Literacy unlocks a world of possibilities for children. It allows them to experience the excitement of flying using the power of their imagination, to visit far-off lands, and to learn how our vast universe works. It truly is a lifelong gift that every child should receive. While reading comes naturally for a few children, most children must be directly taught how to transform printed words to spoken words to access meaning, allowing them to understand what they read. Children also need purposeful opportunities to practice reading along the way to achieving literacy.

For children with dyslexia, reading represents a serious challenge. Dyslexia is a multifactor, complex condition that hinders a child’s ability to read words accurately, to read text fluently, and to spell. Research indicates that multiple genes impact the development of the brains of individuals with dyslexia, influencing how they process language.

Yet, there is no blood test, brain scan, or genetic test to determine if a child is struggling to read as the result of dyslexia. Instead, dyslexia is identified based on core characteristics. A clear, concise, research-informed definition of dyslexia can aid in these efforts. Currently there is a national dialogue on reconsidering the definition. Read more about the center’s contribution to this dialogue in this issue of the Dyslexia MT newsletter.

Together, we can make the gift of literacy a reality for all children.
Reconsidering the Definition of Dyslexia

It has been over 15 years since the International Dyslexia Association (IDA) and the U.S. National Institute of Child Health and Human Development adopted a research-based consensus definition of dyslexia. Since that time, the definition has been written into law in numerous states across the nation, including Tennessee. The Center’s first Chair of Excellence in Dyslexic Studies, Dr. Diane Sawyer, was involved in developing this definition. She knew, as did others, that it would need to be reconsidered and updated based on continuing advancements in the scientific understanding of literacy and dyslexia. Progress indeed has been made in these areas since the adoption of the definition.

The current Chair of Excellence in Dyslexic Studies, Tim Odegard, was asked to serve as the theme editor for the Winter 2019 issue of the International Dyslexia Association’s journal, Perspectives on Language and Literacy. Contributors to this issue, including Odegard, addressed the implications of advancements in the research on the different components of the definition of dyslexia.

One of the main implications that emerged was a need to more clearly state the core behavioral characteristics of dyslexia in order to support identification efforts. For school-aged children, dyslexia manifests as inaccurate word reading, dysfluent text reading, and inaccurate spelling coupled with a slow response to reading instruction. These are the core behaviors that define dyslexia, and we should be helping educators identify them. Other factors are informative, as well, but they are more important when identifying children at risk for future reading struggles before they would be expected to be able to read, such as in preschool or kindergarten.

Early efforts can prevent children from experiencing long-term reading struggles. Not all children identified...
DYSLEXIA

MTSU’s Literacy Studies Ph.D. program hosted its seventh annual Literacy Research Conference on Feb. 16, 2019. Seven members of the center’s research laboratory joined researchers and educators from Tennessee and beyond to share their current research. One session featured the center’s research on the identification of students with characteristics of dyslexia within a Response to Instruction and Intervention (RTI²) framework.

Tamera Hutchings, a doctoral student in the Literacy Studies Ph.D. program and center research assistant, examined the literacy skills of children from across the state who have been tested at the center. Almost half of these children had not been identified as struggling readers by the RTI² procedures used in their schools, but their testing completed at the center demonstrated them to be well below grade-level expectations in their abilities to accurately read words, read text fluently, and spell. Their literacy skills do correspond to the core deficits characteristic of dyslexia. Additionally, their literacy skills were comparable to other children tested at the center who had been identified through the RTI² process as requiring additional instruction in reading in Tier 2, Tier 3, or special education.

Of the children tested at the center who were not identified as struggling readers by their schools, 90% performed well below benchmark on a free, five-minute measure of oral reading fluency.

Recent Findings

Results Presented During Literacy Research Conference

The science is clear. We can find all children at risk of reading failure and provide the instruction they need to achieve literacy.

Almost half had not been identified as struggling readers by the schools, but testing at the center showed them to be well below grade-level expectations.
In Focus:

Dyslexia Identification Terminology

Parents and educators often grapple with the alphabet soup of terms used in identification of characteristics of dyslexia (e.g., IEP, SLD, 504, RTI², S-team). The complexity of the processes in place for identification contributes to the confusion. Parents often report being told that the school doesn’t provide a diagnosis of dyslexia. That’s true, but it’s misleading. The term “diagnosis” is problematic. A team of school personnel and parents (i.e., IEP teams) is empowered to identify -- not diagnose -- specific learning disabilities (SLD), including those in basic reading and reading fluency. An identification of SLD in one of these areas is equivalent to an identification of dyslexia, even if dyslexia is not clearly referenced on the IEP document.

The introduction of the Response to Instruction and Intervention (RTI²) framework as a way to identify dyslexia and provide instruction and intervention added another layer of complexity. RTI² teams can identify students with characteristics of dyslexia through screening measures performed as part of the RTI² process. Students may receive intervention for characteristics of dyslexia within the Tier 2 and Tier 3 settings without a formal documentation of SLD.

Dyslexia occurs on a continuum of severity of difficulty acquiring reading skills. As a result, students with varying difficulties require different levels of support and intervention within the tiered levels of instructional support (i.e., Tier 2 or Tier 3) and special education to remediate their deficits in word reading, decoding, spelling, and fluency.

While the associated terminology for these different levels of both documentation and support may create confusion, ultimately, the terms we use are less important than providing the student with appropriate intervention.

Be sure to read “Dyslexia Legislation in Tennessee” and “Resources Online: mtsu.edu/dyslexia” in this issue of Dyslexia MT.

Dyslexia Defined

Dyslexia is a specific learning disability that is neurobiological 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.

Adopted by the Board of the International Dyslexia Association on November 12, 2002. This definition is also used by the National Institute of Child Health and Human Development (NICHD)
The term “specific learning disorder” is a clinical term and does represent a diagnosis. A diagnosis of “specific learning disorder” is not required in order to identify characteristics of dyslexia, nor is it required in order for a student to receive services.

- Inaccurate word reading
- Dysfluent text reading
- Inaccurate spelling
- Slow response to reading instruction

A “diagnosis” of dyslexia is not required for a child to receive services in school. IEP teams are empowered to identify specific learning disabilities, and dyslexia is included within the IDEA definition of specific learning disability.

Students with characteristics of dyslexia are found in every instructional tier. All students should receive evidence-based comprehensive literacy instruction through Tier 1. Students who require additional intervention should receive additional focused instruction within Tier 2 or Tier 3. Students who do not respond to tiered intervention may be eligible for special education services.

A 504 plan provides equal access to students with disabilities. It outlines services and accommodations a student may receive in the general education setting.

Tier 2 or Tier 3
Students with characteristics of dyslexia may receive intervention within Tier 2 or Tier 3 settings. If a student does not respond to tiered intervention, special education evaluation may be appropriate.

Dyslexia is one type of Specific Learning Disability (SLD). Dyslexia occurs along a continuum of difficulty with acquiring reading skills.

An Individualized Educational Program (IEP) establishes goals, services, and accommodations a student is to receive through special education. The terms

- SLD in Basic Reading
- SLD in Reading Fluency

are synonymous with dyslexia.
In Focus:

Dyslexia Legislation in Tennessee

Tennessee’s state legislature passed two bills into law in an attempt to raise awareness about dyslexia, to assist in its identification, and to help make sure that children in our public schools who exhibit characteristics of dyslexia receive appropriate instruction to address their educational needs.

The 2014 “Dyslexia is Real” law (HB1735/SB2002) recognized the International Dyslexia Association’s research-based definition of dyslexia. This definition indicates that dyslexia is neurobiological in nature and is characterized by these core behaviors: inaccurate word reading, dysfluent text reading, and inaccurate spelling. This definition also clearly states that these children exhibit a slow response to instruction.

The 2016 “Say Dyslexia” law (HB2616/SB2635) requires the Tennessee Department of Education to develop procedures for identifying students who exhibit the characteristics of dyslexia through the universal screening process as part of the existing Response to Instruction and Intervention (RTI²) framework, and specified skill areas that should be screened.

Schools are also required to analyze student screening and progress monitoring data through a school-based problem-solving team. This team provides guidance regarding instruction, intervention, accommodations, and assistive technology. To aid educators in doing so, this law requires the state Department of Education to provide educators with professional development resources on dyslexia identification and intervention methods.

The 2016 law requires schools to provide “appropriate tiered dyslexia-specific intervention” for students with characteristics of dyslexia, to monitor student progress, to notify parents of identified students, and to provide parents with resources on dyslexia.

Additional requirements in the laws:

Higher Education

The 2014 “Dyslexia is Real” legislation requires the Tennessee Department of Education to collaborate with institutions of higher education “to formally address dyslexia and similar reading disorders by providing K-12 educators web-based or in-person training in the provision of effective instruction for teaching students with dyslexia using appropriate scientific research and intervention methods and strategies.” The higher education institutions were required to report to the state legislature by March 1, 2015, regarding how reading disorders such as dyslexia are being addressed in their pre-service teacher training programs.

Dyslexia Advisory Council

The 2016 “Say Dyslexia” bill requires the formation of a Dyslexia Advisory Council to provide guidance to the Tennessee Department of Education in these efforts. This group is required to prepare an annual report to be submitted to the Senate Education Committee and the Education Instruction and Programs Committee of the House of Representatives to include the number of students screened and provided with dyslexia intervention.

Updates:

Erin Alexander, the center’s assistant director for clinical services, is an appointed member of the Dyslexia Advisory Council. The 2016–17 and 2018–19 Dyslexia Advisory Council reports are available at the Tennessee Department of Education’s Dyslexia Advisory Council website, tn.gov/education/student-support/special-education/dyslexia-advisory-council.html.
Resources Online: mtsu.edu/dyslexia

**Calendar of Events** includes information on:
- Conferences hosted on campus in October, March, and June. These one- or two-day events feature nationally known experts on topics related to literacy.
- The Dyslexia Success Series workshops. These three-hour sessions are presented on select Saturdays during the school year by center staff.

Certificates of attendance for professional development hours are provided for workshops and conferences presented by the Tennessee Center for the Study and Treatment of Dyslexia.

**Teacher Training** provides detailed information on professional development workshops available for schools and school systems. Recently updated, workshops provide extended depth of knowledge and instructional strategies on topics including:

- Trouble with Words: an Overview of Dyslexia
- School-based Identification of Characteristics of Dyslexia
- Essential Components of Effective Reading Instruction
- Three Layers of Decoding: Understanding Phonemes, Syllables, and Morphemes
- It’s Not Just What You Teach, But How You Teach It: Strategies to Maximize your Small Group Reading Instruction
- Teaching Handwriting: Automaticity in Support of Reading and Spelling
- Intensive Intervention for Students with Characteristics of Dyslexia
- Using Assessment Data to Inform Intervention Instruction

**Educator and Parent Resources** includes documents on identification and intervention, as well as lesson frames useful for educators providing differentiated instruction to students with characteristics of dyslexia in the early grades. Developed by center staff, these materials may be downloaded at no cost:

- Dyslexia within RTI (ebook)
- Student Literacy Profile
- Tier 2 Phonological Awareness Lesson Frame
- Tier 2 Letter Knowledge and Phonics Lesson Frame
- Tier 2 Decoding and Spelling Lesson Frame
- Tier 2 Fluency Lesson Frame
- Characteristics of Dyslexia
- Accommodations for Dyslexia
- School-based Identification of Dyslexia
- Foundational Reading Skills
- How Dyslexia Fits within a Current IEP for Reading
- School-based Identification of Characteristics of Dyslexia: A Parent Overview

Some of our documents have been updated since their first release. Those documents have a version number at the bottom of each page. Be sure to check online to see if you are using the current version.
What Is Phonemic Awareness?

*Phon* is a Greek combining form that refers to the voice, or spoken sound. Literacy knowledge includes many words derived from this root, including phonology (the study of speech sounds), phonological awareness (the sensitivity to sounds in spoken language), phonics (an instructional approach that teaches letter sound-symbol associations), and phoneme (the smallest unit of sound within a word that differentiates one word from another).

*Phonemic awareness* is the sensitivity to and manipulation of those smallest speech sounds. Children typically develop “an ear” for words and rhyming sounds before kindergarten. Children further develop their ability to recognize syllables and onset-rimes in kindergarten and first grade. Most students can recognize and manipulate individual phonemes in single-syllable words by first grade. Many students who struggle with reading development have a weakness with phonemic awareness. This skill is essential for decoding and spelling. When presented with an unknown written word, a student needs phonemic awareness to segment the word, match the spoken sound to each letter or letter combinations in the word, and blend them back together. For spelling, students need to segment each phoneme heard in the word and then map them onto the letter or letters that represent each sound.

Phonemic awareness and manipulation skills can be assessed and taught in the early grades to support future reading and writing success. For older struggling readers who exhibit a weakness with this skill, integrating phonemic awareness instruction using blending and segmenting with decoding and spelling intervention will also positively support their word reading, which in turn bolsters fluency, which supports improved text comprehension.

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**Hierarchical Structure of Phonology**

<table>
<thead>
<tr>
<th>SENTENCE</th>
<th>A sentence is made up of discrete words</th>
</tr>
</thead>
<tbody>
<tr>
<td>WORDS</td>
<td>Words are composed of syllables</td>
</tr>
<tr>
<td>SYLLABLES</td>
<td>A syllable often has an onset phoneme and rime</td>
</tr>
<tr>
<td>RIME</td>
<td>Within a syllable it is the vowel sound and any consonant sounds that follow it</td>
</tr>
<tr>
<td>PHONEME</td>
<td>Smallest unit of sound within spoken language that if changed, changes the word</td>
</tr>
</tbody>
</table>

Babies and toddlers first learn to distinguish word boundaries within spoken language then become sensitized to syllable segments in words (through nursery rhymes and songs, for example). More sophisticated phonological awareness occurs with the ability to segment the onset of words (the beginning consonant sound of consonant blend in a syllable) from the rime. The goal is to further refine this awareness to recognition of each individual phoneme within a word.
Tools for Educators

Phonological Awareness Lesson Instruction Guide

The Phonological Awareness Lesson Instruction Guide was developed by center staff as a resource to support educators with their efforts to provide direct, explicit instruction for students struggling with this essential literacy skill. The guide is intended as an example of Tier 2 or 3 intervention for students in kindergarten and first grade.

**Instructional Target:** blend and segment individual phonemes in single-syllable spoken words.

The lesson format follows Structured Literacy™ principles of direct, explicit, systematic, and diagnostic instruction. After the student’s specific phonological awareness weaknesses have been identified through assessment, plan instruction to systematically build those skills using the structured sequence outlined. See Step 4 of the "Planning" section for examples of resources to use for each step of the lesson. As with all foundational sub-skills necessary for the structured sequence outlined, the ultimate goal is to build accuracy and automaticity in support of independent text comprehension.

**Version 2 of the Phonological Awareness Lesson Instruction Guide, updated in January 2018,** includes a detailed lesson as an example and a planning section with resources for additional lessons. You can download a copy from the Educator and Parent Resources section of our website at mtsu.edu/dyslexia/publications.php.

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**Phonological Awareness Lesson Instruction Guide**

**Goal:** Blend and segment individual phonemes in single-syllable spoken words.

**SubSkill Focus:**

**Student:**

**Instructor:**

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**Time Activity** | **Instruction (with example activities)** | **Materials**
---|---|---
Review | Review learned skill to be reinforced | word lists, narrow focus poems, books
Sound Matching | Practice sorting by sounds | word lists with target sounds, picture cards, objects to sort
Sound Blending | Practice blending individual sounds into words | word lists with target sounds, manipulations ( markers, blocks, etc. )
Sound Segmentation | Practice segmenting words | word lists with target sounds, manipulations ( markers, blocks, etc. )

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**Planning**

**Step 1** Identify skill targeted for review and reinforcement based on assessment data and observation.

**Step 2** Identify specific subskills for the lesson based on assessment data and observation.

**Step 3** Identify specific skill for blending and segmenting based on assessment data and observation.

**Step 4** Select and prepare materials. Example resources: Florida Center for Reading Research, Phonological Awareness literacy licensing (PhAL) activities, Institute of Education Sciences (IES) practice guides.

**Step 5** Progress monitor student to determine resources through the sequence of instruction until goal is met. Look for changes in comprehension and performance.
**Center News**

**Service to the State**

Dr. Melinda Hirschmann, Assistant Director for Educational Services and School Outreach, serves on the board of directors for the Tennessee Branch of the International Dyslexia Association (TN IDA). Hirschmann presented a hands-on demonstration of Structured Literacy™ instruction at TN IDA’s annual reading conference April 6, 2019.

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**Recent State, Regional, National, and International Conference Presentations**

"Understanding Developmental Dyslexia" presented by Timothy N. Odegard at the Texas Dyslexia Summit, Texas Scottish Rite Hospital for Children, Dallas, Texas, January 26, 2019

"Unraveling the Puzzle of Dyslexia" presented by Timothy N. Odegard at the Southern Association of Independent Schools Academic Support Conference, Franklin, Tennessee, January 28, 2019

Presentations at the seventh annual Literacy Research Conference hosted by MTSU's Literacy Studies Ph.D. program on February 16, 2019:

- "A Cross-Sectional Study of Polysyllabic Polymorphemic Word Reading in Children and Adults" presented by Center for Dyslexia research affiliates Conrad M. Landis and Stuart E. Bernstein
- "Analysis of Diagnostic Information Provided by Published Tests of Decoding and Word Reading" presented by Jessica Dainty, Tamera Hutchings, Emily A. Farris, and Timothy N. Odegard
- "Early Warning System’s Predictive Value for Intervention Identification of Struggling Secondary Readers" presented by Shonna Donovan Phelps, Tamera Hutchings, Emily A. Farris, and Timothy N. Odegard
- "Evaluating the Impact of Dyslexia Laws on the Identification of Specific Learning Disability and Dyslexia” presented by Anne Phillips and Timothy N. Odegard
- "Identification of Reading Disabilities: Implications from Research” presented by Timothy N. Odegard
- "Reading Profiles of Students in Response to Intervention (RTI2) and Special Education” presented by Tamera Hutchings, Shonna Donovan Phelps, Emily A. Farris, and Timothy N. Odegard
- "The Contribution of Morphological Awareness to Literacy-Based Resiliency in College Students” presented by Theodore Cristan II, Stuart E. Bernstein, Emily A. Farris, and Timothy N. Odegard

"The Student Literacy Profile" presented by Erin Alexander at the Region 16 Education Service Center, Amarillo, Texas, on March 27, 2019.
Welcome Back!

We recently had the opportunity to welcome back Scott Austin. Scott first came to the center a decade ago when he was a struggling middle school student. At that time, he spent a day at the center completing assessments designed to determine patterns of strengths and weaknesses in basic reading skills, spelling, reading fluency, oral comprehension, reading comprehension, and phonological processing. From the results, the center’s experts identified Scott with characteristics of dyslexia and prepared a report with recommendations for interventions and accommodations. As is often the case, that was the only interaction we had with Scott; we did not know how or even if his school implemented our recommendations. That is, we did not know until recently when Scott made a return visit to the center.

We learned that he did receive support in school and he is well on his way to success — today he is a junior majoring in organizational communication in MTSU’s Department of Communication Studies. During his visit, Scott shared his gratitude for the support he received in school as a result of the services provided by the center. We are thrilled to learn about his success and very much appreciate his return visit. Our congratulations go out to Scott, his family, and the educators who supported him. Thanks for sharing your story, Scott!

You can read more about Scott’s success story at mtsunews.com/austin-dyslexia-center-spr2019/.

Dyslexia: Fact and Fiction

<table>
<thead>
<tr>
<th>FICTION</th>
<th>FACT</th>
</tr>
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<tbody>
<tr>
<td><img src="image" alt="People with dyslexia see words backwards." /></td>
<td>Dyslexia is not a vision problem. It is the result of difficulty processing language.</td>
</tr>
<tr>
<td><img src="image" alt="Dyslexia is a problem with intelligence." /></td>
<td>People with dyslexia are just as intelligent as people without dyslexia.</td>
</tr>
<tr>
<td><img src="image" alt="If a young student lags behind peers in reading, given time, the student will eventually catch up." /></td>
<td>Early intervention is critical to help the student catch up to peers and reduces the risk of the student falling even further behind.</td>
</tr>
<tr>
<td><img src="image" alt="Letter reversals are the primary indicator that a person has dyslexia." /></td>
<td>Some people with dyslexia reverse letters, but not all. Letter reversals are considered normal for young children learning to read and write.</td>
</tr>
</tbody>
</table>
Workshops and Conferences

Registration Is Now Open for:

June 10, 2019
Liven Up your Students’ Writing! Word, Sentence, and “Micro-Discourse” Strategies to Support Struggling Writers presented by: Dr. Charles Haynes

Reading comprehension is complex and multi-dimensional. Designing and delivering effective instruction requires an understanding of the contributions of language and cognitive processes to the construction of meaning. This session will present a blueprint, a master plan, for acquiring and accessing these essential skills. Participants will explore why and how to use evidence-informed strategies for developing vocabulary knowledge, sentence comprehension, use of text structure, background knowledge, and inference making.

For teachers who support K–6 students in general ed, special ed, and ELL settings, as well as 7th–12th grade struggling writers in Tier 3 setting
6 hours professional development
$140 registration fee includes book, handouts, lunch, and parking

Coming Soon
We are excited to announce we are developing and testing the efficacy of a six-week word reading and spelling intervention as part of an ongoing research study. Once validated, the intervention will be made available as an open-access resource to educators. While this resource will not meet the needs of all children with dyslexia, it is important for the center to be a clearinghouse for empirically validated methods for use with students with characteristics of dyslexia.

Additional online resources are also in development. Be on the lookout for updates about these resources in the future.

The National Center on Improving Literacy recently published a whitepaper titled Screening for Dyslexia. This document shares valid and reliable research-informed information that complements the center’s resources. It is available on their website, improvingliteracy.org/whitepaper/screening-dyslexia.