



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

**Exceptional Student Services Arizona
Technical Assistance System (AZ-TAS)**

**Specific Learning Disability–Dyslexia:
A Technical Assistance Document to Support
Families and Teachers**

Revised 10/13/2017

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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.

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’s 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 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, and there is no barrier to using the term to assist a team in describing the learning needs of a student.

However, not every child with dyslexia will qualify for an IEP if the child does not need specially designed instruction. With this in mind, 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.

This handbook is divided into three major sections: (1) definitions and regulations, (2) components of reading instruction, and (3) resources. Each section includes information and supports for families and teachers working in public education agencies to increase the learning outcomes for all students with reading difficulties.

Section 1: Specific Learning Disability–Dyslexia: From Definitions to Eligibility

Section 1 of this handbook supports families and teachers in becoming familiar with definitions and characteristics of students with specific learning disabilities and dyslexia. Early identification is a key to supporting students. The Arizona Department of Education has several resources to ensure that correct supports are in place for all children. Key components of early identification and resources needed for students to receive the specific support early on in their academic career are also included. Section one explains the evaluation process used to determine whether a child meets the eligibility criteria for a student with a specific learning disability with or without the condition of dyslexia.

Section 2: Essential Components of Reading Instruction

Section 2 of the handbook is provided to communicate to families and teachers the essential components of reading instruction so that teachers may support all learners and foster communication around how a child learns to read. This section outlines the components needed to support a strong core of instruction including how the Arizona’s English Language Arts (ELA) Standards support the learning of all students, including specific strategies and techniques for students with specific learning disabilities–dyslexia.

Section 3: Additional Resources

Section 3 has been provided to families and teachers for additional resources and supports; it includes lists of specific websites, books, rubrics, forms, and articles.

One thing we know for certain about dyslexia is that it is one small area of difficulty in a sea of strength. Having trouble with reading does not mean that you’ll have trouble with everything. In fact, most children with dyslexia are very good at a lot of other things.

Sally Shaywitz, MD, *Overcoming Dyslexia* (2008)

Section 1:

Specific Learning Disability–Dyslexia: from Definitions to Eligibility

Section 1 of this handbook supports families and teachers in becoming familiar with definitions and characteristics associated with specific learning disability and dyslexia.

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.

Classroom Indications: Each person with SLD has a different combination or cluster of characteristics, which can range from mild to severe. Effective intervention strategies should include a total approach to meeting the educational, psychological, medical, and social needs of the student. Accommodations in the classroom may include extended time, use of a calculator, a reader or person to record answers, or use of an audio recording device for students who need to respond to test questions or assignments.

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.

Arizona’s dyslexia definition is not included in the IDEA definition. This new definition is included in Arizona statute so educators and parents can better understand the needs of students with dyslexia. School systems do not “diagnose”; instead, the determination of a disability is accomplished with a comprehensive evaluation. For more information regarding the special education determination process, please see Figure 1.4.

How Prevalent Is Dyslexia?

Prevalence and Characteristics of Students with SLD

SLD is the **largest** category of students receiving special education services.

There are **2.4 million** American public school students (approximately five percent of the total public school enrollment) identified with learning disabilities under the Individuals with Disabilities Education Act (IDEA).

Forty-two percent of the **5.7 million** school-age children with all kinds of disabilities who receive special education services are served in this category.

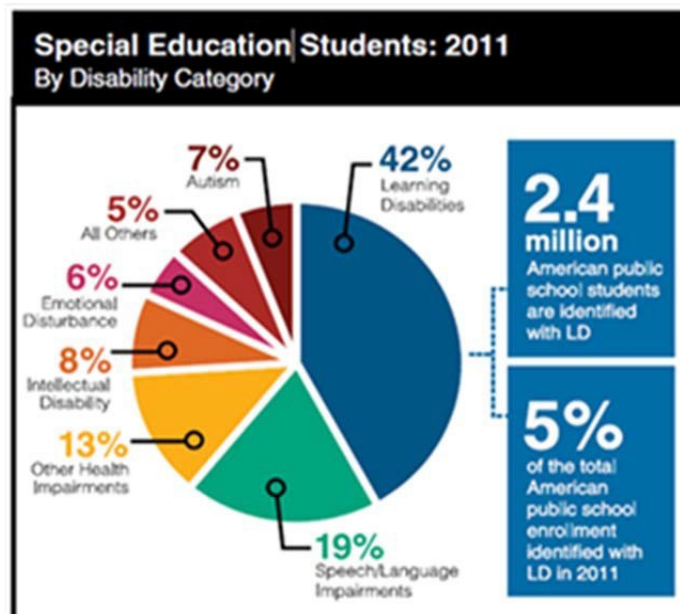
The number of students identified with SLD has **declined by 18 percent between 2002 and 2011**, while total special education has declined by just three percent.

Two-thirds of students identified with SLD are male.

Black and Hispanic students are overrepresented in many states while white and Asian students are underrepresented in this category.

About 13–14% of the school population nationwide has a condition that qualifies them for special education. Current studies indicate that one-half of all the students who qualify for special education are classified as having a learning disability (LD) (6–7%). About 85% of those LD students have a primary learning disability in reading and language processing. Nevertheless, many more people—perhaps as many as 15–20% of the population as a whole—have some of the symptoms of dyslexia, including slow or inaccurate reading, poor spelling, poor writing, or mixing up similar words. Not all of these will qualify for special education, but they are likely to struggle with many aspects of academic learning and are likely to benefit from systematic, explicit, instruction in reading, writing, and language.

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 language 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.



Source: IDEA Part B Child Count, Ages 6–21. Does not include Developmental Delay category (allowable to age 9).

Characteristics of Dyslexia

Students identified as having dyslexia typically experience primary difficulties in phonological awareness, including phonemic awareness (segmenting, blending, deleting, substituting, and adding), single-word reading, reading fluency, and spelling. Consequences may include difficulties in reading comprehension and/or written expression. These difficulties in phonological awareness are unexpected for the student's age and educational level and are not primarily the result of language difference factors. Often, there is a family history of similar difficulties. Individuals demonstrate differences in the degree of impairment.

The following are the primary reading/spelling characteristic of dyslexia:

Difficulty segmenting, blending, and manipulating sounds in words (phonemic awareness)

Difficulty learning the names of letters and their associated sounds

Difficulty learning to rhyme words

Difficulty holding information about sounds and words in memory (phonological memory)

Confusion of letters and words with similar visual appearance (e.g., *b* and *d* and *was* and *saw*)

Confusion of letters with similar sounds (/f/ and /v/)

Reversals and transpositions of letters and words that persist past the age of 7 (e.g., *p* and *q* and *on* and *no*)

Difficulty rapidly recalling the names of familiar objects, colors, or letters of the alphabet (rapid naming)

Difficulty reading words in isolation

Difficulty accurately decoding unfamiliar words

Difficulty retaining the visual representation of irregular words for reading and spelling

Difficulty with oral reading (slow, inaccurate, or labored)

Difficulty spelling

Trouble arranging letters in the correct order when the final, incorrect, word looks similar to the intended word (e.g., spelling "dose" instead of "does").

Difficulty pronouncing some multisyllabic words correctly

How Dyslexia May Present in Preschool through Adulthood

Some of these characteristics are often present in young children, whereas others are more apparent in secondary students and adults. The earliest warning signs of dyslexia are sometimes noted in a child’s spoken language; for other students, oral language development is perfectly normal. A student with dyslexia usually exhibits several of these behaviors that persist over time and interfere with his/her learning.

As a child ages, warning signs are apparent at different ages . . .

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

Often tells stories that are hard to follow; has trouble talking about an event in a logical order

K–2nd 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/ /ā/ /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

Difficulty spelling words the way they sound (phonetically) or remembering letter sequence in very frequently used words (e.g., “sed” for “said”)

3rd-5th 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

Use 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., “mazingine” 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

6th-12th 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

Early Identification and Systems of Support

“Research shows that children who read well in early grades are far more successful in later years, and those who fall behind often stay behind when it comes to academic achievement.”

—Snow, Burns, and Griffin, 1998

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. Research continues to support the need for early identification and assessment (Birsh, 2011; Nevills & Wolfe, 2009; Sousa, 2005). The rapid growth of the brain and its responsiveness to instruction in the primary years make the time from birth to age eight a critical period for literacy development (Nevills & Wolfe, 2009). Characteristics associated with reading difficulties are connected to spoken language. Difficulties in young children can be assessed through screenings of phonemic awareness and other phonological skills (Sousa, 2005).

In the reauthorization of IDEA in 2004 and in the current federal legislation under the Every Student Succeeds Act (ESSA), there is a call for the use of benchmark assessments for early identification of struggling students before they fail. In fact, state law requires the use of early reading assessments that are built on substantial evidence of best practices.

Carefully chosen, these assessments can give crucial information about a student’s learning and can provide a basis for a tiered intervention model. Through the tiered intervention process, schools can document student’s learning difficulties, provide ongoing assessment, and monitor reading achievement progress for students at risk for dyslexia or other reading difficulties.

View the Arizona Department of Education Assessment Framework here:

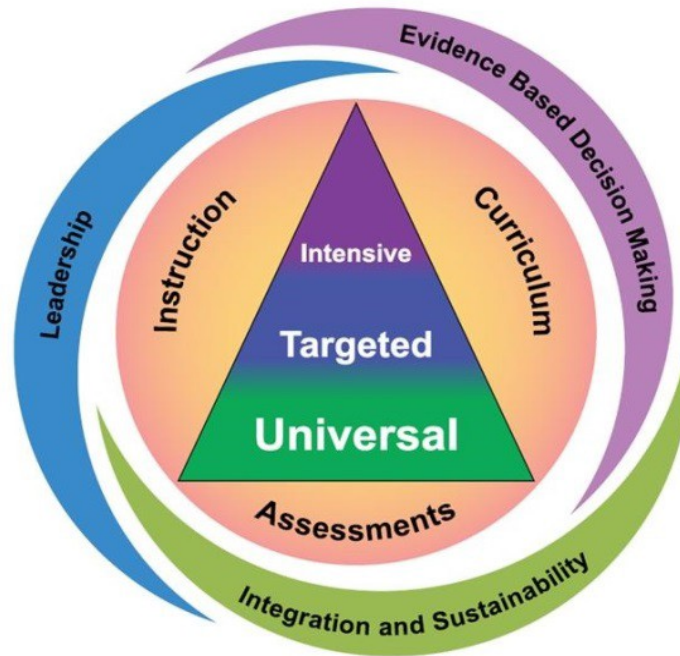
<https://cms.azed.gov/home/GetDocumentFile?id=598093f33217e1170830a006>

In the state of Arizona, the term *multi-tiered system of supports* (MTSS) replaces response to intervention (RTI). This comprehensive system of supports includes assessments (universal screening, diagnostic tests, progress monitoring, formative and summative measures), evidence-based instruction, interventions delivered across multiple tiers dependent on individual needs identified by student outcome data. For more information about MTSS, please see Figure 1.1 below, or visit <http://www.azed.gov/mtss/>.

It is important that the school district/charter not delay intervention processes or, when the team determines appropriate, identification processes, until second or third grade for students suspected of having dyslexia. This identification process should be an individualized evaluation rather than a screening. The evaluation should be conducted using §504 procedures or following the Individuals with Disabilities Education Act (IDEA 2004) requirements. The following link to the National Center for Learning Disabilities (NCLD) provides a §504 and an IDEA 2004 comparison chart:

http://www.leasesped.org/files/Forms/504/504_and_IDEA_Comparison_Chart_-_B.pdf.

Figure 1.1 Multi-tiered System of Supports



<http://www.azed.gov/mtss/>

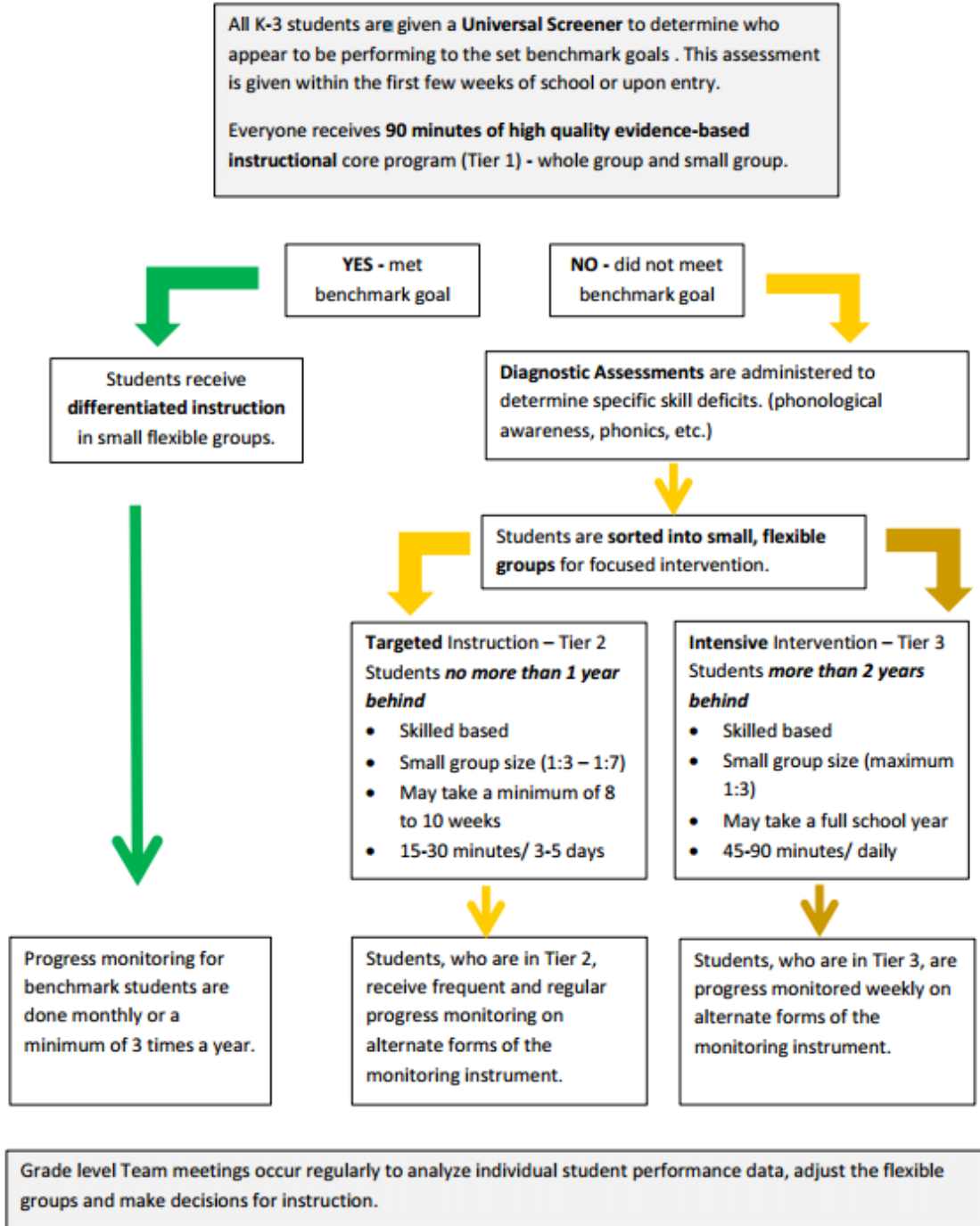
As expressed in a letter from the Office of Special Education Programs (OSEP) to the State Directors of Special Education, “states have an obligation to ensure that evaluations of children suspected of having a disability are not delayed or denied because of implementation of the MTSS process.” To access and read this letter, please visit <https://www2.ed.gov/policy/speced/guid/idea/memosdcltrs/osep11-07rtimemo.pdf>.

As stated above, the use of an MTSS/RTI process should not delay or deny an evaluation for dyslexia, especially when parent or teacher observations reveal the common characteristics of dyslexia. A comprehensive evaluation requires the use of a variety of data-gathering tools and strategies even if an MTSS process is used. The multifaceted evaluation process for determining whether a child meets the eligibility criteria for special education and related services encompasses a variety of activities to identify factors impeding reading. For more information about the evaluation decision process please see page 16 of this handbook.

The culmination of the evaluation process, including observations, interviews, screening, and formal assessment by a trained school psychologist (administering and interpreting psychometric results) provides the multidisciplinary team with the information to determine whether specific criteria are met for eligibility.

The chart in Figure 1.2 demonstrates the MTSS process. For more information about the comprehensive assessment systems used in MTSS, please visit the Move On When Reading (MOWR) website: <http://www.azed.gov/mowr/mowr-for-administrators/>. For more information about MTSS, please visit <http://www.azed.gov/mtss/>.

Figure 1.2 The Multi-tiered System of Supports Process



Data Gathering

Schools collect data on all students to ensure that instruction is appropriate and scientifically based. ESSA and A.R.S. §15-704 both state that “Essential components of reading instruction” means explicit and systematic instruction in the following areas: (A) phonemic awareness; (B) phonics; (C) vocabulary development; (D) reading fluency, including oral reading skills; and (E) reading comprehension strategies.

Any time (from kindergarten through grade 12) a student continues to struggle with one or more components of reading, schools must collect additional information about the student. Schools should use previously collected, as well as current information, to evaluate the student’s academic progress and determine what actions are needed to ensure the student’s improved academic performance. The collection of various data, as indicated in Figure 1.2, will provide information regarding factors that may be contributing to the student’s struggles with reading and spelling. The profile of strengths and weaknesses of an individual with dyslexia varies with age.

Because dyslexia is a language-based difficulty, when a specific learning disability of dyslexia is suspected, the data collected for the multidisciplinary team should consist of the following: word recognition, automaticity/fluency, spelling, decoding, phonological processing, phonological awareness, phonological memory, rapid automatic naming, and reading comprehension. Other key areas to consider are oral language, visual/orthographic processing, and mathematics skills.

The academic history of each student will provide the school with the cumulative data needed to ensure that underachievement in a student suspected of having dyslexia is not due to lack of appropriate instruction in reading, or the effect of a visual, hearing, or motor disability; mental retardation; emotional disturbance; cultural factors; environmental or economic disadvantage; or limited English proficiency on the child’s achievement level (IDEA 2004). This information should include data that demonstrates that the student was provided appropriate instruction and include data-based documentation of repeated assessments of achievement at reasonable intervals (progress monitoring), reflecting formal assessment of student progress during instruction.

Parent Participation in the Data-Gathering Process

This cumulative data also includes information from parents/guardians. If a parent/guardian suspects their child has characteristics of dyslexia, or a learning disability, they should contact their school’s administration as soon as possible. For more information, go to: <http://www.azed.gov/specialeducation/az-find/>.

Sources and examples of cumulative data are provided in Table 1.1 on the following page.

Table 1.1 Sources and Examples of Cumulative Data

∠ Vision screening	∠ State assessment (AzMERIT) reading results as described in A.R.S.§15-741
∠ Hearing screening	∠ Observations of instruction provided to the student
∠ Teacher reports of classroom concerns	∠ Full individual evaluation
∠ Classroom reading assessments	∠ Outside evaluations
∠ Accommodations or interventions provided	∠ Speech and language assessment
∠ Academic progress reports (report cards)	∠ School attendance
∠ Gifted/talented assessments	∠ Curriculum-based assessment measures
∠ Samples of schoolwork	∠ Instructional strategies provided and student’s response to the instruction
∠ Parent input	∠ Universal screening
∠ K–3 Move On When Reading (MOWR) assessment data as described in A.R.S. §15-704	

Formal Assessment

Professionals conducting assessment for the identification of dyslexia will need to look beyond scores on standardized assessments alone and with parent input, examine the student’s classroom performance, educational history, and early language experiences to assist with determining reading and spelling abilities and difficulties. The parent needs to provide current information during the review of existing data timeframe and before the decision of the need for additional data.

If after the review of existing data, it is determined that additional data is necessary, the next step in the evaluation process is to assess the student in all areas of the suspected disability. All data will be used to determine whether the student demonstrates evidence for dyslexia.

Information collected from the parents/guardians also provides valuable insight into the student’s early years of language development. This history may help to explain why students come to the evaluation with many different strengths and weaknesses; therefore, findings from any additional data collected will be different for each child.

Notification and Permission

When formal assessment is recommended, the school completes the evaluation process as outlined in IDEA 2004 or §504. At times, students will display additional factors/areas (e.g., oral language deficits, written expression difficulties, math difficulties) that complicate the identification of dyslexia through the §504 process and will require a referral for special education and possible identification of the student as a child with a disability within the IDEA 2004 (20 U.S.C. §1400 et seq.).

Note: The §504 process is used most frequently unless a referral to special education is indicated.

Through the §504 process, the school completes the evaluation as outlined using the following procedures:

1. Notify parents/guardians of the proposal to assess the student for dyslexia (§504).
2. Inform parents/guardians of their rights under §504.
3. Obtain permission from parents/guardians to assess the student for dyslexia.
4. Assess student, being sure that individuals/professionals who administer assessments have training in the evaluation of students for dyslexia and related disorders.

To review the special education process, see Figure 1.4.

Tests and Other Evaluation Materials

In compliance with §504 and IDEA 2004, test instruments and other evaluation materials must meet the following criteria:

Be validated for the specific purpose for which the tests, assessments, and other evaluation materials are used;

Include material tailored to assess specific areas of educational need and not merely materials that are designed to provide a single general intelligence quotient;

Be selected and administered to ensure that, when a test is given to a student with impaired sensory, manual, or speaking skills, the test results accurately reflect the student's aptitude, achievement level, or whatever other factor the test purports to measure, rather than reflecting the student's impaired sensory, manual, or speaking skills;

Be selected and administered in a manner that is not racially or culturally discriminatory;

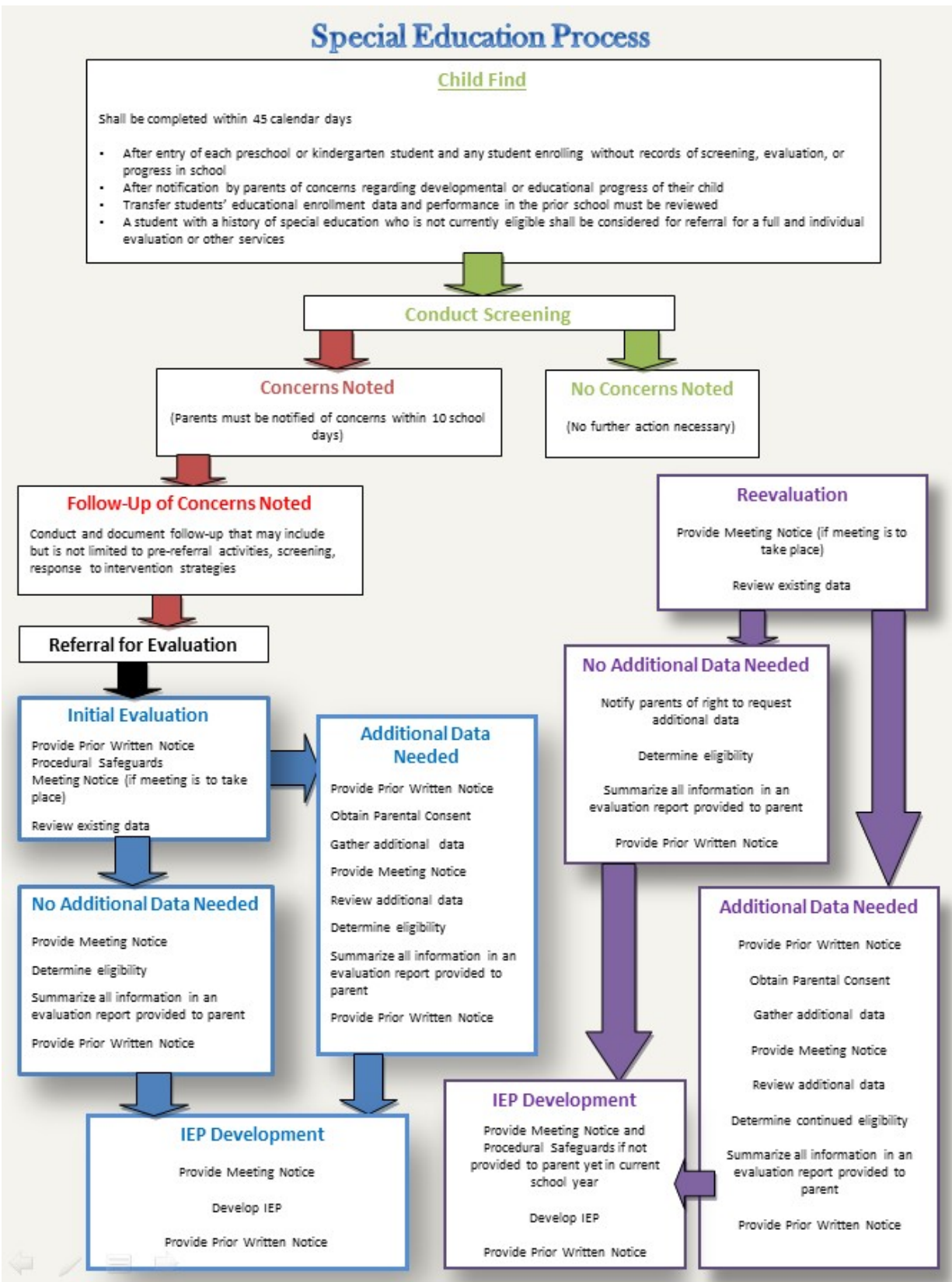
Include multiple measures of a student's reading abilities such as informal assessment information (e.g., anecdotal records, district universal screenings, progress monitoring data, criterion-referenced assessments, results of informal reading inventories, classroom observations);

Be administered by trained personnel and in conformance with the instructions provided by the producer of the evaluation materials;

Be used for the purpose for which the assessment or measures are valid or reliable;

Be provided and administered in the student's native language or other mode of communication and in the form most likely to yield accurate information regarding what the child can do academically, developmentally, and functionally, unless it is clearly not feasible to provide or administer.

Figure 1.4 Evaluation Decision Process



Program Support and Monitoring, Arizona Dept. of Education
<http://www.azed.gov/special-education/program-support-monitoring/>

Cognitive Processes

Difficulties in phonological and phonemic awareness are typically seen in students with dyslexia and impact a student’s ability to learn letters and the sounds associated with letters, learn the alphabetic principle, decode words, and spell accurately. Rapid naming skills may or may not be weak, but if deficient, they are often associated with difficulties in automatically naming letters, reading words fluently, and reading connected text at an appropriate rate. Memory for letter patterns, letter sequences, and the letters in whole words (orthographic processing) may be selectively impaired or may coexist with phonological processing weaknesses. Finally, various language processes, such as morpheme and syntax awareness, memory and retrieval of verbal labels, and the ability to formulate ideas into grammatical sentences, may also be factors affecting reading (Berninger & Wolf, 2009, pp. 134–135).

Based on the student’s academic difficulties and characteristics and/or language acquisition, additional areas related to vocabulary, listening comprehension, oral language proficiency, written expression, and other cognitive abilities may need to be assessed. Areas for assessment are provided in Figure 1.5.

Figure 1.5		
Academic Skills	Cognitive Process	Possible Additional Areas
Letter knowledge (name and associated sound) Reading words in isolation Decoding unfamiliar words accurately Reading fluency (both rate and accuracy are assessed) Reading comprehension Spelling	Phonological/phonemic awareness Rapid naming of symbols or objects	Vocabulary Listening comprehension Verbal expression Written expression Handwriting Memory for letter or symbol sequences (orthographic processing) Mathematical calculation/reasoning Phonological memory Verbal working memory Processing speed

Although IDEA 2004 indicates that dyslexia is an example of a learning disability, the evaluation requirements for eligibility in 34 C.F.R. §300.309(a)(1) specifically designate the following areas for a learning disability in reading: basic reading skills, reading fluency skills, and/or reading comprehension.

If the student with dyslexia is found eligible for special education services in the area of reading and the multidisciplinary evaluation team (MET) determines that the student’s instructional needs for reading are most appropriately met in special education placement, the student’s individualized education program (IEP) must include appropriate reading instruction.

Appropriate reading instruction includes the components and delivery of instruction listed in section 2, “Essential Components of Reading Instruction.” If a student has previously met special education eligibility, the individualized education program (IEP) team should include goals that reflect the need for reading instruction in the IEP and determine the least restrictive environment for delivering the student’s reading intervention. For more information regarding the contents of the IEP, please visit the Arizona Promising Practices website at <http://www.azpromisingpractices.com/ContentsoftheIEP.pdf>.

Section 2:

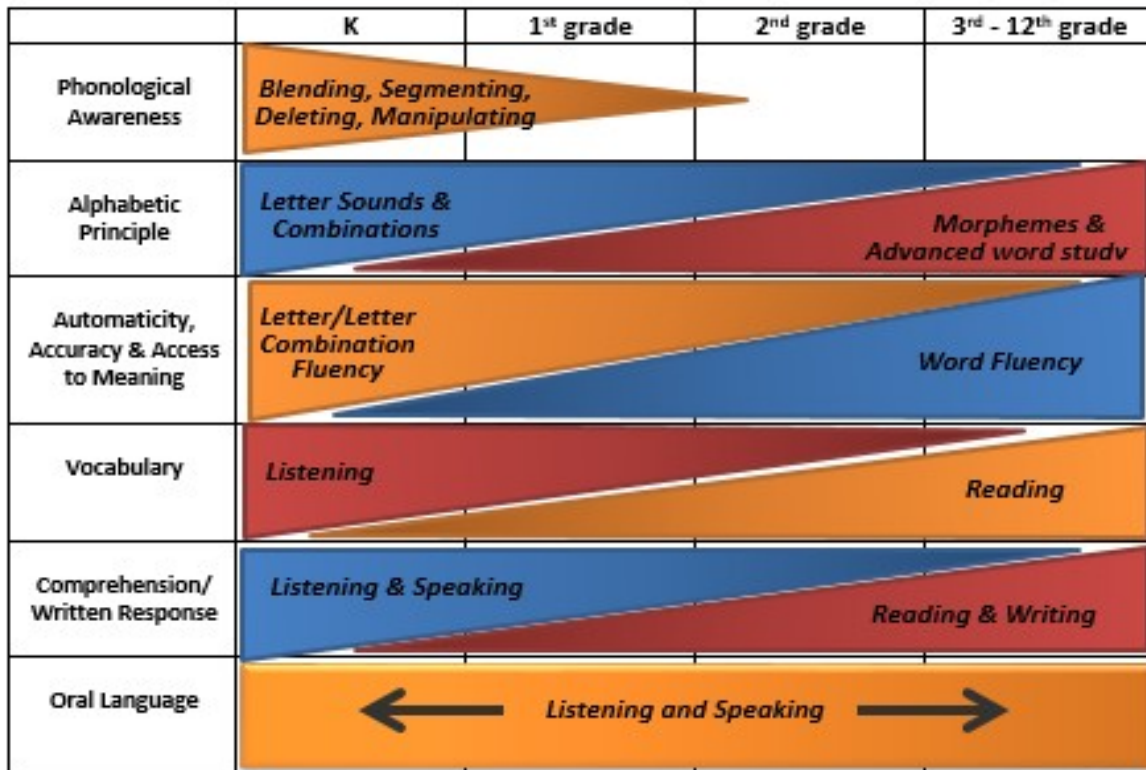
Essential Components of Reading Instruction

Section two of the handbook is provided to communicate to families and teachers the essential components of reading instruction that support all learners and to foster communication about how a child learns to read. This section outlines the components needed to support a strong core of instruction in the general education classroom (MTSS, Tier 1), including how the Arizona English Language Arts (ELA) Standards support the learning of all students and comprise specific strategies and techniques for students with specific learning disabilities—dyslexia. Students with dyslexia should first and foremost be given access to the general education curriculum.

It is imperative for all concerned to have deep understanding of reading and learning research and the best practices of instruction to support the needs of all learners. When families, general educators, and special education teachers have an understanding of what goes into strong core (tier 1) instruction, along with the expectations of the ELA Standards, they can collaborate more effectively on the needs of students with a Specific Learning Disability—Dyslexia when creating and implementing a specialized instructional plan.

Figure 2.1 Essential Components of Reading, K–12

Changing Emphasis of Big Ideas across K-12 literacy instruction



Core Reading Curriculum and Arizona ELA Standards

The Arizona English Language Arts Standards (adopted December 2016) provide a framework for understanding what skills and knowledge students will need to be successful in each grade level to be prepared for college, careers, and life.

The Arizona’s English Language Arts Standards, however, are just a roadmap for reading success. It is at the discretion of the teacher and school to determine how students will achieve reading success since the standards alone do not include how to teach these expectations. Through the flexibility of local control, it is the responsibility of each school or district to obtain curriculum that is appropriate for their student population to achieve mastery of the Arizona’s English Language Arts Standards. It is critical that any potential curriculum for reading is aligned with the expectations of the English Language Arts (ELA) standards for reading, writing, speaking, listening, and language. In this way, Arizona educators can ensure systematic development of a literacy knowledge base that will support and prepare learners for ongoing success.

Arizona Revised Statutes, at section 15-763 - *Plan for providing special education definition*, explains:

“Each child shall be ensured access to the general curriculum and an opportunity to meet the state’s academic standards.”

The first step to achieving this is a multi-tiered system of supports (MTSS) model. Students with specific learning disabilities and dyslexia who continue to struggle in accessing the general curriculum would benefit from additional supplemental interventions (MTSS, Tiers 2 and 3) **in addition to** any specially designed instruction the student is receiving as part of an IEP. As such, these interventions would not be included on the student’s IEP. Supplemental intervention would not be considered a substitute for special education services. However, any supplemental intervention delivered to an eligible student with disabilities must be consistent with the student’s IEP.

A sense of urgency is implicit and is addressed with the use of data (screeners, diagnostic assessments, progress monitoring, summative assessments) to inform intervention and the need for an increase in intensity of instruction, duration of more intensive instruction, and decreased group size in tier 2 or tier 3 . However, the more time spent in tiers 2 and 3, the less exposure a struggling reader has to the general education curriculum.

The chart in Figure 2.1 demonstrates the characteristics of a three-tiered model for MTSS. The far left column shows important elements to consider when planning for tiered instruction.

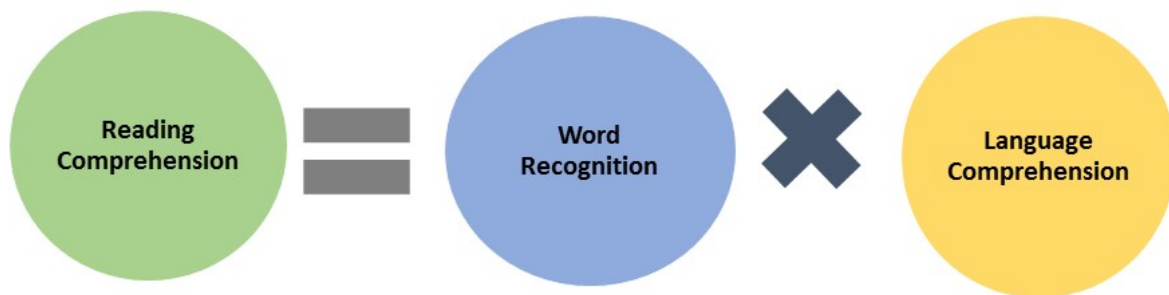
Figure 2.1 Multi-tiered System of Supports Instructional Plan

MTSS Instructional Plan For use by school administrators and teachers			
	Tier 1 Reading Class	Tier 2 Targeted Instruction	Tier 3 Intensive Intervention
Learners	ALL students	Generally 20%–30% of students who need additional structured support (eventually, with correct instruction, 15%).	Generally, 5%–10% of students who have marked difficulties learning to read and have not sufficiently responded to instruction provided at Tiers 1 & 2.
Instructional leader	Regular classroom teacher	Highly qualified reading teacher, special education teacher, or specifically trained, supervised paraprofessional working under the guidance of the reading specialist.	Certified reading specialist, special education teacher trained in reading, or specifically trained, supervised paraprofessional working under the guidance of the reading specialist.
Time allocation	90 minutes daily minimum of grade-level standards-aligned reading instruction (<i>time for grammar, writing, and intervention instruction is additional</i>).	15–30 minutes of targeted reading instruction daily, to reinforce skills taught by the classroom teacher and in addition to the core reading program.	At least 30 minutes of more intensive, more explicit instruction designed to close the student skill gap.
Instructional components	Essential Components: phonemic awareness phonics fluency vocabulary comprehension Use a combination of narrative and expository text.	Essential Components: phonemic awareness phonics fluency vocabulary comprehension Instruction is based upon the student’s response to the intervention.	Essential Components: phonemic awareness phonics fluency vocabulary comprehension Intensive intervention is designed to address individual needs and is guided by assessment data from diagnostic and progress monitoring assessments.
Grouping structure	Flexible (whole group, small group, partners).	Small flexible homogeneous groups of three–six students per teacher (optimal).	Small homogeneous groups of three or fewer students per teacher (optimal).
Instructional program	Arizona standards-based grade-level instruction using evidence-based program materials with proven effectiveness. All instructional decisions are based on assessment.	Explicit instruction to strengthen specific skills identified in the benchmark and diagnostic assessments, using evidence-based program materials and teaching strategies that have proven effective.	Explicit instruction at student’s performance level using evidence-based program materials and teaching strategies with proven effectiveness in teaching at-risk or reading-disabled students (intensity and duration) to close their achievement gap.
Align materials with state standards	Evaluate and align current materials and instruction with the grade-level expectations.	Evaluate intervention materials for explicit, systematic instruction of the 5 essential reading components.	Evaluate intervention materials for the explicit, systematic instruction of the 5 essential components of reading.

The Brain and Reading

In Figure 2.2, Gough and Tunmer (1986) proposed the “Simple View of Reading” to clarify the role of decoding, or correctly pronouncing written words, in relation to reading comprehension. The researchers expressed the need for educators to teach students to decode expertly as early as possible. When students can decode expertly, their reading comprehension abilities are equivalent to their language comprehension abilities. Students’ learning, and their skills in reading and language comprehension, is enhanced with strong content knowledge in many domains including science, social studies, math, reading, and writing. However, without mastery in decoding, no amount of language comprehension can increase a child’s reading comprehension.

Figure 2.2 The Simple View of Reading



With the mindset of “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.

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 in order to close the achievement gap for struggling readers. For more information about core reading programs, please refer to Figure 2.3, Features of Effective Reading Instruction, below and visit the Move On When Reading (MOWR) website at www.azed.gov/mowr for core reading guidance.

Figure 2.3 Features of Effective Reading Instruction

Features of Effective Reading Instruction	
Explicit	Explicit instruction with modeling
Systematic	Systematic instruction with scaffolding
Practice	Multiple opportunities for students to respond and practice
Assessment	Ongoing assessment (progress monitoring)
Feedback	Immediate corrective feedback

Vaughn Gross Center for Reading and Language Arts, 2007

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

Effective literacy instruction is essential for all students and is especially critical for students identified with dyslexia. High-quality core classroom reading instruction can give students identified with dyslexia a foundation upon which intervention instruction can have a more significant impact. Specialized instruction for students with dyslexia is discussed in this chapter.

Specialized Instruction

For the student who has not benefited from the research-based core reading instruction, the components of instruction will include additional specialized instruction as appropriate for the reading needs of the student with dyslexia. It is important to remember that 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.

Critical, Evidence-Based Components of Dyslexia Instruction:

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).

Sound-symbol association—Sound-symbol association is the knowledge of the various speech sounds in any language to the corresponding letter or letter combinations that represent those speech sounds. The mastery of sound-symbol association (alphabetic principle) is the foundation for the ability to read (decode) and spell (encode) (Birsh, 2011, p. 19). “Explicit phonics refers to an organized program in which these sound symbol correspondences are taught systematically” (Berninger & Wolf, 2009, p. 53).

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: 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).

Orthography—Orthography is the written spelling patterns and rules in a given language. Students must be taught the regularity and irregularity of the orthographic patterns of a language in an explicit and systematic manner. The instruction should be integrated with phonology and sound-symbol knowledge.

Morphology—“Morphology is the study of how a base word, prefix, root, suffix (morphemes) combine to form words. A morpheme is the smallest unit of meaning in a given language” (Birsh, 2011, p. 19).

Syntax—“Syntax is the sequence and function of words in a sentence in order to convey meaning. This includes grammar and sentence variation and affects choices regarding mechanics of a given language” (Birsh, 2011, p. 19).

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 repair it if it breaks down, and the reader’s interest in what he or she is reading and motivation to comprehend its meaning (Birsh, 2011, pp. 9 and 368; Snow, 2002).

Reading fluency—“Reading fluency is the ability to read text with sufficient speed and accuracy to support comprehension” (Moats & Dakin, 2008, p. 52). Teachers can help promote fluency with several interventions that have proven successful in helping students

with fluency (e.g., repeated readings, word lists, and choral reading of passages) (Henry, 2010, p. 104).

In addition, other areas of language processing skills, such as written expression, which require integration of skills, are often a struggle for students with dyslexia. Moats and Dakin (2008) suggest the following:

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).

Both the teacher of students with dyslexia and the regular classroom teacher should provide multiple opportunities to support intervention and to strengthen these skills; therefore, responsibility for teaching reading and writing must be shared by classroom teachers, reading specialists, interventionists, and teachers of dyslexia programs.

Delivery of Reading Instruction to Students with Dyslexia

While it is necessary that students are provided instruction in the above content, it is also critical that the way in which the content is delivered be consistent with research-based practices. Principles of effective intervention for students with dyslexia include all of the following:

Simultaneous, multisensory (VAKT)—“Multisensory instruction utilizes all learning pathways in the brain (visual, auditory, kinesthetic-tactile) simultaneously in order to enhance memory and learning” (Birsh, 2011, p. 19). “Children are actively engaged in learning language concepts and other information, often by using their hands, arms, mouths, eyes, and whole bodies while learning” (Moats & Dakin, 2008, p. 58).

Systematic and cumulative—“Systematic and cumulative instruction requires the organization of material follow order of the language. The sequence must begin with the easiest concepts and progress methodically to more difficult concepts. Each step must also be based on elements previously learned. Concepts taught must be systematically reviewed to strengthen memory” (Birsh, 2011, p. 19).

Explicit instruction—“Explicit instruction is explained and demonstrated by the teacher one language and print concept at a time, rather than left to discovery through incidental encounters with information. Poor readers do not learn that print represents speech simply from exposure to books or print” (Moats & Dakin, 2008, p. 58). Explicit instruction is “an approach that involves direct instruction: The teacher demonstrates the task and provides

guided practice with immediate corrective feedback before the student attempts the task independently” (Mather & Wendling, 2012, p. 326).

Diagnostic teaching to automaticity—“Diagnostic teaching is knowledge of prescriptive instruction that will meet individual student needs of language and print concepts. The teaching plan is based on continual assessment of the student’s retention and application of skills” (Birsh, 2011, p. 19). “This teacher knowledge is essential for guiding the content and emphasis of instruction for the individual student” (Moats & Dakin, 2008, p. 58). “When a reading skill becomes automatic (direct access without conscious awareness), it is performed quickly in an efficient manner” (Berninger & Wolf, 2009, p. 70).

Synthetic instruction—“Synthetic instruction presents the parts of any alphabetic language (morphemes) to teach how the word parts work together to form a whole (e.g., base word, derivative)” (Birsh, 2011, p. 19).

Analytic instruction—“Analytic instruction presents the whole (e.g., base word, derivative) and teaches how the whole word can be broken into its component parts (e.g., base word, prefix, root, and suffix)” (Birsh, 2011, p. 19).

As appropriate intervention is provided, students with dyslexia make significant gains in reading. Effective instruction is highly structured, systematic, and explicit, and it lasts for sufficient duration. With regard to explicit instruction, Torgesen (2004) states, “Explicit instruction is instruction that does not leave anything to chance and does not make assumptions about skills and knowledge that children will acquire on their own” (p. 353).

In addition, because effective intervention requires highly structured and systematic delivery, it is critical that those who provide intervention for students with dyslexia be trained in the knowledge of structured literacy, be trained in the program used, and ensure that the program is implemented with fidelity.

Research-Based Best Practices

The approach to teaching students with dyslexia is founded on research-based best practices.

Gains in reading can be significant if students with reading problems are provided systematic, explicit, and intensive reading instruction of sufficient duration in phonemic awareness, phonics, fluency, vocabulary (e.g., the relationships between words and the relationships between word structure, origin, and meaning), reading comprehension strategies, and writing.

A failure to learn to read impacts a person’s life significantly. The key to preventing this failure for students with dyslexia is early identification and early intervention.

Instruction by a highly skilled and knowledgeable educator who has specific preparation in the remediation of dyslexia is necessary.

The following research reflects the essential components of specialized dyslexia instruction discussed in the previous bullets and may serve as additional sources of information for those working with students identified with dyslexia. The similarities between the state’s approach and the research are noted in bold. Unless otherwise indicated, the following pages contain excerpts from the resources cited.

1. Berninger and Wolf (2009, p. 49–50) state the following:

Until children are reading without effort, each reading lesson should consist of **teacher-directed, explicit, systematic instruction** in (1) phonological awareness; (2) applying phonics (alphabetic principle) and morphology to decoding; (3) applying background knowledge already learned to unfamiliar words or concepts in material to be read (activating prior knowledge); (4) both oral reading and silent reading, with appropriate instructional materials; (5) activities to develop oral reading fluency; and (6) reading comprehension.

Berninger, V. W., & Wolf, B. J. (2009). *Teaching students with dyslexia and dysgraphia: Lessons from teaching and science*. Baltimore, MD: Paul H. Brookes Publishing.

2. Birsh (2011, p. 1) states the following:

Teachers need to undergo extensive **preparation in the disciplines inherent in literacy**, which include the following:

Language development

Phonology and phonemic awareness

Alphabetic knowledge

Handwriting

Decoding (reading)

Spelling (encoding)

Fluency

Vocabulary

Comprehension

Composition

Testing and assessment

Lesson planning

Behavior management

Study skills

History of the English language

Technology

Needs of older struggling students

Birsh, J. R. (2011). *Connecting research and practice*. In J. R. Birsh, *Multisensory teaching of basic language skills* (3rd ed., pp. 1–24). Baltimore, MD: Paul H. Brookes Publishing.

3. Clark and Uhry (2004, pp. 89–92) state the following:

Children with dyslexia need the following:

- **Direct, intensive, and systematic** input from and interaction with the teacher
- Immediate feedback from the teacher
- Careful pacing of instruction
- **Systematic** structured progression from the simple to the complex

Other components of instruction include the following:

- Learning to mastery
- Multisensory instruction

Clark, D., & Uhry, J. (Eds.). (2004). *Dyslexia: Theory and practice of instruction* (3rd ed.). Austin, TX: Pro-Ed.

4. Henry (2010, p. 21) states the following:

By teaching the concepts inherent in the word origin and word structure model across a decoding-spelling continuum from the early grades through at least eighth grade, and by using technology when it serves to reinforce these concepts, teachers ensure that students have strategies to decode and spell most words in the English language. This framework and continuum readily organize a large body of information for teachers and their students. Not only do students gain a better understanding of English word structure, but they also become better readers and spellers.

Henry, M. K. (2010). *Unlocking literacy: Effective decoding and spelling instruction* (2nd ed.). Baltimore, MD: Paul H. Brookes Publishing.

5. Mather and Wendling (2012, p. 171) state the following:

Individuals with dyslexia need to

- understand how phonemes (sounds) are represented with graphemes (letters);
- learn how to blend and segment phonemes to pronounce and spell words;
- learn how to break words into smaller units, such as syllables, to make them easier to pronounce;
- learn to recognize and spell common orthographic graphic patterns (e.g., *-tion*);
- learn how to read and spell words with irregular elements (e.g., *ocean*); and
- spend time engaged in meaningful reading and writing activities.

Mather, N. M., & Wendling, B. J. (2012). *Essentials of dyslexia assessment and intervention*. Hoboken, NJ: John Wiley & Sons.

6. Moats (1999, pp. 7–8) states that

Well designed, controlled comparisons of instructional approaches have consistently supported these components and practices in reading instruction:

direct teaching of decoding, comprehension, and literature appreciation;

phoneme awareness instruction;

systematic and explicit instruction in the code system of written English;

daily exposure to a variety of texts, as well as incentives for children to read independently and with others;

vocabulary instruction that includes a variety of complementary methods designed to explore the relationships among words and the relationships among word structure, origin, and meaning;

comprehension strategies that include prediction of outcomes, summarizing, clarification, questioning, and visualization; and

frequent **writing** of prose to enable a deeper understanding of what is read.

Moats, L. C. (1999). *Teaching reading is rocket science: What expert teachers of reading should know and be able to do* (Item No. 39-0372). Washington, DC: American Federation of Teachers.

7. The National Reading Panel’s (2000) Report of the National Reading Panel highlights the following:

Emphasis is placed on the importance of identifying early which children are at risk for reading failure and intervening quickly to help them.

How reading is taught matters—reading instruction is most effective when it is taught comprehensively, systematically, and explicitly.

National Reading Panel. (2000). *Report of the National Reading Panel: Teaching children to read: An evidence-based assessment of the scientific research literature on reading and its implications for reading instruction*. Washington, DC: National Institute of Child Health and Human Development.

8. Shaywitz (2005, pp. 257–262) outlines the following essentials for a successful reading intervention and effective early intervention program:

Essentials of a successful reading intervention include the following:

Early intervention—The best intervention begins in kindergarten with remediation beginning in first grade.

Intense instruction—Reading instruction must be delivered with great intensity. Optimally, a child who is struggling to read should be given instruction in a group of

three and no larger than four students, and the child should receive this specialized reading instruction at least four, and preferably five, days a week.

High-quality instruction—High-quality instruction is provided by a highly qualified teacher. Recent studies highlight the difference that a teacher can make in the overall success or failure of a reading program.

Sufficient duration—One of the most common errors in teaching a student with dyslexia to read is to withdraw prematurely the instruction that seems to be working. A child who is reading accurately but not fluently at grade level still requires intensive reading instruction.

Essentials of an effective **early intervention** program include the following:

Systematic and direct instruction in the following:

- Phonemic awareness—noticing, identifying, and manipulating the sounds of spoken language
- Phonics—how letters and letter groups represent the sounds [of] spoken language
- Sounding out words (decoding)
- Spelling
- Reading sight words
- Vocabulary and concepts
- Reading comprehension strategies

Practice in applying the above skills in reading and in writing

- Fluency training
- Enriched language experiences: listening to, talking about, and telling stories

Shaywitz, S. (2003). *Overcoming dyslexia: A new and complete science-based program for reading problems at any level*. New York, NY: Alfred A. Knopf.

9. Torgesen (2004, p. 376) states the following:

The first implication for practice and educational policy is that schools must work to provide **preventive interventions** to eliminate the enormous reading practice deficits that result from prolonged reading failure. The second implication is that schools must find a way to provide interventions for older children with reading disabilities that are appropriately focused and sufficiently intensive.

Torgesen, J. K. (2004). Lessons learned from research on interventions for students who have difficulty learning to read. In P. McCardle, & V. Chhabra (Eds.), *The voice of evidence in reading research* (pp. 355–382). Baltimore, MD: Paul H. Brookes Publishing.

10. Vaughn and Linan-Thompson (2003, pp. 299–320) state the following:

Mounting evidence suggests that most students with reading problems can make significant gains in reading if provided **systematic, explicit, and intensive** reading instruction based on critical elements associated with improved reading such as **phonemic awareness, phonics, fluency in word recognition and text reading, and comprehension.**

There were no statistically significant differences between students receiving intervention instruction in a teacher-to-student ratio of 1:1 or 1:3 though both groups outperformed students in a 1:10 teacher to student ratio.

Student progress determined the length of intervention.

Vaughn, S., & Linan-Thompson, S. (2003). Group size and time allotted to intervention. In B. Foorman (Ed.), *Preventing and remediating reading difficulties* (pp. 275–320). Parkton, MD: York Press.

11. The International Dyslexia Association (2009, pp. 1–2) states the following:

Professional practitioners, including **teachers or therapists, should have had specific preparation in the prevention and remediation of language-based reading and writing difficulties.** Teachers and therapists should be able to state and provide documentation of their credentials in the prevention and remediation of language-based reading and writing difficulties, including program-specific training recommended for the use of specific programs.

The International Dyslexia Association. (2009, March). *Position statement: Dyslexia treatment programs*. Retrieved from http://www.ncsip.org/reading/IDA_Position_Statement_Dyslexia_Treatment_Programs_template.pdf

12. The International Dyslexia Association’s Knowledge and Practice Standards for Teachers of Reading provides standards for teachers of students with dyslexia.

The International Dyslexia Association. (2010). *Knowledge and practice standards for teachers of reading*. Retrieved from <https://dyslexiaida.org/knowledge-and-practices/>

Supporting Students with a Specific Learning Disability and Dyslexia in Accessing the General Education Curriculum

Students with specific learning disabilities and dyslexia are a heterogeneous group with one common characteristic: the presence of disabling conditions that significantly hinder their ability to access the general education curriculum. Therefore, how the standards are taught and assessed is important in reaching this diverse group. Instruction should incorporate modifications and accommodations, including:

Supports and related services designed to meet the unique needs of these students and to enable their access to the general education curriculum with differentiated instruction.

An IEP which includes annual grade-level academic goals aligned to the curriculum to facilitate achievement of those goals.

Teachers and specialized instructional support personnel who are prepared and qualified to deliver high-quality, evidence-based, individualized instruction and support services.

For students with specific learning disability and dyslexia to be successful in the general curriculum, they may need additional supports and services, such as:

Instruction should be based on detailed and frequent assessment. Individual student's specific strengths and weaknesses in phonological awareness, decoding, encoding, fluency, and comprehension must be evaluated and used to guide diagnostic teaching. Information should be presented in multiple ways and allow for diverse avenues of action and expression (multisensory learning) to facilitate effective student engagement.

Instruction should be systematic and cumulative. Material should be taught in an organized sequence beginning with the simplest and proceeding to the most complex. One finding of the National Reading Panel was that students with reading disabilities responded best to systematic phonics programs.

Changing materials, instruction, or procedures; extending time, providing frequent practice and repetition; and using flexible groups are supports that should be considered for some students.

Devices (assistive technology) and services should be provided to ensure a student's access to the general education curriculum and ELA Standards.

Section 3: Additional Resources

Section three of this dyslexia handbook begins with accommodations and modifications to be used in classrooms as an aid in helping students to access the curriculum. The second topic covers assistive technology, and this section ends with a list of references and additional web links for more information.

Accommodations / Modifications

Some students with specific learning disabilities and dyslexia may need accommodations or modifications in order to have equal access to and participate in the general curriculum with success. It is important to realize that accommodations are not just for students with disabilities, but for all students to access curriculum so that they are successful in school. Educators have a duty to use data and best practices to determine the needs of all students. Accommodations are a way for teachers to incorporate instructional strategies so that students have equal access to learning.

Changes made in materials, actions, or instructional strategies that enable a student with disabilities to participate more meaningfully in grade-level or course-level classroom instruction are considered accommodations. Accommodations occur in instructional activities when educators incorporate individualized strategies to meet the learning needs of a student.

http://www.raisingpecialkids.org/media/uploaded/i/0e1834167_iepossibleclassroomaccommodationsforspecificdifficulties.pdf

Some ideas for changes in textbooks and curriculum, the classroom environment, instruction and assignments, and possible behavior expectations that may be helpful when educating students with specific learning disabilities—dyslexia are below. When reviewing these ideas, keep in mind that any accommodations or modifications an IEP team chooses must be based on the individual needs of the student, and the child’s accommodations and modifications must be provided, if they are included in the child’s IEP. The list that follows is not an exhaustive list.

Books:

- Provide alternative books with similar concepts, but written at an easier reading level.
- Provide audiotapes of textbooks and have the student follow the text while listening.
- Provide summaries of chapters.
- Provide interest reading material at or slightly above the student’s comfortable reading level.
- Use peer readers.
- Use markers to highlight important textbook sections.

Curriculum:

- Shorten assignments to focus on mastery of key concepts.
- Shorten spelling tests to focus on mastering the most functional words.
- Give alternatives to long written reports (e.g., write several short reports, preview new audiovisual materials and write a short review, give an oral report on an assigned topic).

Classroom Environment:

- Evaluate the classroom structure against the student's needs (flexible structure, firm limits, etc.).
- Keep workspaces clear of unrelated materials.
- Provide a computer for written work.
- Seat the student close to the teacher or a positive role model.
- Use a study carrel. (Provide extras so that the student is not singled out.)
- Provide an unobstructed view of the chalkboard, teacher, movie screen, etc.
- Keep extra supplies of classroom materials (pencils, books) on hand.

Instruction and Assignment Directions:

- Use both oral and printed directions.
- Give directions in small steps and in as few words as possible.
- Number and sequence the steps in a task.
- Have student repeat the directions for a task.
- Provide visual aids.
- Show a model of the end product of directions (e.g., a completed math problem or finished quiz).

Time/Transitions:

- Alert student several minutes before a transition from one activity to another is planned; give several reminders.
- Provide additional time to complete a task.
- Allow extra time to turn in homework without penalty.
- Provide assistance when moving about the building.

Tests:

- Go over directions orally.
- Teach the student how to take tests (e.g., how to review, how to plan time for each section).
- Provide a vocabulary list with definitions.
- Permit as much time as needed to finish tests.
- Allow tests to be taken in a room with few distractions (e.g., the library).
- Have test materials read to the student, and allow oral responses.
- Divide tests into small sections of similar questions or problems.

Americans with Disabilities Act (ADA) guidelines for 2016 for school and work can be found at <http://www.dyslexicadvantage.org/dyslexia-and-accommodations-new-ada-guidelines-2016-for-school-and-work/>.

Testing Accommodations on the AzMERIT: http://azmeritportal.org/wp-content/uploads/2015/02/AzMERIT-Testing-Accommodations-2015_rev-Feb-2015.pdf

Assistive Technology for Students with Dyslexia and Other Print Disabilities

IEP teams are required, under IDEA, to consider whether a student with a disability requires assistive technology in order to receive a free and appropriate public education, *regardless of the type or severity of the student's disability*.

When a student cannot read a textbook because he or she is blind or has low vision, IEP teams are quick to recognize the need for assistive technology. When a student cannot read a textbook because an orthopedic impairment prevents him or her from physically holding a book or turning the pages, IEP teams are quick to recognize the need for assistive technology. When a student cannot read a textbook because of a specific learning disability with dyslexia, it may not be as readily apparent to IEP teams that these students too can benefit from assistive technology.

Although people typically think of AT as being devices and equipment only, IDEA defines school-based assistive technology in terms of both devices *and* services. IDEA defines an ***assistive technology device*** as:

Any item, piece of equipment or product system, whether acquired commercially off the shelf, modified, or customized, that is used to increase, maintain, or improve the functional capabilities of children with disabilities. (The term does not include a medical device that is surgically implanted, or the replacement of such device.)

Broadly speaking, AT devices can be almost anything a school makes, buys, or customizes that helps a student with a disability learn, communicate, or function better in the classroom. AT 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 costing thousands of dollars.

IDEA defines an ***assistive technology service*** as:

Any service that directly assists a child with a disability in the selection, acquisition, and use of an assistive technology device.

In general, AT services are any services required to help a student get and learn to use the assistive technology devices needed. AT services may include training not only for the student but also for general educators, special educators, other staff members, and parents.

IEP teams should consider the student (S), the environment (E), and the task (T) in order to determine which AT tools (T) should be tried. This process is known as the SETT model. There are other frameworks for considering AT, but the SETT model is the most widely used in school settings. Free online resources for schools and parents interested in learning more about the SETT model and reading include the following resources:

ATTO's Free SETT Model Internet Module
Assistive Technology Internet Modules
Assessing Student Need for Assistive Technology
Maryland AT Matchup for Reading

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. There are some easy, free ways to change these parameters, including the following:

Use the formatting features to change spacing in Word and Google docs.

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 struggle with reading decoding, assistive technology can help them bypass this barrier by allowing them to listen to text instead of (or in addition to) reading it. This type of assistive technology includes these resources:

Audio Books – 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 – 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 also often expected to read information from the Internet independently. There are a number of assistive 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

It’s important to note that not all students with dyslexia will benefit from listening to grade-level text. Processing issues and vocabulary deficits make it difficult for some students to understand grade-level text, even when they are listening to it. Assessments such as the Protocol for Accommodations in Reading can help IEP teams make data-based reading accommodation

recommendations for students.

Students with dyslexia may also have deficits in vocabulary. Assistive 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

Assistive Technology Available to Families

All district, charter, and approved private day schools may use the Arizona Department of Education’s Assistive Technology Lending Library, free of charge. The Lending Library will ship AT tools and resources, at no charge, to schools to try for free for one month. You can search—the inventory to find AT tools in the library that may support students with dyslexia; these include iPads with specific apps, laptops with specific software, note-taking apps, smart pens, and much more.

Parents can use Arizona Technology Access Program’s federally funded, free AT Demonstration and Loan Program. Parents can borrow AT devices for up to two weeks or arrange for a face-to-face consultation or demonstration of an AT item at the program’s office, located in central Phoenix, contact AzTAP at (602) 728-9534, or send an email to askAzTAP@nau.edu.

It can be very helpful for schools to check out an item from ADE’s lending library at the same time that parents check out the identical item from AzTAP. This allows the IEP team to collect and analyze data from classroom work and homework using the AT being trialed.

AT tools included in this document do not represent an exhaustive list. The Arizona Department of Education neither recommends nor endorses any device or system. Each IEP team must make individualized data-driven recommendations for their students’ accommodations for reading.

Additional Assistive Technology Resources

Az-Tech (Arizona Department of Education): <http://www.azed.gov/special-education/special-projects/assistive-technology/>.

Az-Tech's AT Consideration Guide (Includes a list of potential assistive technology tools and strategies specific to reading, writing, and spelling): Available at <http://www.azed.gov/special-education/special-projects/assistive-technology/>

International Dyslexia Association Assistive Technology for Dyslexic Students & Adults: <http://www.idaga.org/Downloads/AssistiveTechnologyForDyslexicStudents.pdf>.

Reading Rockets. Assistive Technology for Kids with Learning Disabilities: <http://www.readingrockets.org/article/assistive-technology-kids-learning-disabilities-overview>.

Understood.org Assistive Technology for Reading: <https://www.understood.org/en/school-learning/assistive-technology>.

Appendix A: Arizona Resources

Arizona Department of Education Professional Learning:

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

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

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

Arizona Department of Education Webpages:

Arizona College and Career Ready Standards ELA: <http://www.azed.gov/standards-practices/englishlanguageartsstandards/>

Arizona Promising Practices: www.azpromisingpractices.com

Arizona State Literacy Plan: <https://www.azed.gov/standards-practices/files/2015/07/k12-az-literacy-plan-revised-by-jessica-l.pdf>

The Assessment Continuum Guide for Pre-K through Third Grade in Arizona: <http://www.azed.gov/early-childhood/files/2016/04/assessment-continuum-guide-2016.pdf>

AZ Find: <http://www.azed.gov/special-education/az-find/>

AzMERIT Testing Conditions, Tools, and Accommodations Guidance: <https://www.azed.gov/assessment/files/2016/03/azmerit-testing-conditions-tools-and-accommodations-2016.pdf>

Developing a Thriving Reader Webinar: <https://cms.azed.gov/home/GetDocumentFile?id=553835aaaadebe0c6033e78a>

Early Childhood: <http://www.azed.gov/early-childhood/preschool/preschool-programs/ecse/>

Early Literacy to Support Move On When Reading (MOWR): <http://www.azed.gov/early-childhood/early-literacy-to-support-move-on-when-reading-mowr/>

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

Help for Early Learning Professionals: <http://www.azed.gov/early-childhood/files/2013/02/new-help-2013-final.pdf>

Preschool Development Grant Manual: <http://www.azed.gov/early-childhood/files/2015/05/pdg-guidance-manual-5.11.2015-final.pdf>

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

The Kindergarten Experience: Kindergarten Development Inventory (KDI): <http://www.azed.gov/early-childhood/the-kindergarten-developmental-inventory-kdi-the-kindergarten-experience/>

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

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

Online Resources for Accessible Educational Materials:
<http://www.azed.gov/special-education/special-projects/accessible/>

Shining Stars Kindergarteners Learn to Read: <http://www.azed.gov/early-childhood/files/2015/04/ed002550p.pdf>

Shining Stars Toddlers Learning to Read: <http://www.azed.gov/early-childhood/files/2015/04/ed002621p.pdf>

Shining Stars Preschoolers Learn to Read: <http://www.azed.gov/early-childhood/files/2015/04/shiningstarspreschool.pdf>

Shining Stars First Graders Learn to Read: http://www.azed.gov/early-childhood/files/2015/04/shining_stars_first_grader.pdf

Shining Stars Second and Third Graders Learn to Read: <http://www.azed.gov/early-childhood/files/2015/04/ed002552p.pdf>

Read On Arizona Resources:

Building Blocks, Developing a Thriving Reader: <http://readonarizona.org/wp-content/themes/read-on/PDF/continuum-bb-chart.pdf>

Continuum, Developing a Thriving Reader: <http://readonarizona.org/wp-content/themes/read-on/PDF/continuum-project-web.pdf>

Developing Thriving Readers from Early Years: A Continuum of Effective Literacy Practices: Available at <http://readonarizona.org/wp-content/themes/read-on/PDF/continuum-project-web.pdf>.

Early Literacy Guide for Families: <http://readonarizona.org/wp-content/uploads/2016/06/Read-On-Arizona-Early-Literacy-Guide-06-2016f.pdf>

Appendix B: Legislation

Arizona Revised Statutes (A.R.S.)

A.R.S §15-761: <http://www.azleg.state.az.us/ars/15/00761.html>

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: <http://www.azleg.gov/FormatDocument.asp?inDoc=/ars/15/00701.htm&Title=15&DocType=ARS>

A.R.S. §15-211 amending section 15-211, Arizona Revised Statutes; K-3 reading program: <http://www.azleg.gov/legtext/52leg/2r/bills/hb2653h.pdf>

A.R.S. §15-704 Move on When Reading Proficiency Definitions: <http://www.azleg.state.az.us/FormatDocument.asp?inDoc=/ars/15/00704.htm&Title=15&DocType=ARS>

Schools: Reading Assistance: Dyslexic Pupils: <http://www.azleg.gov/legtext/52leg/1r/bills/sb1461p.pdf>

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&oseppage=1

IDEA—Regulations Part C: <http://idea.ed.gov/part-c/downloads/IDEA-Regulations.pdf>

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

IDEA—Regulations Part B: <https://www2.ed.gov/policy/speced/reg/idea/part-b/idea-part-b-nprm.pdf>

Appendix C: References & Additional Web Links

- Adolescents and Adults with Dyslexia Fact Sheet, International Dyslexia Association (IDA): <https://dyslexiaida.org/adolescents-and-adults-with-dyslexia-fact-sheet/>
- AEM Navigator: <http://aem.cast.org/navigating/aemnavigator.html#.V8hvVvkrLhc>
- American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders (5th ed.)*. Arlington, VA: American Psychiatric Publishing.
- Bridging the Divide Between Medical and Educational Definitions: <http://ldnavigator.nclld.org/wpcontent/uploads/2013/05/LDDEFINEDBridgingtheDivideLDNnavigator.pdf>
- Carreker, S. (2008, September). *Is my child dyslexic?* The International Dyslexia Association. Retrieved from www.interdys.org.
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- Mather, N. & Wendling B. J. (2012). *The essentials of dyslexia assessment and intervention (vol. 89)* John Wiley & Sons.
- Moats, L. (2015). How spelling supports reading: And why it is more regular and predictable than you may think. http://www.ldonline.org/article/How_Spelling_Supports_Reading.
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- Moats, L. C. & Daken, K. E. (2007). *Basic facts about dyslexia and other reading problems*. The International Dyslexia Association.
- National Center on Accessible Educational Materials: <http://aem.cast.org/>
- National Center for Learning Disabilities: Available at <http://ld.org/>
- The National Center for Learning Disabilities. (2014). *The state of learning disabilities: Facts, trends and emerging issues (Third ed.)*. <http://ampiper.soc.northwestern.edu/NCLD-2014-State-of-LD.pdf>.
- National Reading Panel Report: <https://www.nichd.nih.gov/publications/pubs/nrp/documents/report.pdf>.
- Olson, R.K., Keenan, J.M., Byrne, B., & Samuelsson, S. (2014). Why do children differ in their development of reading and related skills? *Scientific Studies of Reading*, 18(1), 38–54.

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>.

Possible Classroom Accommodations for Specific Disabilities: Adapted from: How to get the best education for your chronically or seriously ill child. Phoenix Children's Hospital: http://www.raisingpecialkids.org/_media/uploaded/i/0e1834167_ieppossibleclassroomaccommodationsforspecificdifficulties.pdf

Raising Special Kids: Available at <http://www.raisingpecialkids.org/>.

Reading Rockets: Available at www.readingrockets.org.

Reading Rockets. Assistive technology for kids with learning disabilities: An overview: Available at <http://www.readingrockets.org/article/assistive-technology-kids-learning-disabilities-overview>

Shaywitz, S. (2003). *Overcoming dyslexia: A new and complete science-based program for reading problems at any level*. New York, NY: Alfred A. Knopf.

Tunmer, W., & Greaney, K. (2010). Defining dyslexia. *Journal of Learning Disabilities*, 43(3), 229–243.

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/>