
**Arizona Department of Education**
**Diane M. Douglas, Superintendent of Public Instruction**

## Arizona Technical Assistance System (AZ-TAS)

# Dyslexia Handbook

# A Technical AssistanceDocument to Support Families and Teachers

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# Acknowledgments

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# Introduction

The Arizona Department of Education is focused on the importance of teaching all our children to read, including those with dyslexia. Progress in reading achievement for all students begins with Arizona's teachers implementing data-based, systematic, and explicit instruction in a multitude of contexts, with many levels of support, each and every day. Educators at all levels must have a deep understanding of reading to pinpoint gaps in student learning.

Arizona Revised Statutes (A.R.S.) 15-249.10

The department of education, subject to approval by the state board of education, may develop and maintain a handbook for use in the schools of this state that provides guidance for pupils, parents and teachers concerning dyslexia. The handbook shall include the following:

1. Guidelines for teachers and parents to identify dyslexia.
2. A description of educational strategies that have been shown to improve the academic performance of pupils with dyslexia.
3. A description of resources and services that are available to pupils with dyslexia and to teachers and parents of pupils with dyslexia.

This handbook is written to that end.

# Section 1 : Dyslexia : Definition, Prevalence, Characteristics

## Definition

According to the Arizona Revised Statutes (A.R.S.) §15-249.03(K), "**Dyslexia**" means a specific learning disorder that is neurological in origin. It is characterized by difficulties with accurate and/or fluent word recognition and by poor spelling and decoding abilities. These difficulties typically result from a deficit in the phonological component of language that is often unexpected in relation to other cognitive abilities and the provision of effective classroom instruction. Secondary consequences may include problems in reading comprehension and reduced reading experience that can impede growth of vocabulary and background knowledge.

## How Prevalent is Dyslexia?

Dyslexia occurs in people of all backgrounds and intellectual levels. People who are very bright can also have dyslexia. They are often capable or even gifted in areas that do not require strong reading skills, such as art, computer science, design, drama, electronics, math, mechanics, music, physics, sales, and sports. In addition, dyslexia runs in families; parents with dyslexia are very likely to have children who have dyslexia. Some people are identified with dyslexia early in their lives, but for others, their dyslexia goes unidentified until they get older. Some experts believe 5 to 10 percent of children have dyslexia, while others say the number is closer to 20 percent.

## What Causes Dyslexia?

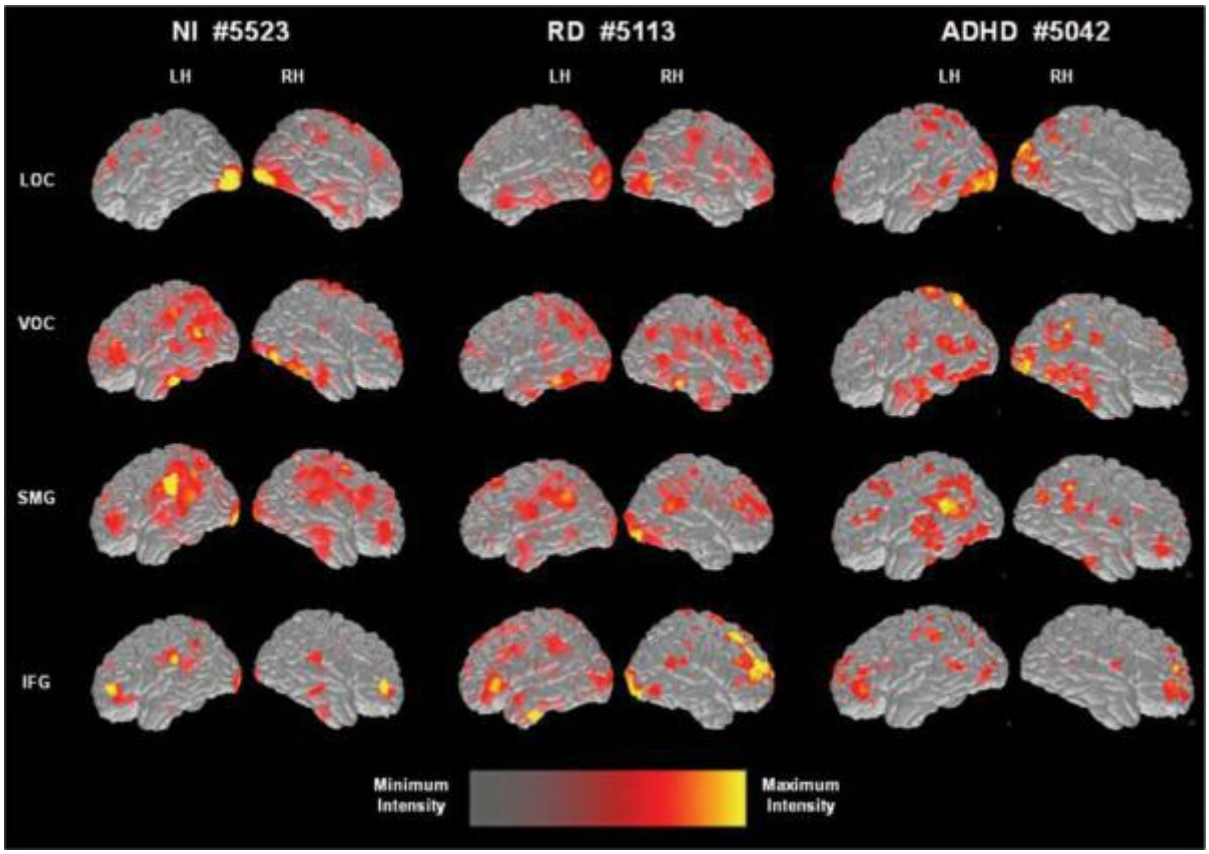
Genetics appears to play an ongoing role in reading, whereas the influences of environment impact early reading development more. Environmental impact includes home conditions, school conditions, and literacy environments. As we learn more about the roles of genes and the environment, we will be better able to design appropriate early intervention plans for young children with dyslexia (Mather &Wendling, 2012, p. 75).

## The Brain and Reading

"Dyslexia has been shown unequivocally to be related to neural differences in the brain. The brain has three main components: the cerebral cortex, the cerebellum, and the brain stem. The cerebral cortex comprises four lobes: frontal, parietal, temporal, and occipital. Most of the specialized language processing system is found within the left cerebral hemisphere of the brain within specific regions of the frontal, temporal, parietal, and occipital lobes. The three neural systems of reading occur in Broca's region, the anterior frontal gyrus for articulation/word analysis, the parietal temporal lobe for word analysis, and the occipital lobe for speedy word recognition, often referred to as the word form area" (Mather & Wendling, 2012).

In Figure 1.1 Simos, et. al (2001), shows brain activation map snapshots for the pseudoword reading task from three representative participants: a typically developing reader (left-hand pair of columns), a student with reading difficulties (RD; middle pair of columns), and a student with attention-deficit/hyperactivity disorder without RD (right-hand pair of columns).

**Figure 1.1 Neural Signature for Dyslexia**




## Characteristics of Dyslexia

The earliest warning signs of dyslexia are sometimes noted in a child's spoken language; for other students, oral language development is typical. For a student with dyslexia, several warning signs may persist over time and interfere with learning. Below are examples of listening and speaking, reading, writing, and spelling difficulties by grade band. By selecting an observation or sets of observations, diagnostic assessments can be performed, interventions elected, and literacy improved. For characteristics of dyslexia, please see the following pages of this handbook or visit www.understood.org, http://dyslexia.yale.edu/, https://dyslexiaida.org/.

**Table 1.1 Characteristics of Dyslexia by Grade Band**

| | | ***Observation*** |
|---|---|---|
| **Y** | **N** | ***Possible difficulties in preschool . . .*** |
| | | Delay in learning to talk |
| | | Difficulty with rhyming patterns like “cat,” “bat,” “sat” |
| | | Difficulty pronouncing words (e.g., “pusgetti” for “spaghetti”), persistent baby talk |
| | | Difficulty splitting up the sounds in words. (e.g., say the word “bat” and ask the student to take away the first sound /b/; the student can’t tell which sounds (at) are left over |
| | | Poor auditory memory for nursery rhymes and chants |
| | | Difficulty in adding new vocabulary words |
| | | Inability to recall the right word (word retrieval) |
| | | Difficulty learning and naming letters and numbers and remembering the letters in his/her name |

| **Y** | **N** | ***Possible difficulties in kindergarten through second grade . . .*** |
|---|---|---|
| | | Difficulty breaking words into smaller parts (syllables) (e.g., “baseball” can be pulled apart into “base” and “ball” or “napkin” can be pulled apart into “nap” and “kin”) |
| | | Difficulty identifying and manipulating sounds in syllables (e.g., “man” sounded out as /m/ /ă/ /n/) |
| | | Doesn’t associate letter or letter combinations with sounds (e.g., /b/ with “b,” or /j/ with “dge”) |
| | | Difficulty in sounding out even simple words like “cat,” “map,” “nap” |
| | | A history of reading problems in parents or siblings |
| | | Difficulty reading fluently (e.g., slow, inaccurate, and/or without expression) |
| | | Reliance on picture clues, story theme, or guessing at words |

| Y | N | ***Possible difficulties in third through fifth grade . . .*** |
|---|---|---|
| | | Difficulty reading aloud (e.g., fear of reading aloud in front of classmates) |
| | | Difficulty reading unfamiliar words, often making wild guesses because the student cannot sound out the word |
| | | Doesn't have strategies for reading unfamiliar words |
| | | Uses less complicated words in writing that are easier to spell than more appropriate words (e.g., "big" instead of "enormous") |
| | | Has an easier time answering questions about the text if it is read |
| | | Difficulty pronouncing words correctly (e.g., "mazigine" instead of "magazine") |
| | | Difficulty with rhyming (e.g., completing the last word in a poem or song or thinking of words that rhyme with "hoop") |
| | | Difficulty with written expression |

| Y | N | ***Possible difficulties in sixth through twelfth grade . . .*** |
|---|---|---|
| | | Slow and laborious reading; doesn't like to read |
| | | Difficulty with the volume of reading and written work |
| | | Frustrated with the amount of time required and energy expended for reading |
| | | Often skips over small words or leaves out part of longer words when reading aloud |
| | | Prefers multiple choice questions over fill-in-the-blank or other questions with short answers |
| | | Difficulty learning a foreign language |

# Section 2: For Parents: What Can WeDo?

If you think your child has dyslexia, you can partner with your child's teacher to determine appropriate skill-based instruction to supplement the child's experience in the classroom with core instruction and with any targeted, intensive instruction your child is receiving. With your help, your child is more likely to make progress toward his or her learning goals.

Specific targeted interventions will be prescribed based upon the results of your child's diagnostic assessments. Section 1: Dyslexia: Definitions, Prevalence, Characteristics includes a checklist to help parents and teachers determine various characteristics a child has related to dyslexia.

Section 3: Essential Components of Reading Instruction for Students with Dyslexia gives examples of essential diagnostic assessments. These are tests necessary for teachers to determine the nature of reading and spelling difficulty for students with dyslexia. Parents can work with their child's teacher by reviewing these diagnostic assessments; they can then work on specific reading and spelling activities (interventions) based on these assessment results and use assessments at home with their child to determine growth on specific skills. Communication from the parent to the teacher on the child's progress at home can help increase the child's school progress.

Parents can engage in some of the following activities at home to help their child with dyslexia. Each of the activities below requires the parent to practice with their child until the child can do the activity independently. Technical terms for each activity are in parentheses to help parents identify vocabulary commonly used in schools by teachers. Any letters within slashes (called virgules) means the reader should say the sounds within the slashes. Using /r/ as an example, the reader would say the sound of "r," instead of saying the name of the letter. Activities adapted from the Florida Center for Reading Research at Florida State University have been denoted with (FCRR). For more information and additional resources please visit www.fcrr.org.

## Phonological Awareness

**Recognize and produce rhyming words**

- Sing rhyming songs.
- Match pictures of objects that rhyme.

**Recognize and produce words beginning with the same sound** (alliteration)

- Match your child's name with a describing word that begins with the same sound (e.g., Terrific Tony) or with things like (Eileen likes Ice Cream). (FCRR)
- Using pictures, have your child make up stories using phrases in which each word in the phrase has the same beginning sound.
- Use your child's name to show a link between letters and sounds. Say, "John, the word 'jump' begins with the same sound as your name. John. Jump. And they both begin with the same letter 'j.'" (FCRR)

**Segment sentences into their individual words**

- Count the words in sentences and stack cubes for each word counted. (FCRR)

- Record your voice slowly reading a story. Your child listens to the story and moves a game piece on a game board each time a word is heard. (FCRR)

**Segment syllables into words**

- Use four cards with a number on each card (1, 2, 3, 4). Collect a stack of pictures of known objects. Your child matches these picture cards with the correct number of syllables of the object (e.g., a picture of a tiger has two syllables; it will be placed next to the card with a "2"). (FCRR)
- Say words and count syllables using fingers.

**Separate the beginning consonant sound from the rest of the sounds in a word**
(onset and rime [see glossary in section 10]), (e.g., say /c/, then say /at/)

- Make first sound cards (e.g., c, s, t, n) and final sounds cards (rime) (e.g., ap, ip, op). Practice putting the cards together to make words, including nonsense words. (FCRR)
- Use picture cards and say the initial sound (onset), pause, then say the final sounds (rime) (e.g., /r/ /ing/, /k/ /ite/). (FCRR)
- Saya word and tell your child "the first sound of the word is … and it rhymes with …." (e.g., the first sound is /f/ and it rhymes with "run" (Answer "fun.") If your child struggles, give them more clues until they come up with the answer (e.g., "It begins like "fog" and ends like "sun"). (FCRR)

**Match sounds in words** (phoneme matching)

- Give your child a number of cards with pictures on them. Ask them to match up the cards that have the same first sound. (FCRR)
- Put a happy face on one box and a sad face on another. Tell your child they are looking for objects that have the same sound as a target sound (e.g., tell them the target sound is /t/ like "tiger"). Ask your child to place any object into the happy face box that has that sound anywhere in it. Objects that don't have that sound can be placed in the sad face box. (FCRR)
- Play go fish with picture cards. Say, "Do you have a card that begins with the sound/m/? If not, the child should say "go fish." The same can be played for the sound the word ends with. (FCRR)

**Find the first, middle, and ending sounds of words** (phoneme isolating)

- Put items in a box. When your child takes out an item, ask them to say the name ofthe word and its beginning sound, middle sound, or ending sound. (FCRR)
- Cut a picture of something with three sounds into thirds, so the picture has a beginning, middle, and end (e.g., in a picture of a bird, the head sounds like /b/, the wings and body sound like /ir/ and the tail sounds like /d/). Give your child picture cards and ask them to match up cards with the beginning sound that is the same as the beginning sound of /b/ with the head of the bird. Picture cards with the middle sound like /ir/ would go with the picture of the middle of the bird (e.g., burn, third, stir). Pictures that end with the /d/ sound go with the picture of the tail of the bird, since /d/ is the ending sound of bird. (FCRR)

**Segmenting sounds in words** (phoneme segmenting)

- Using picture cards, sound out each sound in a word. You can also draw boxes for each sound in the word and ask your child to move a penny or another small object into each box as they say each sound. (FCRR)

- Using picture cards, show your child how to say each sound in a word as you tap your fingers. Then, stack cubes for the number of sounds heard. (FCRR)
- Using chalk or number cards, create a hopscotch pattern on the ground. Using picture cards, ask your child to count each sound in the word using their fingers, then hopscotch that number of sounds. (FCRR)

**Phoneme segmenting and blending**

- Using picture cards, help your child to segment the word of the picture card into each of its sounds. Then say the sounds of the word together to make the word. (FCRR)

**Moving sounds around in words** (manipulating phonemes)

- Using picture cards, ask your child to say the name of the picture, then drop the beginning sound to make another word (e.g., "pants" becomes "ants" and "tie" becomes "eye"). (FCRR)

## Basic Reading and Spelling Skills

**Letter recognition**

- Name and match letters of the alphabet using pairs of letter cards turned over. (FCRR)
- Write the letters of the alphabet in an arc across the top of a piece of paper. Using plastic letters, or cards with letters on them, help your child match each letter card or plastic letter to the letter on the alphabet arc. (FCRR)
- Write upper case letters in a circle and cut out the circle. Write lowercase letters on clothespins. Help your child match lowercase letter clothespins to uppercase letters on the circle. (FCRR)
- Give your child magazines and catalogues and ask them to cut out letters of various shapes and sizes. Sort and group those letters (all "As" together, a;; "Bs" together, and so on) and glue all letter groups onto a piece of paper. (FCRR)

**Letter-sound correspondence**

- Label 26 paper bags with each of the 26 letters of the alphabet. Give your child catalogs and magazines and ask them to cut out pictures. Tell your child to place the picture into the bag with the letter that makes the same sound as the first sound of the picture (e.g., a picture of a horse goes into the bag labeled "h"). (FCRR)

**Spelling and sounding out words** (encoding and decoding)

- Cut out the shape of a star. Label each point of the star with a vowel (a, e, i, o, u). Write a three-letter word in the middle of the star, but place an underline where the vowel should go. Tell your child to write out a list of words he or she can make using the star onto a piece of paper. (FCRR)
- Using three blank cubes, write consonants on two of the cubes, and vowels on one of the cubes. Roll the dice until a word can be made of the three letters. Sound out the word and write it down on a piece of paper. Make a list of ten words. (FCRR)
- Make a spinner with ch, th, sh, wh (these are called digraphs and represent two letters making one sound) for beginning sounds. Make another spinner with vowel sounds for the middle sound. Make a third spinner with ending sounds. Spin the spinners. Sound out the words made and write them down. (FCRR)

- Using a deck of picture cards with one-syllable words and a deck of letter cards including consonants, vowels, and digraphs (ch, th, wh, sh), say the sounds of the word of the picture with the letter cards. (FCRR)

**High frequency words**

- Place a stack of words often used in your child's class in a stack. Read the word to your child and ask them to repeat it; then write it down on a piece of paper making a list.
- Use two stacks of high-frequency word card packs. Play the matching game with the high frequency word cards, reading the words when they are matched. (FCRR)

**Advanced phonics—variety of spelling patterns for one sound** (variant correspondences, e.g., long *a* spelled *a*, *a_e*, *ai*, *ay*)

- Use word cards with double consonant endings (ll, ff, ss, zz). Draw a game bboard with a number of spaces on it. Arrange the word cards in a path along a table like a game board. Your child rolls the dice and moves a game piece the number of spaces rolled. Your child has to read the word and the sound of the target letters (ff, ll, ss, zz). For example, if they land on "boss" say, "boss, ss, /s/." If they cannot read or identify the sound, they have to go back to the original spot. (FCRR)
- Make four boxes at the top of a piece of paper. Write a word that begins with soft "g" (such as giant), a hard "g" (such as gift), a soft "c" (such as center), and a hard "c" (such as candy) in each box. Write words with hard and soft "g" and "c" on index cards. Read the words with your child, helping them sort the words based on the sounds the "g" and "c" make. (FCRR)
- Write words on index cards that represent the short and long sounds of each of the five vowels (e.g., snip, stripe, help, seed, tap, lake, stop, soak, tuck, tune). Write additional words onto cards with the short and long vowel sounds. Read the words with your child and help them to sort these into the proper categories. (FCRR)
- Write cards with the various spellings of each long vowel sound. Write examples of words with these long vowel spellings onto index cards. Help your child to sort cards with the same spelling pattern into the correct categories. (FCRR)
- Write words with vowel teams onto index cards (e.g., bay, real, cause; for a definition of the word digraph, see the glossary). Play go fish with your child. (FCRR)
- Sort and separate words with vowel + "-r." These include words with ar, er, ir, or, ur, such as "card," "herb," "bird," "torn," "turn." (FCRR)
- Using the vowel teams with "o" (diphthongs)—oi, oy, ou, ow, write out several words with these spellings. Help your child to sort the words based on these spellings and say the words out loud. (FCRR)
- Using words with silent letters (e.g., comb, gnat, scent, autumn, wrote). Help your child to sort the words based on these spellings and say the words out loud. (FCRR)

**Segmenting syllables into words** (syllable segmenting)

- Using a stack of word cards with words of many syllables (or multi-syllabic words) (e.g., "carbohydrate," "unimaginable," "autobiography") and a game board, you and your child take turns saying the word and counting the number of syllables in each word, moving the game piece for each number of syllables counted. (FCRR)
- Use a stack of multi-syllabic words, help your child to read the words and write each syllable from the word card with a hyphen separating the syllables (e.g., af- ter-wards for the word *afterwards*). Your child counts the number of syllables and records the number of syllables to the right of the word. Make a list of these words. (FCRR

**Meaningful parts of words** (morpheme structure)

- Create your own set of two and three syllable words (e.g., "modify," "harness") and another set of endings of words (-s or -es, -ing, -ed). The student chooses one card each and writes the two parts plus the new word onto a piece of paper, making a list (e.g., modify + -ed = modified. (FCRR)
- Create header cards that say "Prefix," "Suffix," "Prefix and Suffix," and "None." A prefix goes at the beginning of a word that can stand on its own (e.g., "reappear" has the suffix "re-" on the word "appear," which can stand on its own without the prefix "re-"). A suffix goes at the end of a word that can stand on its own (e.g., "definitely" has the suffix "-ly" on the word "definite," which can stand on its own without the suffix "-ly"). Create a stack of words from a text used in your child's classroom. Sort these with your child according to the header cards. Make lists of prefixes and suffixes used. Gradually add to the words used with each new text from your child's class. (FCRR)

## Reading Fluency

**Letter recognition**

- Use two pages to write identical rows of letters across the pages, one page for the child, one page for you. Time your child for one minute while they read the names of the letters to you. On your copy, mark each sound as correct or incorrect. Date the page and place the total correct at the top.

**Speed and accuracy in letter-sound correspondence**

- Use two pages to write identical rows of letters across the pages, one page for the child, one page for you. Time your child for one minute while they read the sounds the letters make out loud to you. On your copy, mark each sound as correct or incorrect. Date the page and place the total correct at the top. Since some letters have more than one sound (e.g., c, g, s, x, y, and all vowels), it is suggested that when you are timing, students say only one sound per letter. (FCRR)
- Use two identical pages to write rows of two letters that together make one sound (e.g., oo, ph, ch, ay, kn) across a page. Time your child for one minute while they read the sounds the letters make to you. On your copy, mark each sound as correct or incorrect. Date the page and place the total correct at the top.

**Word parts**

- Write the word "yes" and the word "no" on index cards. Divide words from your child's classroom text into syllables and write them on index cards. Using a one-minute timer, have your child says the word's syllables and then the word. If they say the word correctly, they put it on the "yes" card; if they say it incorrectly, your child places it on the "no" card. Total the number of cards in the "yes" and "no" piles. This can be repeated until the child has mastered a set of words. (FCRR)
- Make a list of prefixes and suffixes found in words from your child's home and school reading materials. Write these words on a piece of paper with spaces in between them. Time your child for one minute to see how many of them your child pronounces the way they are pronounced in words. (FCRR)

**Words**

- Find a list of rimes (see *onset* and *rime* in the phonetic awareness section above, or in the glossary). Make four header index cards with ten different rimes. Now make several word cards that have the rime in them (e.g., for the rime "ade," you might create words such as "parade," "invade," "cascade," "crusade," "everglades," "motorcade," "blockade"). Start the timer, and have your child time him- or herself to see how long it takes to sort the words into the correct pile. Repeat this with additional rimes. (FCRR)
- Write six high-frequency words (see above or check the glossary) onto an index card. Make several of these cards with different words. Start the timer. Your child reads all the words on the card. If your child struggles with a word, count to five. If they still cannot read the word, tell them the word; then your child places the card on the bottom of the stack. When the timer goes off in three minutes, count the number of words read and record it on a piece of paper with the date. Repeat, until all words are read within three minutes. (FCRR)

**Phrases**

- Create header cards with the words "yes" and "no" on them. On index cards, write down three-word phrases such as "remember to include," "never say never," "between the pages." You might use the newspaper or books from your child's home or school to generate ideas. Use graph paper to record the total number of words possible on the left side of the graph and the date along the bottom of the graph. Use a one-minute timer to see how many of these words you can read in a minute and use that as the maximum number of words to read. Your child graphs the number of words read in one minute each time this is attempted. Your child can practice reading the words in between timed sessions. This may be repeated with additional words. (FCRR)

**Chunked text** (prosody)

- Use a reading passage that is not too challenging for your child, place slash marks in between phrases where the text naturally pauses (e.g., What started out / as a typical day / would soon turn into / one of the most unusual days / Harry ever had. // His mom came in / and got him up at 7:00 / so he could get ready for school. //) Place two slashes at the end of each sentence. You can also create your own stories and place slash marks in the appropriate places. You will also need a copy of the text without the slash marks. Set the timer for one minute. See how many words your child can read, reading with pause after each slash mark. Once this has been mastered, move to the text without the slash marks. This helps your child to read the way people speak. (FCRR)

**Connected text**

- Using a text, reading passage, or story, make a list of moderately challenging words from the story on a piece of paper. Practice this word list, reading each word up to three times each. Then, focusing on speed and accuracy, take turns reading paragraphs with your child. If your child is working with a friend, the two children can alternate reading paragraphs in the story. (FCRR)
- Photocopy several selected paragraphs from reading passages from your child's class. Put these in a stack, face down. Your child practices reading a passage silently, then reading it to you out loud for proper phrasing and expression. Repeat with additional passages. (FCRR)

# Section 3: For Teachers: What Can We Do?

## Reading Instruction for Students with Dyslexia

Section 2 of the handbook, the parents' section, communicates the essential components of reading instruction; these components support all learners and foster communication about how a child learns to read. It is imperative for all concerned to have a deep understanding of reading and of the best practices of instruction to support the needs of all students who struggle with reading. Educators must work collaboratively in teams, dig deep into data, be receptive to support from reading coaches and other administrators, and be methodical in planning, teaching, and assessing student progress to support struggling readers.

Reading comprehension is the product of having adequate language comprehension, as well as decoding skills. Students' learning and their skills in reading and language comprehension are enhanced with strong content knowledge in many domains including science, social studies, math, reading, and writing. However, without mastery of decoding, no amount of language comprehension can increase a child's reading comprehension. Effective literacy instruction is essential for all students and is especially critical for students with dyslexia. High-quality classroom reading instruction can give students a foundation upon which intervention and instruction can have a more significant impact. Schools with coherent and consistent core reading programs have shown benefits in student achievement in reading and writing. In addition to the empirical evidence of effectiveness, the instructional content and instructional design of the core reading program must be analyzed.

1. Instructional content of the core reading program includes instruction in the five essential components of reading: phonological awareness, phonics, vocabulary, fluency and comprehension. Instruction in oral language, writing, spelling, and handwriting is also essential. These components should be addressed in a comprehensive and effective manner.

2. Instructional design of high-quality programs includes explicit and systematic strategies for instruction, consistent instructional routines, and ample opportunity for practice with appropriate student support materials, cumulative review, and alignment to the Arizona ELA standards for each grade level. Instructional design should also effectively integrate the components of reading rather than isolate each skill.

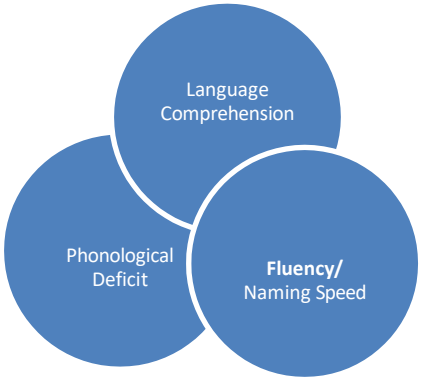
For more information, please visit www.azed.gov/mowr.

Specialized instruction for students with dyslexia is discussed later in this section.

With the mindset that "every student can succeed" and an understanding of how the brain learns to read, along with knowledge of best practices in reading instruction, educators can work collaboratively to address the needs of all students. If educators don't provide struggling readers with targeted interventions, whether within the whole class, in a small group, or individually, those struggling students fall further and further behind as their peers make progress.

> "Although dyslexia effects individuals over the life span . . . reading skills can be increased with the right early intervention and prevention programs."
>
> —Birsh, 2011

**Figure 3.2 Subtypes of Reading Difficulty**




Adapted from Moats, 2009

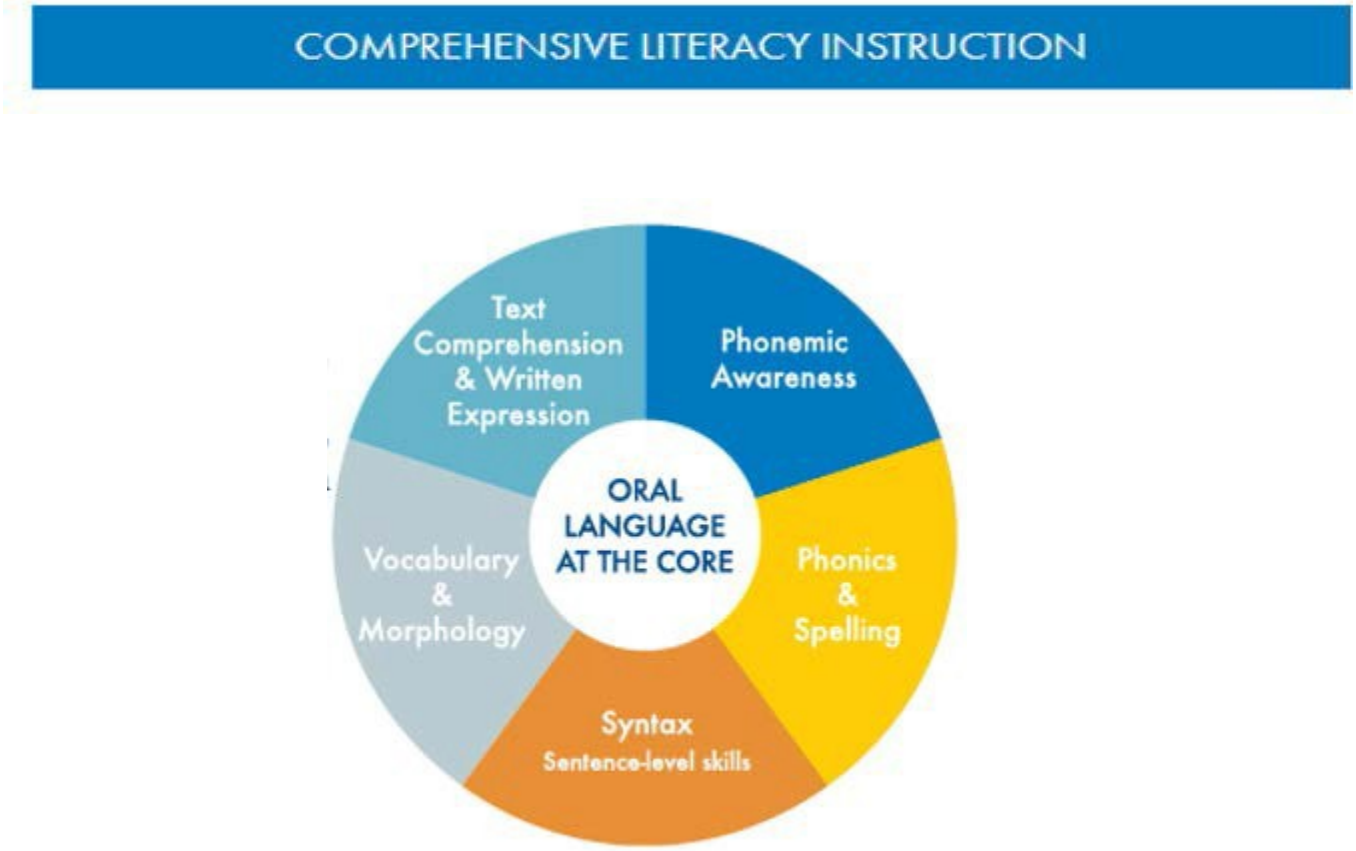
According to Moats (2009), for purposes of research, children with reading impairments may include all those who score below the 30th percentile in basic reading skills. Among those poor readers, about 70–80 percent have trouble with accurate and fluent word recognition that often originates with weaknesses in phonological processing. Poor basic reading skills in turn affect both fluency and comprehension. Children with dyslexia have particular difficulty learning sound-symbol correspondences, sounding out words, and spelling.

In the book *The Essentials of Assessing, Preventing, and Overcoming Reading Difficulties*, Kilpatrick (2015) outlines the following four patterns of reading difficulties:

- **Dyslexic:** The student has word-level reading difficulties but average or better language skills. Word-reading skills, reading fluency, and reading comprehension are substantially below the student's language comprehension skills.
- **Hyperlexic:** The student displays good word-level reading but weak language skills. Reading comprehension skills are substantially below the student's word-level reading and reading fluency.
- **Mixed:** The student has poor word-level reading skills and weak language skills.
- **Compensator:** The student displays a mild form of the dyslexic pattern but compensates to some degree with strong language skills, making this problem more difficult to recognize.

Since the student with dyslexia often has average or above average language comprehension ability, teachers can capitalize on this strength by using oral language at the core of their instruction in all areas of phonemic awareness, phonics and spelling, syntax or sentence-level skills, vocabulary and morphology, and text comprehension and written expression. Dr. Margie Gills has created the Literacy Reading Wheel to depict the comprehensive components of literacy instruction.

**Figure 3.3 Literacy Reading Wheel**




Dr. Margie Gills, 2017

On the following page, a list of diagnostic assessment types, explanations of the skills, and examples of difficulties is presented.

**Table 3.1 Diagnostic Assessments in the Classroom**

| Diagnostic Assessments | Essential Reading Components for a Student with Dyslexia<br>*(Examples of difficulties are in italics.)* |
|---|---|
| *The components of instruction will include additional specialized instruction as appropriate for the reading needs of the student with dyslexia. While intervention is most preventative when provided in kindergarten and first grade, older children with reading disabilities will also benefit from focused and intensive remedial instruction. Effective literacy instruction is essential for all students and is especially critical for students with dyslexia.* | |
| **Phonological Awareness Tests (Rhyming, Blending, Segmentation, Manipulation)** | Targeted and intensified instruction and extensive practice in the phonemes, phonemic and phonological awareness concepts is indicated.<br><br>**Phonological awareness:** "Phonological awareness is the understanding of the internal sound structure of words. A phoneme is the smallest unit of sound in a given language that can be recognized as being distinct from other sounds. An important aspect of phonological awareness is the ability to segment spoken words into their component phonemes" (Birsh, 2011, p. 19).<br><br>• *Difficulty with rhyming patterns like cat, bat, sat;*<br>• *Doesn't associate letter or letter combinations with sounds (e.g., /b/ with "b," or /j/ with "dge");*<br>• *Poor auditory memory for nursery rhymes;*<br>• *Difficulty with rhyming (e.g., completing the last word in a poem or song or thinking of words that rhyme with "hoop");*<br>• *Difficulty breaking words into smaller parts (syllables) (e.g., "baseball" can be pulled apart into "base" and "ball" or "napkin" can be pulled apart into "nap" and "kin");*<br>• *Difficulty splitting up the sounds in words. (e.g., say the word "bat" and ask the student to delete the first sound /b/).*<br><br>**Sound-symbol association:** Sound-symbol association is the knowledge of how the speech sounds correspond to the letter or letter combinations that represent those speech sounds. The mastery of sound-symbol associations (alphabetic principle) is the foundation for the ability to read (decode) and spell (encode) (Birsh, 2011, p. 19). Explicit phonics refers to an organized, systematic program in which these sound-symbol correspondences are taught directly (Berninger & Wolf, 2009). |

| Diagnostic Assessment | Essential Reading Components for a Student with Dyslexia<br>*(Examples of difficulties are in italics.)* |
|---|---|
| **Phonics Survey** | Targeted and intensified instruction and extensive practice in the phonics concepts is indicated on the diagnostic assessment. Students will need time to practice skills in isolation and appropriately in decodable text.<br><br>**Syllabication:** "A syllable is a unit of oral or written language with one vowel sound. The six basic types of syllables in the English language include the following types: closed, open, vowel-consonant-*e*, *r*-controlled, vowel pairs (or vowel teams), and consonant -*le* (or final stable syllable). Rules for dividing syllables must be directly taught in relation to the word structure" (Birsh, 2011, p. 19).<br><br>• *Difficulty pronouncing multisyllabic words correctly (e.g., "mazigine," instead of "magazine").*<br><br>**Orthography:** Orthography is the writing system of a language, including its spelling patterns, as well as the punctuation and capitalization rules. Students must be taught the regularity and irregularity of the spelling patterns of a language in an explicit and systematic manner.<br><br>• *Spells words the way they sound, not the way they look;*<br>• *Doesn't associate letter or letter combinations with sounds (e.g., /b/ with "b," or /j/ with "dge");*<br>• *Difficulty learning and naming letters and numbers and remembering the letters in his/her name;*<br>• *Doesn't have strategies for reading unfamiliar words;*<br>• *Uses less complicated words in writing that are easier to spell than more appropriate words (e.g., "big" instead of "enormous").*<br><br>**Morphology:** "Morphology is the study of how a base word, prefix, root, and suffix (morphemes) combine to form words. A morpheme is the smallest unit of meaning in a given language" (Birsh, 2011, p. 19).<br><br>• *Doesn't have strategies for pronouncing unfamiliar words;*<br>• *Doesn't recognize common prefixes and suffixes.*<br><br>**High-Frequency Words:** High frequency words, often called sight words, are the words that are most commonly seen in text. They include regular words, such as "and," as well as words with an irregular element, such as the "e" in the word "they." These words are often called exception words.<br><br>• *Fails to recognize frequently-used words;*<br>• *Has difficulty reading and spelling irregular words.* |

| | |
|---|---|
| **Oral Reading Fluency** | **Reading fluency:** Reading fluency is the ability to read text with sufficient accuracy and speed to support reading comprehension (Moats & Dakin, 2008).<br><br>• *Difficulty reading fluently (e.g., slow, inaccurate, and/or without expression);*<br>• *Difficulty reading aloud (e.g., fear of reading aloud in front of classmates);*<br>• *Slow and laborious reading; doesn't like to read;*<br>• *Difficulty with the volume of reading;*<br>• *Frustrated with the amount of time required and energy expended for reading;*<br>• *Often skips over small words or leaves out part of longer words when reading aloud.* |
| **Vocabulary Screening** | **Vocabulary:** Vocabulary is the stored knowledge of words and their meanings.<br><br>• *Limited word knowledge;*<br>• *Difficulty in learning new vocabulary words;*<br>• *Difficulty recalling the right word (word retrieval)*. |
| **Reading Comprehension** | **Reading comprehension:** Reading comprehension is the process of extracting and constructing meaning through the interaction of the reader with the text to be comprehended and the specific purpose for reading. The reader's skill in reading comprehension depends upon the development of accurate and fluent word recognition, oral language development (especially vocabulary and listening comprehension), background knowledge, use of appropriate strategies to enhance comprehension, and the reader's interest in what he or she is reading (Birsh, 2011, pp. 9 and 368; Snow, 2002).<br><br>• *Overrelies on picture clues;*<br>• *Cannot summarize what has been read;*<br>• *Does not use strategies to increase understanding;*<br>• *Avoids reading.* |
| **Student Independent Writing Samples** | **Writing:** Writing requires generating a written response to reading. Students must connect ideas and sort the important from the unimportant information. They must attend to detail and find support for their ideas. At the word level, students must spell words correctly and attend to punctuation and capitalization rules (LETRS Module 10, Moats, 2012, p.7).<br><br>• *Has trouble connecting ideas;*<br>• *Has trouble including details;*<br>• *Has trouble maintaining the topic;*<br>• *Has difficulty with spelling;*<br>• *Fails to use correct punctuation and capitalization.* |

**Table 3.2 Schedule for Diagnostic Assessments**

| Types of Assessments That May Be Used with Students with Dyslexia | Fall Score | Winter Score | Spring Score |
|---|---|---|---|
| Phonological Awareness (rhyming, blending, segmenting, and manipulating speech sounds) | | | |
| Phonics Survey of Alphabet Skills (letter names and sounds) | | | |
| Phonics Survey– Reading and Decoding Skills | | | |
| High Frequency Words | | | |
| Vocabulary Screening | | | |
| Reading Comprehension | | | |

*Adapted from *Assessing Reading: Multiple Measures*, 2nd edition.

Limited vocabulary and difficulties with reading comprehension and written expression are secondary consequences of dyslexia. Vocabulary development is affected by limited reading experiences; reading comprehension is affected by poor word reading skills; and written expression is affected by difficulties with spelling. Moats and Daken (2008) explain the many components of written expression that require the integration of many skills:

> The ability to compose and transcribe conventional English with accuracy, fluency, and clarity of expression is known as basic writing skills. Writing is dependent on many language skills and processes and is often even more problematic for children than reading. Writing is a language discipline with many component skills that must be directly taught. Because writing demands using different skills at the same time, such as generating language, spelling, handwriting, and using capitalization and punctuation, it puts a significant demand on working memory and attention. Thus, a student may demonstrate mastery of these individual skills, but when asked to integrate them all at once, mastery of an individual skill, such as handwriting, often deteriorates. To write on demand, a student has to have mastered, to the point of being automatic, each skill involved (p. 55).

All teachers should provide multiple opportunities to support intervention and strengthen these skills; therefore, responsibility for teaching reading and writing must be shared by classroom teachers, reading specialists, and special education teachers.

## Guiding Principles of Reading Instruction for Students with Dyslexia

According to Arizona Revised Statutes 15-704 H (3), "Reading" means a complex system of deriving meaning from print that requires all of the following:

(a) The skills and knowledge to understand how phonemes or speech sounds are connected to print.
(b) The ability to decode unfamiliar words.
(c) The ability to read fluently.
(d) Sufficient background information and vocabulary to foster reading comprehension.
(e) The development of appropriate active strategies to construct meaning from print.
(f) The development and maintenance of a motivation to read.

All students should be provided with instruction in the above content using evidence-based practices. Additionally, principles of effective intervention for students with dyslexia include all of the following skills:

**Structured literacy**— Structured literacy is distinctive in the principles that guide how critical elements are taught.

**Systematic and cumulative.** Structured literacy instruction is systematic and cumulative. "Systematic" means that the organization of material follows the logical order of the language. The sequence begins with the easiest and most basic concepts and elements and progresses methodically to more difficult concepts and elements. "Cumulative" means each step builds upon concepts previously learned.

**Explicit instruction.** Structured literacy instruction requires the deliberate teaching of all concepts with continuous student-teacher interaction. It is not assumed that students will naturally deduce these concepts on their own.

**Diagnostic teaching.** The teacher must be adept at individualized instruction. That is, instruction that meets a student's needs. The instruction is based on careful and continuous assessment, both informally (e.g., observation) and formally (e.g., with standardized measures). The word reading skills presented must be mastered to ensure automaticity. Automaticity is critical for easy, rapid reading so that all of the student's attention and cognitive resources can be focused up comprehension and expression. (JUST THE FACTS . . . Information provided by The International DYSLEXIA Association® Effective Reading Instruction for Students with Dyslexia. https://dyslexiaida.org/fact-sheets/)

**Synthetic Phonics instruction**—This type of phonics instruction begins with single letters and single sounds, Students are taught how the speech sounds and the parts of language (morphemes) are blended together to form whole words.

**Analytic Phonics instruction**—This type of phonics instruction begins with whole words.

Students are taught how whole words can be broken into their component parts (Birsh, 2011).

As appropriate intervention is provided, students with dyslexia make significant gains in reading and spelling. Effective instruction is highly structured, systematic, explicit, and intensive.

Assessment data should guide instruction by identifying the specific skills and strategies that students need to learn. When students struggle to learn, providing adaptations to high-quality instruction may be beneficial. Some of the most effective adaptations include: (a) making instruction more explicit and systematic; (b) increasing opportunities for practice; (c) providing texts at the appropriate instructional level; and (d) monitoring student mastery of key skills and strategies and re-teaching as necessary (Denton, 2008, p. 3).

## Instructional Components

The following list summarizes the components of effective reading instruction for students with dyslexia, which was adapted from *Essentials of Dyslexia Assessment and Instruction* (Mather & Wendling, 2012).

### Instruction in Phonological Awareness

Students need to be taught:

- **Blending:** The ability to combine individual sounds together to create spoken words.
- **Segmentation:** The breaking down of spoken words into separate, individual sounds.
- **Manipulation:** The ability to move, delete, or add speech sounds within words.

### Instruction in Basic Reading and Spelling Skills

**Phoneme-Grapheme Relationships:**

The understanding of the relationships between sounds and the letter(s) that represent those sounds for both reading and spelling.

- Explicit and systematic teaching of sound-letter relationships in a sequential order of increasing complexity.
- Opportunities to apply knowledge of letters and sounds through writing activities.
- Activities in which students manipulate letters to change words and spelling patterns (e.g. change one letter in “cat” to make it the word “cut”).
- Activities that encourage students to use new words in their writing and speaking.

**High Frequency Words:**

Words that occur frequently in text but have not been taught yet. Through practice and repeated exposures, students are taught to recognize these common words instantly.

**Structural Analysis:**

- **Syllable instruction**—Instruction that teaches the six basic syllable types (closed, vowel-consonant-e, open, consonant-le, r-controlled, vowel team)
- **Syllable division rules**
- **Morphology**—the study of base words, roots, prefixes, and suffixes

**Spelling:**

- Activities to increase awareness of spelling patterns.
- Instruction that is coordinated with the reading instruction.
- Systematic instruction in common spelling rules.

**Effective Commercial Programs:**

Many structured programs exist that can be used to help students increase their word reading and spelling accuracy.

## Instruction in Reading Fluency

**Reading Fluency:**
The ability to read a text accurately, quickly (automaticity), and with proper expression (prosody) and comprehension.

**Accuracy:**
Ability to read words correctly.

**Rate:**
Speed of reading at the single word level or at the connected text level.

**Prosody:**
Reading in a way that is like speech with appropriate changes in intonation and attention to syntax and punctuation

- Mastery to the degree of automaticity that frees all attention and cognition for comprehension
- Repeated reading
- Timed reading activities with graphs and charts to measure and monitor progress

# Section 4: Dyslexia and English Learners (ELs)

"Dyslexia is a neurological, brain-based disorder that affects individuals of all ages across different languages. For ELs and other bilingual readers, identification of dyslexia becomes a challenging process that should consider multiple factors and the unique characteristics of each case" (Mather & Wendling, 2012, p. 236).

Currently researchers are exploring best practices for the accurate diagnosis of dyslexia and other disabilities in English learners. Although there is no one definite best practice, it is clear that a one-time assessment may not provide the most accurate picture of the individual. When an English learner experiences reading difficulties because of dyslexia or because of learning a second language, interventions and periodic measures of progress in reading and oral language are essential (Wilkinson, et al., 2006). If reading continues to lag behind oral language for an extended period, formal assessment procedures are employed to confirm a diagnosis of dyslexia. In addition to standardized tests, however, the evaluation should include interviews with family members and teachers, measures of reading performance in both languages, and accurate measures of English proficiency (Mather & Wendling, 2012 p. 237).

Readers with dyslexia often read inaccurately or slowly or both, and so they fail to achieve the goal of reading for meaning. Thus, interventions should be provided early, and progress monitored carefully, rather than waiting to determine if an individual has dyslexia (Mather and Wendling, 2012, p. 237).

When ELs enter our classrooms with limited literacy skills (listening, speaking, reading, writing) in their own language, there is no single program that will meet their needs. Educators and parents must understand that in many cases, ELs appear to speak English well in hallways, on playing fields, and in small talk before a lesson begins, but struggle to use English well on classroom assignments or on tests. Students acquire basic communication skills when immersed in the second language, but they may not yet have acquired a high level of academic language, which tends to be cognitively demanding and highly decontextualized (Cummins, 1984).

# Section 5: Specific Learning Disability–Dyslexia

## Prevalence and Characteristics of Students with SLD

- Learning Disabilities are the largest category of students receiving special education services.
- There are 2.4 million American public school students (approximately 5% of the total public school enrollment) identified with learning disabilities under the Individuals with Disabilities Education Act (IDEA).
- This amounts to 42% of the 5.7 million school-age children with disabilities.
- The number of students with learning disabilities has declined by 18% from 2002, 2011, while total special education has declined by just 3%.
- Two thirds of students identified with learning disabilities are male.
- Black and Hispanic students are overrepresented in many states while white and Asian students are underrepresented in the learning disabilities category.

(Cortiella, Candace and Horowitz, Sheldon H., 2014.)

## Definition of a Specific Learning Disability

According to the Arizona Revised Statutes (A.R.S.) §15-761, "**Specific learning disability**" means a disorder in one or more of the basic psychological processes involved in understanding or in using language, spoken or written, which may manifest itself in the imperfect ability to listen, think, speak, read, write, spell, or perform mathematical calculations. The term "specific learning disability" includes conditions such as perceptual disabilities, brain injury, minimal brain dysfunction, dyslexia, and developmental aphasia. That term does not include a learning problem that is primarily the result of visual, hearing, or motor disabilities, of intellectual disabilities, of emotional disturbance, or of environmental, cultural, or economic disadvantage.

The United States Department of Education includes dyslexia in its definition of specific learning disability. Federal regulations (34 CFR 300.8 (c)(10)) state that under the Individuals with Disabilities Education Act (IDEA), "specific learning disability (SLD)" is defined, in part, as "a disorder in one or more of the basic psychological processes involved in understanding or in using language, spoken or written, that may manifest itself in the imperfect ability to listen, think, speak, read, write, spell, or to do mathematical calculations, including conditions such as perceptual disabilities, brain injury, minimal brain dysfunction, **dyslexia**, and developmental aphasia."

While dyslexia is not itself an eligibility category under the IDEA, a child's dyslexia may result in the child being determined eligible for special education and related services under the

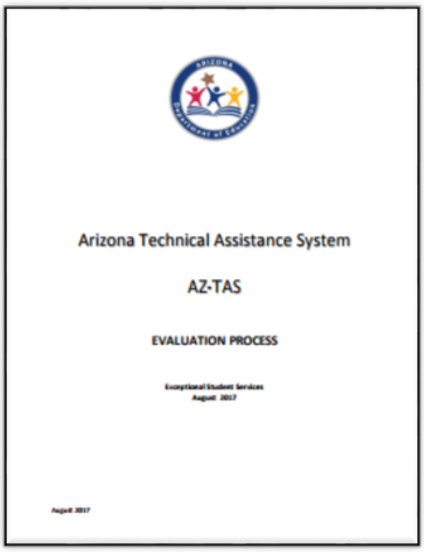
disability category of specific learning disability. If the child requires special education and related services to access and make progress in the general education curriculum because of the specific learning disability, the child would be eligible to receive services through an individualized education program (IEP). The federal law does not prevent a school psychologist or other qualified evaluator from using the term "dyslexia" to describe how a child's learning disability manifests.

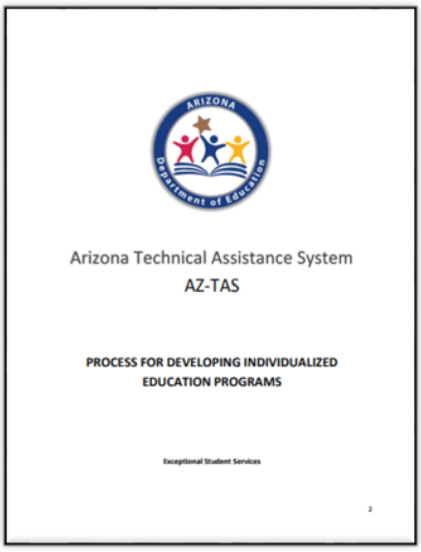
However, not every child with dyslexia will qualify for an IEP. The child will not qualify if he or she does not need specially designed instruction to access and progress in the general education curriculum. Regardless of whether a child has dyslexia or any other condition included in the definition of "specific learning disability," if a disability is suspected by the public education agency (PEA) where the child is enrolled or the school district where the child resides if the child is not school aged, the PEA must conduct an evaluation to determine whether that child is a child with a disability in need of special education.

When determining a learning disability, it is permissible to assess an English learning student in their native language when possible. This provides a better opportunity to more accurately diagnose dyslexia.

## Evaluation Process and Individualized Education Programs (IEPs)

To access the Arizona Technical Assistance System (AZ-TAS) documents regarding the Evaluation Process and Process for Developing Individualized Education Programs (IEPs), please visit [http://www.azed.gov/specialeducation/az-tas-documents/.](http://www.azed.gov/specialeducation/az-tas-documents/)



# Section 6: Technology for Children with Dyslexia

Assistive technology and universal design for learning (AT/UDL) Loan Library resources may be provided to assist the teacher or parent of any child, including those children who have dyslexia. Technology devices may involve a low-tech system constructed from items purchased at a local hardware store or a high-tech customized computer and software system. In general, technology is any device required to help a student access learning. Technology may include training not only for the student but also for educators, other staff members, and parents.

School teams should consider the student (S), the environment (E), and the task (T) in order to determine which technology tools (T) should be tried. This process is known as the SETT model. There are other frameworks for considering technology, but the SETT model is the most widely used in school settings.

Some students with dyslexia may find it easier to read when the spacing between lines, between words, or even between the characters within words is increased. Here are some easy, free ways to change these parameters:

- Use the formatting features to change the spacing in Word and Google documents.
- Use Chrome extensions such as Readability and AT Bar to change spacing on webpages.
- Use *Settings* when reading on mobile devices such as smart phones or tablets to change spacing.

For students who are learning to fluently decode words, technology can allow a student to access the content by listening to text instead of (or in addition to) reading it. Here are some examples:

- **Audio Books** are recorded books that are narrated by human readers. Audio books do not display text. Sources for audio books include Learning Ally (eligibility requirements), Audible.com (no eligibility requirements), amazon.com (no eligibility requirements), freeclassicaudiobooks.com (no eligibility requirements), and your local public library (no eligibility requirements).

- **Text-Synched Audio Books** are audiobooks that are read aloud by the computer's voice while the words that are being spoken are highlighted. This is sometimes referred to as "multi-sensory reading." Tools that allow for this feature include these:
    - Bookshare
    - Voice Dream Reader iOS app

- **E-books** are electronic versions of printed books displayed on a computer or handheld device designed specifically for this purpose. Some, but not all, e-books may be read aloud by a computerized (synthesized) voice.

- **Freeware** that will read text from Word docs and PDFs aloud, such as Balabolka.

- **iOS and Android OCR** and **text-to-speech apps** that will read text aloud, such

as Prizmo, TextGrabber, Voice Dream Reader.

Students are often expected to read information from the Internet independently. There are many technology tools that will read text from webpages aloud. These include:

- Chrome extensions such as SpeakIt
- Snap&Read Universal Chrome extension
- Read & Write Gold Chrome extension

Processing issues and vocabulary deficits make it difficult for some students to understand grade-level text, even when they are listening to it. Technology tools that either decrease the complexity of the text, or define words in accessible ways include:

- Snap&Read Universal software and app with text leveling
- Rewordify.com website
- Text Compactor website
- NewsELA website
- Dictionary.com website with synonym complexity slider
- Crack the Books digital textbooks that present science content at five reading levels
- Simple Wikipedia

Parents of all school-age children can use Arizona Technology Access Program's federally funded, free Assistive Technology Demonstration and Loan Program. Devices may be borrowed for up to two weeks and a face-to-face consultation or demonstration of an item may be arranged at the program's office, located in central Phoenix. Please contact AzTAP at (602) 728-9534, or send an email to askAzTAP@nau.edu. Schools can check out an item from the lending library at the same time that parents check out the identical item from AzTAP. This allows the school leadership teams to collect and analyze data from classroom work and homework using the AT being tried. Tools included in this document do not represent an exhaustive list but a beginning point for getting started with assistive technology.

The Arizona Department of Education neither recommends nor endorses any device or system. Each school leadership team must make individualized data-driven recommendations for their students' accommodations for reading. For more information, the AT Consideration Guides may be accessed through the Arizona Department of Education Exceptional Student Services website in Az-Tech (Arizona Department of Education): https://www.azed.gov/specialeducation/at/.

Additional resource: International Dyslexia Association Assistive Technology for Dyslexic Students & Adults: https://or.dyslexiaida.org/assistive-technology/

# Section 7: For Older Students Struggling with Reading: What Can We Do?

Older students who have continued difficulty with reading and spelling can learn to use technology to increase their ability to access printed material. Please see Section 6 on how to access assistive technology.

The following has been adapted from the Adolescents and Adults with Dyslexia Fact Sheet provided for distribution by the International Dyslexia Association (https://dyslexiaida.org/adolescents-and-adults-with-dyslexia-fact-sheet/).

## Identifying and Addressing Instructional Needs

A diagnostic assessment will indicate all areas of reading and writing that should be addressed. If an individual has not yet established sufficient word-level skills, direct instruction is necessary.

Under the right conditions, intensive and skillful instruction in basic word reading skills can have a significant impact on the comprehension ability of students in fifth grade and beyond (Center on Instruction, 2008). The Center on Instruction Report of research findings indicates the following are key recommendations for teaching word study to older students:

Teach students . . .

- to identify and break words into syllable types.
- when and how to read multisyllabic words by blending the parts together.
- to recognize irregular words that do not follow predictable patterns.
- the meanings of common prefixes, suffixes, inflectional endings, and roots. Instruction should include ways in which words relate to each other (e.g., "trans-": "transfer," "translate," "transform," "transition").
- how to break words into word parts and to combine word parts to create words based on their roots, bases, or other features.
- how and when to use structural analysis to decode unknown words.

### Factors for School Success

First and foremost, an older student with dyslexia should have skilled instruction in deficit areas of reading and writing as determined by diagnostic assessments. If the student cannot decode or spell efficiently and accurately, he or she will need proficient instruction in these areas to progress to more advanced levels of reading and writing.

In addition to direct instruction, the following considerations may be made to assist in school success:

- Subject area tutors,
- Accommodations,
- Reduced course load,

- Major course of study in areas of individual strength,
- Small classes,
- Technology aides such as text readers, smartpen, and spelling and grammar checks.

**Factors for Job Success**

Individuals with dyslexia may not be alone when struggling with the reading and writing demands of the workplace. Approximately 40 percent of high school graduates lack the literacy skills employers seek (Achieve Inc., 2005). An adult with dyslexia may have difficulty with work-training courses, even literacy classes, if these are not presented in ways that accommodate their learning needs.

Adults with dyslexia can succeed in the workplace with training and other written materials in an accessible format, restructured job tasks, and assistive technology (e.g., text-reading systems, reading pens, speech-recognition systems, and portable word processors with spell and grammar checking.

While early intervention is the best way to help students get on track with their reading and writing, it is never too late to help older students and adults make progress and succeed. With appropriate instruction, intervention and accommodations, adolescents and adults can achieve their goals, too, and make their own unique contributions to the workforce and society.

# Section 8 : For Schools and Districts : What Can We Do?

## Instructional Leadership

School instructional leaders must become highly knowledgeable and lead their professional learning communities in acquiring literacy skills during the school day, with their students, and with each other. Literacy conversations in a school community must be focused on the reader and the writer, not upon the literacy activities. These conversations must include ALL of the stakeholders who play a role supporting students learning to read. English language practitioners need to be at the table and their expertise should be consulted when making literacy decisions for English learners.

Inclusive professional literacy learning communities must include the following elements to support all students' learning to read:

- Identification of all common beliefs about literacy. *What do we believe about literacy learning? Why? Do our beliefs align with our practice? What evidence do we have to support our beliefs?*
- Opportunities to observe, learn, discuss, and modify to meet the needs of the students collectively. *Our students vs. my students.*
- Celebration of the learning and the learner through collecting evidence (data).
- Common literacy language.
- Reflection on common literacy practices. *What can we take off our plate? What can we refine, adjust, or modify?*
- Focus on a student's strengths before weaknesses. Build on those strengths.

Professional literacy conversations must be well grounded in a common language for the whole school for all instruction. Stakeholders need to know, identify, and communicate what a high performing school looks like and feels like:

**Learning Environment (The What of Learning)**

- Content and language/literacy learning outcomes are posted, measurable, observable, and in student-friendly language (students know what they are learning and why).
- Classrooms are student centered, and student work is displayed, current, and accurate; classroom charts are made with/by students (students show evidence of their learning, resources, published works).
- Effective classroom management organization exists, and rules, procedures, and behavior expectations are posted.
- Classroom library is organized with student input; it's accessible to all students and contains a variety of genres.
- Word walls and vocabulary charts are created with/by students; symbols and pictures are used as a resource by all students.
- Manipulatives, objects, and real-world examples are used.
- Transitions between activities are effective (sense of urgency).

**Teacher Instructional Practices**

- Demonstration (I do it) occurs for the whole group; easily understandable instruction is provided throughout the lesson: clear language, pacing, visuals, color, and different learning modalities are evident; instruction is explicit.
- Shared experiences (we do it) occur with the whole group and small groups.
- Guided practice (you do it together) takes place in small groups and 1-1 with minimal guidance; for new learning, fluency and transfer occurs with support (students are in charge of the learning).
- Independent practice (you do it) time is provided for mastery of learning.
- Closure includes reviewing learning goals with students; various assessments are used (self, formative, interim, summative, anecdotal, exit cards, etc.).
- Student learning is monitored; engagement and interactions are noted; feedback is immediate, effective, and specific.
- Higher order thinking questions and wait time are incorporated into the lessons.

**Student Interactions (The How of Learning)**

- Students are thinking, listening, speaking, reading, writing, sharing, and discussing.
- Students are involved in text activities, note-taking, and research; they use assistive technologies and multi-media materials; they use multiple tools for construction and composition.
- Students are involved in goal setting, planning, and assessments (self, formative, interim, summative).
- Students are involved in guided practice, projects, conferencing, collaborating, and the community; they use personal coping skills and strategies.
- Students perform independent practice for mastery; they practice planning, making choices, autonomy, visualization, and manipulation.
- Students perform for a real audience and purpose.
- Students participate in higher order thinking and use a variety of learning modalities; physical action is involved.

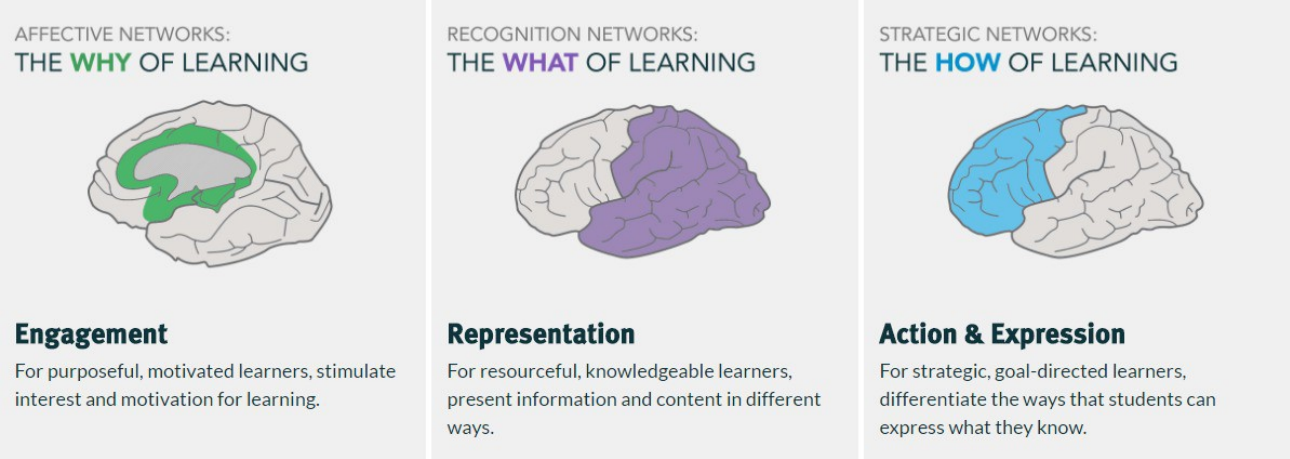
**Student Engagement (The Why of Learning)**

- Students connect learning to culture, background knowledge, and strengths.
- Students are engaged in meaningful, challenging, relevant activities; they become self-determined learners.
- Students are engaged in highly motivating real-world experiences and issues.
- Students demonstrate learning through planning, thinking, listening, speaking, reading, and writing; they are engaged in shared learning.
- Student's materials, resources, and texts are relevant and suitable to the content and literacy learning outcomes; students are self-regulating by planning, monitoring, and evaluating personal progress.
- Students have multiple opportunities for dialogue and conversations (50% student talk); they are engaged in information processing and transfer of learning.
- Students are participating in different activities with different accommodations.

## Universal Design for Learning

Universal design for learning (UDL) is a framework based on research in the learning sciences, including cognitive neuroscience, that guides the development of flexible learning environments that can accommodate individual learning differences Rose & Meyer, 2002). Students with dyslexia may experience a struggle with motivation, as they need to work harder to achieve what is easier for their peers. The purpose of universal design for learning strategies, or UDL, is to help students master learning itself—in short, to become expert learners. Expert learners have developed three broad characteristics. They are: (a) strategic, skillful, and goal directed; (b) knowledgeable, and (c) purposeful and motivated to learn. Designing curricula using UDL allows teachers to remove potential barriers that could prevent learners from meeting this important goal. UDL curriculum has four parts: instructional goals, methods, materials, and assessments. It is designed for equal access to curriculum by all students.

**Figure 8.1 Networks of UDL**

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## Multi-Tiered System of Supports (MTSS)

In Arizona, MTSS is defined as a coherent continuum of system-wide, data-based problem-solving practices supporting a rapid response to the academic and behavioral needs for all students. AZMTSS includes ongoing data-based monitoring of the effectiveness of all instruction and behavioral supports provided to maximize learning for all students. Within AZMTSS, instruction/intervention is delivered across multiple tiers depending on individual student needs as identified by student outcome data.

Three tiers describe the level and intensity of instruction/interventions provided across the continuum.

- **Tier 1:** Core and universal instruction and supports; academic and behavior instruction and supports designed and differentiated for all students in all settings.

- **Tier 2:** Targeted and supplemental interventions and supports; individual or small group targeted instruction/intervention and supplemental supports in addition to and aligned with Tier 1 academic and behavioral instruction and supports.
- **Tier 3:** Intensive and individualized interventions and supports.

Tier 3 is the most intensive instruction/intervention based on individual student need, which is provided in addition to and aligned with Tier 1 and Tier 2 academic and behavioral instruction and supports.

**Table 8.1 AZMTSS Components**

| The Six AZMTSS Components | |
|---|---|
| **AZMTSS Component** | **Description** |
| *Effective Leadership* | *Effective leaders create a team and structure that communicates a vision of high academic, behavioral and social-emotional goals that focus on meeting the needs of the whole child.* |
| *Effective Teachers and Instruction* | *Effective instruction includes a tiered level of support to meet the academic, behavioral, and social-emotional needs of the whole child.* |
| *Effective Organization of Time* | *Effective schools allocate time within a tiered level of supports for the academic, behavioral and social-emotional needs of the whole child.* |
| *Effective Curriculum* | *Effective curricula include an evidence-based behavioral and social-emotional component that meets the needs of the whole child and is culturally relevant..* |
| *Conditions, Climate, and Culture* | *Inclusive schools are focused on positive relationships within all tiers of support to meet the academic, behavioral and social-emotional needs of all children.* |
| *Family and Community Engagement* | *Family and Community Engagement is an essential component to foster the academic, behavioral and social-emotional growth of the whole child.* |

## Identifying Challenges Using an Assessment Framework

Schools collect data on all students to ensure that instruction is appropriate and scientifically based. In grades K–3, schools are required to submit, as part of their K–3 Move On When Reading Literacy Plan, a comprehensive assessment system. Under the current federal legislation, the Every Student Succeeds Act (ESSA), benchmark assessments for the early identification of struggling students before they fail are required. In fact, state law requires the use of early reading assessments that are built on substantial evidence of best practices.

Carefully chosen, these benchmark assessments can give crucial information about a student's learning and can provide a basis for tiered intervention. Through the tiered intervention

process, schools can document student's learning difficulties, provide ongoing assessment, and monitor reading achievement progress for students who may be at risk for dyslexia or reading difficulties. The early identification of students with dyslexia, as well as the development of a system for delivering an early intervention system for these students will have significant impact upon their future academic success.

To support schools and districts in their assessment of reading ability, and in response to Arizona Revised Statutes 15-701, the Arizona Department of Education has created the Balanced Assessment Framework. The full model of this framework can be found at the following link: https://www.azed.gov/standards-practices/balanced-assessment-resources/

**Table 8.2 Balanced Assessment Framework**

| SCREENER/DIAGNOSTIC | FORMATIVE ASSESSMENT: STUDENT | FORMATIVE ASSESSMENT: TEACHER | CLASSROOM SUMMATIVE | INTERIM/BENCHMARK | END-OF-YEAR/COURSE SUMMATIVE |
|---|---|---|---|---|---|
| Classroom, district, or state | Classroom feedback loop informs instruction; may include PLC/common assessments | | | PLC, district or state developed/common assessments | |
| Screener:<br>Universal screener assessments consist of brief tests focused on targeted skills that are highly predictive of the likelihood of success on meeting or exceeding curricular benchmarks.[3]<br><br>Diagnostic:<br>Diagnostic assessments are evidence-gathering procedures that provide a sufficiently clear indication regarding which targeted subskills a student does or does not possess.[3] | Formative assessment is a planned, ongoing process used by all students and teachers **during learning and teaching** to elicit and use evidence of student learning to improve student understanding of intended disciplinary learning outcomes and support students to become more self-directed learners. | Formative assessment is a planned, ongoing process used by all students and teachers **during learning and teaching** to elicit and use evidence of student learning to improve student understanding of intended disciplinary learning outcomes and support students to become more self-directed learners. | Classroom summative assessments are designed to provide information regarding the level of student success at an end point in time. Summative tests are administered after the conclusion of instruction. The results are used to make inferences about a student's mastery of the learning goals and content standards.[2] | Interim tests are typically administered periodically throughout the school year (e.g., every few months) to fulfill one or more of the following functions: **instructional** (to supply teachers with individual student data), **predictive** (identifying student readiness for success on a later high-stakes test), and/or **evaluative** (to appraise ongoing educational programs).[2] | End-Of-Year/Course summative assessments provide information regarding the level of student, school, or program success at an end point in time. Summative tests are administered after the conclusion of instruction. The results are used to fulfill summative functions, such as student mastery of course goals, determine the effectiveness of a recently concluded educational program, and/or meet local, state, and federal accountability requirements.[2] |

## Standards Frameworks

### Arizona Early Learning Standards

The Arizona Early Learning Standards have been developed to provide a framework for the planning of quality learning experiences for all children three to five years of age. The standards cover a broad range of skill development and provide a useful instructional foundation for children from diverse backgrounds and with diverse abilities. The standards are intended for use by all those who work with young children in any early care and education setting in urban, rural and tribal communities. Although the Early Learning Standards document is separated into specific domains of learning, the intent is not to suggest that children's skills develop separately or apart from each other. Nor is it the intent that isolated skill instruction be used as an appropriate way to support learning during the preschool years. The standards document is based on the premises that learning occurs on a continuum and that developmental domains are highly interrelated. Children succeed to their highest potential in nurturing environments that support their learning across domains. For more information, visit https://www.azed.gov/ece/preschool/

## Arizona English Language Arts (ELA) Standards

The Arizona English Language Arts Standards (adopted December 2016) provide a framework for understanding the skills and knowledge students need to be successful in each grade level.

Anchor standards demonstrate what teachers can expect students to know and be able to do by the end of each grade level. The Vertical Alignment of the Arizona State Standards aligns curriculum and instruction from grade to grade. To access the Arizona English Language Arts Standards, go to the Arizona Department of Education's K–12 Standards website, or click the following link: https://www.azed.gov/standards-practices/k-12standards/english-language-arts-standards/

## Arizona's K–3 Literacy Plans

Arizona's Move On When Reading literacy initiative refers to A.R.S. §15-701, §15-704, and §15-211. The focus of the program is to improve the foundational literacy achievement of K–3 students through early intervention and prevention of reading difficulties. Core reading programs, interventions programs, assessment plans, and professional development plans are required. For more information, please visit https://www.azed.gov/mowr/

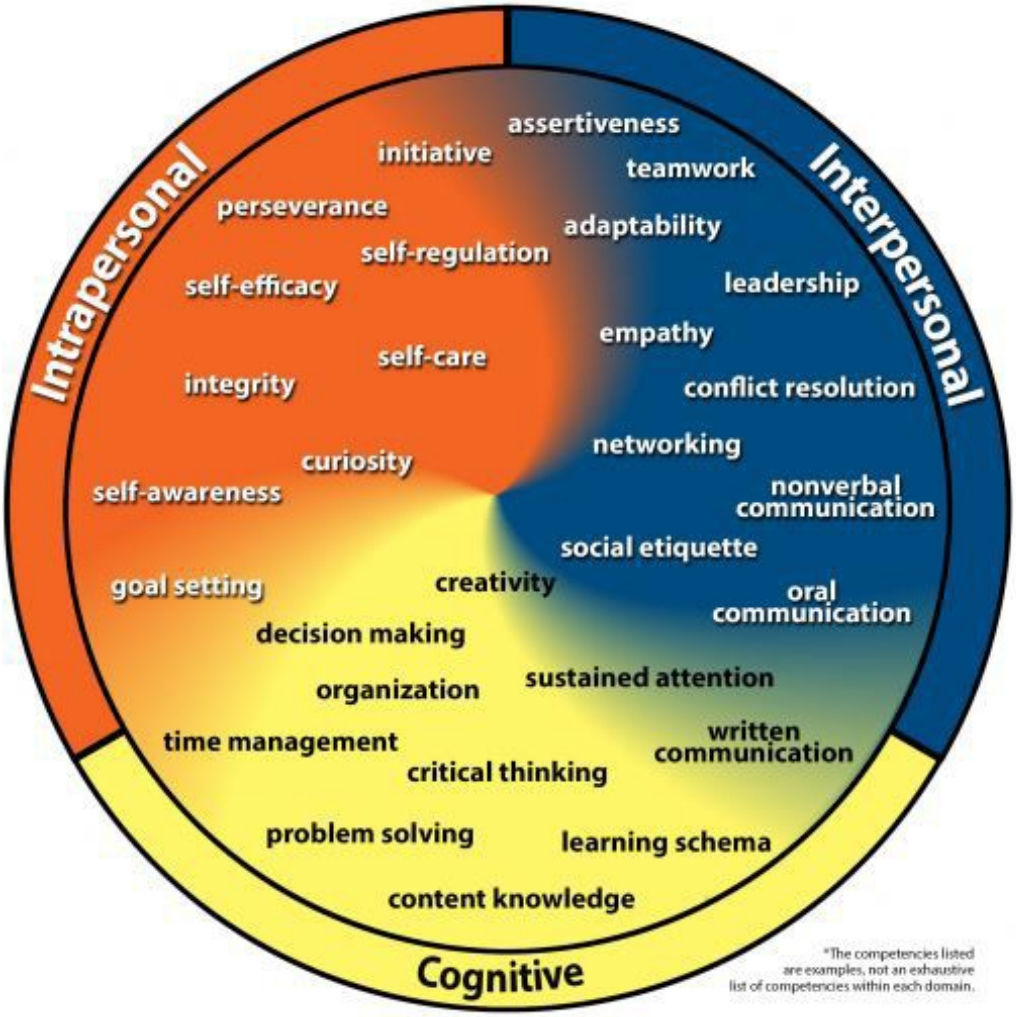
## Arizona English Language Proficiency Standards

The ELP Standards provide prerequisite language skills for English learners (ELs) to access academic content. The standards provide the foundational linguistic knowledge for students who are not proficient in English. A strong grammatical foundation is essential in the language acquisition process for ELs. There is a purposeful overlap of the ELP and the Arizona College State Standards language skills. The K-12 English Language Proficiency Standards should be utilized to guide instruction for English language learners. Classroom materials used in ELD instruction reflect content from a variety of academic disciplines including math, social studies, and science. The United States Department of Education requires all states to have English language proficiency standards for students with limited or no English language knowledge, experience, or skills. In response to this federal requirement, the Office of English Language Acquisition Services (OELAS) of the Arizona Department of Education (ADE) has developed English Language Proficiency (ELP) Standards for English language learners attending public and charter schools in Arizona. These standards allow the state of Arizona to gauge student progress in English language proficiency and to provide classroom teachers with benchmarks to help focus instruction. The standards are designed for teachers in helping English Learners (ELs) to become proficient in English as quickly as possible. The Arizona ELP Standards help students to possess a linguistic foundation for the academic English that is needed to meet the language demands and complexity of content area instruction of math, science, and social studies. For more information, please visit: https://www.azed.gov/oelas/elps/

**College and Career Competencies Framework**

The College and Career Competency Framework developed by Drs. Gaumer, Erickson and Noonan, supports educators in systematically embedding intrapersonal, interpersonal, and cognitive competencies into course content. In this way, educators support students to develop into career-equipped, lifelong learners who are socially and emotionally engaged. The College and Career Competency Wheel includes 26 specific competencies categorized in three domains. Each competency is integral to in-school and post-secondary success. Teaching these competencies to students with dyslexia is critical, as we prepare them for college and career success.

**Figure 8.2 College and Career Competency Framework**




www.cccframework.org

# Section 9: Frequently Asked Questions

**Question**: **What is Arizona's definition of dyslexia?**
**Answer:** According to the Arizona Revised Statutes (A.R.S.) §15-249.03(K) "Dyslexia" means a specific learning disorder that is neurological in origin. It is characterized by difficulties with accurate and/or fluent word recognition and by poor spelling and decoding abilities. These difficulties typically result from a deficit in the phonological component of language that is often unexpected in relation to other cognitive abilities and the provision of effective classroom instruction. Secondary consequences may include problems in reading comprehension and reduced reading experience that can impede growth of vocabulary and background knowledge.

**Question: Where is the word "dyslexia" in federal legislation?**
**Answer:** It's in the Individuals with Disabilities Education Act (IDEA) Regulations: §300.8 (c) (10). Specific learning disability. (i) General. Specific learning disability means a disorder in 1 or more of the basic psychological processes involved in understanding or in using language, spoken or written, that may manifest itself in the imperfect ability to listen, think, speak, read, write, spell, or to do mathematical calculations, including such conditions as perceptual disabilities, brain injury, minimal brain dysfunction, ***dyslexia,*** and developmental aphasia. (ii) Disorders not included. Specific learning disability does not include learning problems that are primarily the result of visual, hearing, or motor disabilities, of mental retardation, of emotional disturbance, or of environmental, cultural, or economic disadvantage.

**Question: When a parent brings a diagnosis of dyslexia from a professional outside of a school setting, what happens with this diagnosis?**
**Answer:** If the parent has requested an evaluation from the school when the parent suspects their child has a specific learning disability in reading, the dyslexia diagnosis from an outside professional becomes part of the evaluation, the review of existing data if the parent has requested an evaluation from the school if the parent suspects their child of having a Specific Learning Disability in reading.

**Question: My child is in preschool. Is it possible for him/her to have dyslexia?**
**Answer:** Under Arizona's definition of dyslexia, a child with dyslexia has difficulty with reading and spelling. While most preschool children are not yet reading and spelling, difficulties developing phonological awareness and language development may be warning signs that the child is showing traits that are typical of dyslexia. For more information about the characteristics of dyslexia, please see pages 7 and 8 of this dyslexia handbook.

**Question: Does failing a reading screening mean my child has dyslexia?**
**Answer:** No. There are many factors involved in why a student may have performed poorly on a benchmark assessment.

**Question: If my child has dyslexia, does this mean my child is in need of special education?**
**Answer:** Arizona's definition reiterates that dyslexia is a disorder. With evidence-based practices in reading instruction and response to best practices reading instruction with intervention support as necessary, a child with dyslexia may have his or her educational needs met without receiving special education services.

# Section 10: Glossary of Terms

**Accuracy:** The ability to recognize and decode words correctly (Mather & Wendling, 2012).

**Alphabetic principle:** The basic understanding that spoken language is made up of speech sounds (phonemes) that can be represented by a letter or letter string (graphemes) (Mather & Wendling, 2012).

**Analytic instruction:** Pertaining to instruction or a process that separates the whole into its constituent parts to reveal the relationship of its parts (Birsh, 2011).

**Automaticity:** The ability to read a word immediately without conscious use of effort or attention (Mather & Wendling, 2012).

**Base words:** Words from which many other words are formed. Base words can stand alone, unlike root words. Examples of a base word and various forms are "migrate": "migration," "migrant," "immigration," "immigrant," "migrating," "migratory" (Hougen & Smartt, 2012).

**Benchmark assessments:** Periodic assessments to measure student achievement, usually given during three different points in the year (beginning, middle, and end) to assess student progress and provide data for teachers to adjust their instruction to target student weaknesses (Hougen & Smartt, 2012).

**Blending:** The ability to combine individual sounds together to create spoken words (Mather & Wendling, 2012).

**Consonant:** One of a class of speech sounds in which sound moving through the vocal tract is constricted or obstructed by the lips, tongue, or teeth during articulation (Birsh, 2011).

**Decodable text:** Reading materials that are used to practice common phonic elements; includes words with regular sound-symbol correspondences (e.g., "hat," "cat," "rat") (Mather & Wendling, 2012).

**Decoding:** Applying knowledge of sound-symbol correspondences to correctly pronounce a written word; word recognition (Mather & Wendling, 2012).

**Diagnostic assessment:** Assessment used to pinpoint specific areas of weakness; provides more in-depth information to clarify student's skills and instructional needs (Hougen & Smartt, 2012).

**Differentiated instruction:** A framework for instructional planning that maximizes student learning through flexible approaches; suggests how to vary the content, process, or product to meet individual student needs.

**Digraphs:** A combination of two letters representing one sound, as in ph and ey.

**Diphthong:** A sound formed by the combination of two vowels in a single syllable, in which the

sound begins as one vowel and moves toward another (as in *coin, loud* and *side*).

**Encoding:** Spelling, translating speech sounds into graphemes (Mather & Wendling, 2012).

**Explicit instruction:** An approach that involves direct instruction; the teacher demonstrates the task, provides guided practice with immediate, corrective feedback before the student attempts the task independently (Mather & Wendling, 2012).

**Formative assessments:** Formative assessment is a planned, ongoing process used by all students and teachers during learning and teaching; it is used to elicit and use evidence of student learning to improve student understanding of intended disciplinary learning outcomes and support students in becoming more self-directed learners (ADE, Balanced Assessment Framework).

**Fluency:** The ability to read a text accurately, quickly, and with appropriate expression (Mather & Wendling, 2012).

**Grapheme:** The fundamental print unit in a written language; graphemes are used to represent phonemes, but also include both numbers and punctuation marks (Mather & Wendling, 2012).

**High frequency word:** A word that is encountered numerous times in text and is important to know (Birsh, 2011).

**Morpheme:** Smallest unit of meaning in a language (e.g., "-s" signifies plural) (Mather & Wendling, 2012).

**Morphology:** The identification, analysis, and description of the structure of morphemes and other units of meaning in a language (Mather & Wendling, 2012).

**Nonsense Word:** A word having no meaning by itself, the spelling of which is usually phonetic (e.g., "vop"). Reading and spelling nonsense words are phonic reinforcement for students who have already memorized a large number of words. Nonsense words can be used for teaching older students to apply phonetic decoding.

**Onset:** The initial written or spoken single consonant or consonant cluster before the first vowel in a syllable (e.g., /s/ in "sit," /str/ in "strip"). Some syllables do not have an onset (e.g., "on," "ask").

**Orthography:** The written system of a language, including the spelling, punctuation, and capitalization rules (Mather & Wendling, 2012).

**Phonemes:** The individual speech sounds of spoken language (Mather & Wendling, 2012).

**Phoneme-grapheme connections:** The relationships between the speech sounds (phonemes) and the spellings (graphemes) (Mather & Wendling, 2012).

**Phonemic awareness:** The ability to recognize that words are composed of discrete segments of

speech sounds (Mather & Wendling, 2012).

**Phonics:** An instructional reading method for teaching the relationship between sounds and letters and how to represent those sounds in writing. (Mather & Wendling, 2012).

**Phonology:** The study of the speech sounds of a language (Mather & Wendling, 2012).

**Phonological awareness:** A global awareness of speech sounds, such as syllables, onset and rime, and phonemes. Typically includes the ability to manipulate sounds (blend or segment) at different levels of the speech-sound system. Example: syllables within words (e.g., "cupcake" is made up of "cup" and "cake"), onset and rime (e.g., "dog" begins with /d/ and ends with /og/) (Hougen & Smartt, 2012).

**Prefix:** An affix attached to the beginning of a word that changes the meaning of that word (e.g., "tri-" in "tricycle") (Birsh, 2011).

**Professional learning communities (PLCs):** Professional learning within communities requires continuous improvement, promotes collective responsibility, and supports alignment of individual, team, school, and school system goals. Learning communities convene regularly and frequently during the workday to engage in collaborative professional learning to strengthen their practice and increase student results. Learning community members are accountable to one another to achieve the shared goals of the school and school system and work in transparent, authentic settings that support their improvement (Learning Forward, 2017 https://learningforward.org/standards/learning-communities).

**Progress monitoring assessments:** Used to determine whether students are making adequate progress. May be curriculum embedded (measuring to what extent students have mastered curriculum) or general/external (measuring critical reading skills, such as phonemic awareness, phonics fluency, vocabulary, or comprehension). They serve to predict success in meeting grade-level expectations (Hougen & Smartt, 2012).

**Prosody:** The rhythms and intonations of a language (expression) (Mather & Wendling, 2012).

**Rapid automatized naming (RAN):** The ability to quickly name familiar objects or symbols (Mather & Wendling, 2012).

**Reading comprehension:** A multicomponent, highly complex process that involves many interactions between readers and what they bring to the text (previous knowledge, strategy use), as well as variables related to the text itself (interest in the text, understanding of text types) (Hougen & Smartt, 2012).

**Reading rate:** Speed of reading at the single word level or at the connected text level. (Mather & Wendling, 2012).

**Rime:** Linguistic (language) term; the part of a syllable that begins with the vowel and includes what follows; different from rhyming, which is an oral language activity (e.g., onset /b/, rime /at/. What is the word? "bat"*)* (Hougen & Smartt, 2012).

**Root:** Main part of a word; affixes are added to the roots to make new words (e.g., "sect": "intersect," "intersection,") (Hougen & Smartt, 2012).

**Screening assessment:** Used to identify students who may be at risk for reading difficulty; in some cases, may be referred to as a benchmark assessment (Hougen & Smartt, 2012).

**Segmentation:** The ability to break apart spoken words into syllables or phonemes (Mather & Wendling, 2012).

**Sequencing:** In multisensory structured language education, the orderly presentation of linguistic concepts based on frequency and ease of learning in a continuous series of connected lessons (Birsh, 2011).

**Structural analysis:** The perception and examination of syllables and morphemes. Structural analysis enables the reader to recognize different syllables and decode long, unfamiliar words (Birsh, 2011).

**Suffix:** A morpheme attached to the end of a word that creates a word with a different form or use (e.g., "-s" in "cats," "-ing" in "lettering"); suffixes include inflected forms indicating tense, number, person, and comparatives (Birsh, 2011).

**Summative data collection:** Procedure to gather information about the accumulation and integration of knowledge to be applied to long-term comprehensive teaching goals; typically collected using norm-referenced measures but sometimes collected with curriculum- and criterion-referenced tests (Birsh, 2011).

**Syllable:** A unit of speech containing one vowel sound, with or without surrounding consonants (Mather & Wendling, 2012).

**Systematic instruction:** Definite method for a procedure, carried out in a step-by-step process (Hougen & Smartt, 2012).

**Universal design for learning (UDL):** A framework for instructional planning that addresses the needs of a wide range of students and minimizes the need for adaptations (Mather & Wendling, 2012).

**Universal screening assessments**: Type of criterion-referenced assessments that are designed to be teacher friendly so that they can be quickly administered to all children in a class several times per year; the screening assessments help a teacher determine which students are achieving as expected and which are at risk for specific components of reading (Hougen & Smartt, 2012).

**Virgule:** Another term for slash ( / ).

**Vocabulary:** The store of words that a person recognizes and/or uses in his or her oral and written language for communication and comprehension (Birsh, 2011).

**Voiced consonant:** Consonant sound produced in which vibration of vocal cords is present (e.g.,

/b/, /d/) (Hougen & Smartt, 2012).

**Vowel:** Speech sound produced by the free flow of air through the vocal tract (Hougen & Smartt, 2012).

**Word recognition:** Quick identification (recognition) of a previously learned word and its meaning (Hougen & Smartt, 2012).

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# Section 11: AdditionalResources

## Arizona Department of Education Webpages

Arizona Promising Practices: www.azpromisingpractices.com

Assessment: https://www.azed.gov/assessment/

Assistive Technology: https://www.azed.gov/specialeducation/at/

AZ Find: https://www.azed.gov/specialeducation/az-find/

Dyslexia: https://www.azed.gov/mowr/dyslexia/

Early Childhood Education Publications and Manuals: https://www.azed.gov/ece/publications-manuals/

Exceptional Student Services: http://www.azed.gov/special-education/

K–12 Standards: http://www.azed.gov/standards-practices/

Move On When Reading: http://www.azed.gov/mowr/

Multi-Tiered System of Supports: http://www.azed.gov/mtss/

Office of English Language Acquisition (OELAS): http://www.azed.gov/oelas/

## Legislation

**Arizona Revised Statutes (A.R.S.) https://www.azleg.gov/**

A.R.S. §15-704 - Reading proficiency; dyslexia screening plan; definitions

A.R.S. §15-219 - Dyslexia and reading impairment screening, intervention, accommodation and technology; continuing education; rules; training

A.R.S. §15-249.10 - Dyslexia handbook

A.R.S. §15-211 - K-3 reading program; dyslexia specialist; dyslexia training; receipt and use of monies; additional funding; report; program termination

A.R.S. §15-701 - Common school; promotions; requirements; certificate; supervision of eighth grades by superintendent of high school district; high school admissions; academic credit; definition

A.R.S. §15-501.01 - Requirements for teachers; teaching certificates; rules; reciprocity; placement

**Individuals with Disabilities Education Act (IDEA) 2004**

IDEA—Regulations: Early Intervening Services: http://www.ideapartnership.org/index.php?option=com_content&view=article&id=842&

Office of Special Education and Rehabilitative Services Dyslexia Blog https://sites.ed.gov/osers/category/events/dyslexia/

Requirements for a Statewide System: https://sites.ed.gov/idea/regs/c/b/303.110

**Every Student Succeeds Act 2015**

https://www.ed.gov/essa?src=rn

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National Center on Accessible Educational Materials: http://aem.cast.org/

National Center for Learning Disabilities: Available at http://ncld.org/

National Center on Universal Design for Learning (2017) http://www.udlcenter.org/aboutudl/take_a_tour_udl

National Reading Panel Report: https://www.nichd.nih.gov/sites/default/files/publications/pubs/nrp/Documents/report.pdf

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OSEP Policy Documents Regarding the Education of Infants, Toddlers, Children and Youth with Disabilities: http://www2.ed.gov/policy/speced/guid/idea/letters/revpolicy/tpevlrvl.html.

Raising Special Kids: Available at http://www.raisingspecialkids.org/

Read On Arizona (Dyslexia Family Version) www.readonarizona.org

Reading Rockets: Available at www.readingrockets.org

Understood for Learning and Attention Issues: http://www.understood.org

Universal Design for Learning: Available at http://www.udlcenter.org

University of Oregon Center on Teaching and Learning. Big ideas in beginning reading: Available at http://reading.uoregon.edu/

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