulary, and flexible reading.
  - Stinky Bill's Billboard trains students in morphological complexity (the use of pronouns, auxiliary verbs, prefixes, suffixes, and contractions as well as how morphologically important words affect semantics in syntax), vocabulary, paragraph comprehension, and flexible reading.
- Fast ForWord Reading Level 5 offers five exercises that train students in linguistic patterns and in comprehension of sentences and longer passages:
  - Wood Works trains students in understanding conceptual relationships, semantics, syntax, phonological properties, and morphological properties; decoding; vocabulary; and flexible reading.
  - Gator Jam trains students in understanding conceptual relationships, semantics, phonological properties, vocabulary, critical thinking and abstract reasoning.
  - Toad Loader trains students in developing accuracy and fluency in recognizing sentence structures and constructing sentences by manipulating grammatical forms and inflections.
  - Lana's Lanes trains students in literal passage comprehension, understanding of cause and effect, ability to make inferences, working memory ability, vocabulary, and flexible reading. Students develop multiple reading comprehension strategies using graphic organizers and passage summaries.
  - Quack Splash trains students in constructing and organizing passages and in understanding and using figurative language.

v. Strategies that students use for decoding, encoding, word recognition, fluency, and comprehension.

Corresponding Features of the Fast ForWord Family of Programs

The Fast ForWord family of programs train students' brains in efficient sound processing, language, and reading skills. The Fast ForWord programs build learning capacity through the development of four cognitive skills:

- Memory-Working memory is a system for temporarily storing and manipulating information. A student uses working memory when a task requires the ability to hold spoken sentences and instructions in mind, concentrate and follow directions. Good working memory enables the student to understand word meaning and syntax; attend to class discussions, stories and presentation; follow directions; and develop reasoning skills.
- Attention-Attention is the ability to focus on information and tasks, and ignoring distractions. All learning requires sustained and focused attention by an active learner.
- Processing-Processing refers to the ability to accurately perceive and manipulate information. There is a direct relationship between a student's ability to process sounds and the ability to learn to read. This allows students to associate individual speech sounds with their corresponding letters.
- Sequencing-Sequencing skills are used for maintaining order, such as the order of letters within words or words within a sentence.

The Fast ForWord family of programs follows strict neuroscience and instructional principals and procedures in the development of both cognitive skills and the essential components of reading. As foundational skills are built, subsequent skills are introduced and developed to increase a student's language, reading, writing and spelling skills.

All levels of Reading Assistant include these strategies as students complete pre-reading activities to review vocabulary, preview the reading selections, orally read selections and answer quiz questions to determine specific comprehension skills. The pre-reading activities include decoding, encoding, and word recognition and the oral reading requires all of those skills and monitors the students' fluency rates.

Reading Assistant includes reading comprehension activities in the quiz portion of the program. Within the multiple levels of text, students will perform such tasks as:

- answer questions about key details in a text,
- determine and read unknown words,
- compare and contrast experiences of characters,
- determine support points,
- read common high-frequency words,
- read with purpose and understanding,
- make logical inferences,
- support conclusions,
- determine central ideas or themes,
- analyze how and why individuals, events and ideas develop and interact,
- interpret words and phrases as they are used,
- analyze the structure of texts and how specific portions of the text relate to each other and the whole,
- integrate and evaluate content,
- read and comprehend complex literary and informational texts,
- draw evidence from literary or informational text,
- confirm understanding by answering questions about key details,
- read a variety of genre
- identify new meanings of familiar words and apply them accurately,
- acquire and use accurately a range of general academic and domain-specific words and phrases,
- read orally with accuracy, appropriate rate and expression,

According to the descriptors that identify appropriate instructional strategies for an approved dyslexia instructional program, Dyslexia therapy for a student whose dyslexia evaluation indicates the need for dyslexia therapy services shall be provided with fidelity and include the instructional approaches listed below.

Corresponding Features of the Fast ForWord Family of Programs

The Fast ForWord family of programs trains the brain to help students improve language and reading skills.
- The training programs employ individualized training; the exercises adapt to each student's progress and instructional needs.
- The Fast ForWord training programs are intensive; each exercise exposes students to intensive training in one major skill and simultaneously cross-trains other skills. Students train on each exercise for an average of 8-15 minutes (the programs train students a total of 30, 40, 50 or 90 minutes per day, depending on the protocol selected).
- The Fast ForWord family of programs uses multisensory methods to train students. The training exercises are administered on a computer, and the student both sees visual stimuli and hears, through headphones, auditory stimuli.
- Reading Assistant provides guided oral reading practice which helps with vocabulary development as well as building reading fluency and comprehension skills.

Requirements: Instructional Approach 1

Explicit, direct instruction that is systematic, sequential, and cumulative and follows a logical plan of presenting the alphabetic principle that targets the specific needs of the student without presuming prior skills or knowledge of the student.

Corresponding Features of the Fast ForWord Family of Programs

All Fast ForWord training programs present systematic, sequential, cumulative, and optimally organized instruction in language and reading skills.
- The Fast ForWord family of programs is designed for students with a wide variety of language and reading skills. Several Fast ForWord training programs—Fast ForWord Foundations I, Fast ForWord Foundations II, Fast ForWord to Literacy, and Fast ForWord to Literacy Advanced—begin training students with modified speech, which allows even students with severe language difficulties to understand the stimuli (see next bullet point). In addition, many Fast ForWord training programs include exercises that specifically train students to process speech sounds more quickly and accurately, which gives them unique help with fundamental language skills.
- Several Fast ForWord programs begin training by using modified speech to present stimuli. The exercises in these programs stretch and/or emphasize sounds, phonemes, or words that are more difficult to recognize and process when heard at the rate of natural speech. (Research shows that students who cannot easily process speech sounds can have difficulty learning the sounds of language accurately—and then can have difficulty learning the correspondences between language sounds and written letters.) As students progress, the exercises decrease the stretch and/or emphasis of the stimuli until students are training at the rate of natural speech.
- The Fast ForWord programs train students according to the five optimum learning principles, including continually adapting to students' progress.
- All Fast ForWord training exercises begin training with the simplest level of stimuli and progress to more advanced stimuli as the student's skill level progresses.

Requirements: Instructional Approach 2

Individualized instruction to meet the specific needs of the student in a small group setting that uses intensive, highly concentrated instruction methods and materials that maximize student engagement

Corresponding Features of the Fast ForWord Family of Programs

Each Fast ForWord training program is individualized:

- During a student's training time (Fast ForWord - either five or three days a week for 30, 40, 50 or 90 minutes per day and/or Reading Assistant – 2 to 3 times weekly for 20, 30 or 40 minutes) that student is the only person using that training computer.
- All Fast ForWord programs include adaptive training. Adaptive training automatically adjusts the daily exercise times as students complete exercises to allow students to train longer on exercises in which they need more practice. The total training program time remains the same each day based on the chosen protocol.
- Reading Assistant selections can be chosen based on the student's grade or reading level, ATOS Grade Equivalent, Lexile Measure or Fountas & Pinnell Guided Reading Level.
- Each student's exercise data is saved to that student's file and uploaded to the Scientific Learning database. Educators can run reports on each student's progress as often as they wish, and they can use these reports to pinpoint areas in which the student may need more practice.
- Educators are professionally trained on how to administer the Fast ForWord and Reading Assistant programs as well as in the science behind the programs. Thus the educator is prepared to interpret and use the progress reports, can ensure that the training program benefits each student as much as possible, and is prepared to meet the specific learning needs of each student.

Requirements: Instructional Approach 3

Meaning-based instruction directed at purposeful reading and writing, with an emphasis on comprehension and composition

Corresponding Features of the Fast ForWord Family of Programs

The Fast ForWord family of programs offers many exercises that train students in comprehension of meaning-based reading skills.

- Fast ForWord Foundations I includes two meaning-based exercises:
  - Space Commander trains syntax, grammar, working memory ability, and listening comprehension.
  - Ele-bot trains syntax, morphology, grammar, and language and listening comprehension.
- Fast ForWord Foundations II includes Cosmic Reader, which trains grammar and syntax, following directions, letter-sound correspondences, working memory ability, and language and listening comprehension.
- Fast ForWord to Literacy includes Stellar Stories trains syntax, grammar, morphology, working memory ability and language and listening comprehension.
- Fast ForWord to Literacy Advanced includes Galaxy Theater, which trains grammar and syntax, following directions, letter-sound correspondences, working memory ability, and language and listening comprehension.
- Fast ForWord Reading Level 1 offers three exercises that train students in comprehension of sentences and longer passages:
  - Quail Mail trains students in understanding conceptual relationships, semantics, syntax, phonological properties, and morphological properties; decoding; vocabulary; and flexible reading.
  - Buzz Fly trains students in literal passage comprehension, understanding of cause and effect, ability to make inferences, working memory ability, vocabulary, and flexible reading.
  - Bedtime Beasties trains students in morphological complexity (the use of pronouns, auxiliary verbs, prefixes, suffixes, and contractions as well as how morphologically important words affect semantics in syntax), vocabulary, paragraph comprehension, and flexible reading.

- Fast ForWord Reading Level 2 offers three exercises that train students in comprehension of sentences and longer passages:
    - Leaping Lizards trains students in sentence comprehension, vocabulary and logical reasoning skills.
    - Ant Antics trains students in syntax, working memory ability, logical reasoning when decoding meaning, vocabulary, and sentence comprehension.
    - Dog Bone trains students in literal passage comprehension, understanding of cause and effect, ability to make inferences, working memory ability, vocabulary, and flexible reading.
- Fast ForWord Reading Level 3 offers three exercises that train students in comprehension of sentences and longer passages:
    - Twisted Pictures trains students in syntax, working memory ability, logical reasoning when decoding meaning, vocabulary, and sentence comprehension.
    - Book Monkeys trains students in literal passage comprehension, understanding of cause and effect, ability to make inferences, working memory ability, vocabulary, and flexible reading.
    - Hog Hat Zone trains students in morphological complexity (the use of pronouns, auxiliary verbs, prefixes, suffixes, and contractions as well as how morphologically important words affect semantics in syntax), vocabulary, paragraph comprehension, and flexible reading.
- Fast ForWord Reading Level 4 offers four exercises that train students in comprehension of sentences and longer passages:
    - Lulu's Laundry Line trains students in understanding capitalization and punctuation while building sentence and paragraph comprehension skills.
    - Goat Quotes trains students in strengthening sentence comprehension and recognizing paragraph structure.
    - Book Monkeys: Book Two trains students in literal passage comprehension, understanding of cause and effect, ability to make inferences, working memory ability, vocabulary, and flexible reading.
    - Stinky Bill's Billboard trains students in morphological complexity (the use of pronouns, auxiliary verbs, prefixes, suffixes, and contractions as well as how morphologically important words affect semantics in syntax), vocabulary, paragraph comprehension, and flexible reading.
- Fast ForWord Reading Level 5 offers three exercises that train students in comprehension of sentences and longer passages:
    - Toad Loader trains students in developing accuracy and fluency in recognizing sentence structures and constructing sentences by manipulating grammatical forms and inflections.
    - Lana's Lanes trains students in literal passage comprehension, understanding of cause and effect, ability to make inferences, working memory ability, vocabulary, and flexible reading. Students develop multiple reading comprehension strategies using graphic organizers and passage summaries.
    - Quack Splash trains students in constructing and organizing passages and in understanding and using figurative language.

Reading Assistant is designed to give students purposeful and comprehension-based reading opportunities during the pre-reading, oral reading and quiz activities.

Requirements: Instructional Approach 4

Multisensory instruction that incorporates the simultaneous use of two (2) or more sensory pathways during teacher presentations and student practice

Corresponding Features of the Fast ForWord Family of Programs

The Fast ForWord family of programs uses a combination of sensory stimuli to train students.
- The training exercises are administered on a computer, and the student both sees visual stimuli and hears, through headphones, auditory stimuli.
- The training programs incorporate motor pathway use; students use the computer mouse, keyboard or iPad touch screen to train on each exercise.

- Reading Assistant allows students to hear a modeled reading of the selection and requires them to read each selection orally from the visually presented stories. Students also must listen to the pronunciation of each glossary word and then repeat each of those words for the speech verification portion of the program. A selection summary document also is available for students to write their glossary words, words they struggled with while reading as well as creating a written summary for each selection.

Fast ForWord K-12 programs provide intensive, highly concentrated instruction that maximizes student engagement, uses specialized methods and materials, and produces results.

Corresponding Features of the Fast ForWord Family of Programs

The Fast ForWord family of programs train students' brains in efficient sound processing, language, and reading skills. The Fast ForWord programs incorporate the five optimum learning principles:

- Frequency—Students train 3 or 5 days a week for 30, 40, 50, or 90 minutes a day to reach a goal of 150 minutes per week
- Intensity—Students train 30-90 minutes per day.
- Adaptivity—The training exercises continually adapt to students' progress.
- Motivation—The exercises present engaging interfaces and reward animations.
- Attention—Motivational rewards and progress points, as well as optional token economies, encourage students' focus on the training exercises.

These principles are based on decades of brain research.

Intense practice according to these optimum learning principles helps students develop the skills they need to become fluent in language and reading skills.

Reading Assistant provides students with an effective one-on-one guided oral reading environment that is cost-effective and bypasses the need for expensive, live tutors providing one-on-one reading support.

- The student, wearing a headset with a noise-canceling microphone, reads illustrated texts off a computer, iPad or Chromebook screen.
- The program "listens" as the child reads and, using speech verification technology, monitors for signs of difficulty. *Reading Assistant* provides real-time assistance when the student stumbles or gets stuck.
- In the background, meanwhile, it builds ongoing records of what the student has read and reread, of her or his fluency on each reading, and of the specific words and segments of text with which the student had difficulty.
- Tied to each text is a Progress Report that summarizes fluency, comprehension, and the amount read. The report also lists problem words.
- In addition to Progress Reports for the students, the software includes a Review Mode in which miscues are color-coded in the text so that students can selectively focus on difficulties, playing, practicing, perfecting, and replaying their readings to their own satisfaction.
- A Read to Me mode provides the child with a professional narration of the text.

Research Reports:

Gaab, N., Gabrieli, J.D.E., Deutsch, G.K., Tallal, P., & Temple, E. (2007). Neural correlates of rapid auditory processing are disrupted in children with developmental dyslexia and ameliorated with training: An fMRI study. Restorative Neurology and Neuroscience, 25, 295-310.

Temple, E., Deutsch, G. K., Poldrack, R. A., Miller, S.L., Tallal, P., Merzenich, M. M., & Gabrieli, J. D. E. (2003). Neural deficits in children with dyslexia ameliorated by behavioral remediation: Evidence from functional MRI. *Proceedings of the National Academy of Sciences, 100*(5), 2860-2865.

Hook, P. E., Macaruso, P., & Jones, S. (2001). Efficacy of Fast ForWord training on facilitating acquisition of reading skills by children with reading difficulties--a longitudinal study. Annals of Dyslexia, 51, 75-96.

Temple, E., Poldrack, R. A., Protopapas, A., Nagarajan, S., Salz, T., Tallal, P., Merzenich., M. M., & Gabrieli, J. D. E. (2000). Disruption of the neural response to rapid acoustic stimuli in dyslexia: Evidence from functional MRI. PNAS, 97(35), 13907-13912.

Reading Assistant was reviewed by the Florida Center for Reading Research. *Reading Assistant* received the Center's highest rating – +++ = "all aspects of this component taught and/or practiced" – for all three of the skills it develops: Fluency, Vocabulary, and Comprehension. *(The FCRR no longer has this report posted to its website; to request a copy of the Reading Assistant FCRR report, please submit a request to carmes@scilearn.com.*

Additional information and studies are available at https://www.scilearn.com/dyslexia, http://www.scilearn.com/results/research-independent-reviews and https://www.scilearn.com/results