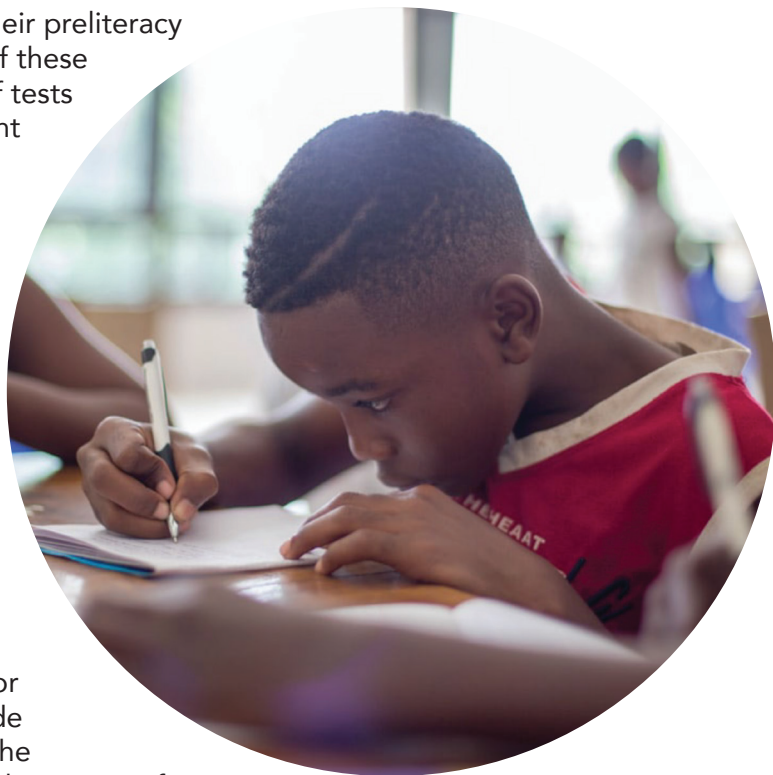


Characteristics of Dyslexia: Meeting the Challenge of Identification

A fundamental challenge facing us all is meeting the needs of children who struggle to read. The struggles of these children vary and have diverse causes. Yet, what does not vary is the progression of skills and sources of knowledge needed to become proficient at comprehending written language—in other words, reading. Unfortunately, the majority of the children in the nation are not proficient readers, and sadly this is also the case in Tennessee.

To address this challenge, schools across the nation screen all children for their preliteracy and reading abilities. As part of these efforts, children complete brief tests to obtain a snapshot of different areas of literacy. These brief tests act like a “check engine light,” letting educators and parents know when there is a need to perform additional diagnostics to obtain a more complete profile of a child’s reading abilities. One well-documented profile is that of a child at risk for dyslexia, and screening requirements are part of dyslexia legislation being implemented across the nation. Here in Tennessee, the state’s 2016 dyslexia law requires all schools to screen for characteristics of dyslexia. Inside this issue you will learn about the characteristics of dyslexia and the nature of screening efforts that support the identification of struggling readers and the differentiation of reading profiles. ■



contents

- research matters and recent findings
- in-focus: dyslexia screening and evaluation in Tennessee schools
- instruction matters and tools for educators
- center news
- events

Research Matters

Undergraduates Receive Grants to Investigate Brain Activity

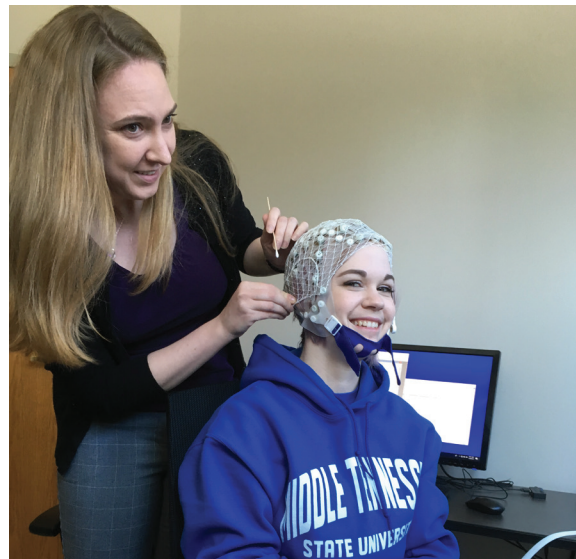
Psychology majors Kaitlyn Berry and Robyn Sessler received Undergraduate Research Experience and Creative Activity (URECA) awards to collect electroencephalogram (EEG) data. Berry is investigating evoked-response potentials. During the EEG task, graphemes (letters) are paired with phonemes (letter sounds) to create pairs that vary in the extent to which they occur in English. She will examine the neural signals associated with multisensory integration to see how they relate to individual differences in reading. Sessler is investigating intrinsic patterns of connectivity at rest. Her project examines the relationship between individual differences in reading and the pattern of

EEG signals detected when a person is simply sitting still.

These projects enable center personnel to support student training as part of the MTSU community. Additionally, they will be used to test the efficacy of a six-week word reading and spelling intervention program we are developing. Throughout the upcoming academic year, first- and second-grade struggling readers from the local area will be recruited to complete EEG tasks and have their reading skills assessed in order to determine if they are eligible to participate in the intervention study occurring during summer 2020. ■



Anna Middleton (l), center research affiliate and research scientist at the Luke Waites Center for Dyslexia and Learning Disorders at Texas Scottish Rite Hospital for Children in Dallas Texas (left), and Emily Farris (r) adjust the EEG cap worn by undergraduate research assistant Kaitlyn Berry as they test out the EEG system.



Farris ensures the EEG cap has been securely placed on the head of undergraduate research student Robyn Sessler who is excited to be one of the first pilot participants with the new EEG system.

Recent Findings

Supporting Teachers of Struggling Readers

Our nation faces a very real and pressing challenge. Not all children easily develop the capacity to read proficiently, with some of them struggling as a result of dyslexia. One avenue to address concerns and alleviate fears about the welfare of children who struggle to learn to read is to find ways to better support educators through teacher training initiatives. In support of these efforts, the center actively engages in research that explores the efficacy of different approaches to teacher training.

As we continue to strive as a state and nation to ensure that all children are able to read, states and professional organizations continue to develop and support mechanisms to empower teachers to better meet the needs of all students, including those who require intensive reading interventions. For example, there are (1) guidelines, such as the Knowledge and Practice Standards from the International Dyslexia Association; (2) training courses, such as those accredited by the International Multisensory Structured Language Education Council (IMSLEC); and (3) certification processes, such as the completion of hundreds of hours of coursework,

practicum experiences, and passing a national exam to earn the designation of Certified Academic Language Therapist (CALT) through the Academic Language Therapy Association. At their core, these efforts attempt to enable educators to gain a deeper understanding of the structure of the English language and the ability to refine the practical skills needed to provide direct reading instruction. A next step is to examine whether these opportunities bring about intended changes in teacher's knowledge. Promising findings are emerging as illustrated in a recent empirical article in the *Annals of Dyslexia* co-authored by Tim Odegard.

This recently published study undertaken by the center included K–12 licensed educators from across the United States. The educators varied in whether they had begun a specialized reading or structured literacy training, how far along they were in such multi-year training courses, and whether they had completed the extended practicum and passed the national exam to complete the CALT certification. Those educators who not only completed an entire two-year specialized course, but who also had completed

a sustained (700-hour) practicum experience and passed a separate national exam, had the best performance on the measure of knowledge of literacy constructs used in the study. On average they answered 70%–90% of the questions about phonological awareness, phonemic awareness, encoding, and morphology correctly. This finding is not surprising given the extent, depth, and sustained practice that goes into earning such an advanced certification. Further, the practicum experience required the educators to strictly adhere to the procedural fidelity of the instructional programs they were learning to implement.

The results of this study and ongoing research continue to highlight several key characteristics of effective teacher training. Effective teacher training initiatives are intended to help teachers further strengthen their knowledge of content areas, gain an understanding of instructional techniques, and support their efforts to differentiate instruction for diverse learners. The center will continue to test the efficacy of various approaches to support teachers as they refine their knowledge and practice in these critical areas. ■

In Focus:

Dyslexia Screening and Evaluation in Tennessee schools

Many states, including Tennessee, now have laws requiring schools to screen students for dyslexia. In states like Tennessee whose public schools use a Response to Instruction and Intervention (RTI²) framework, universal screening is an efficient way to determine which students are at risk of future reading problems. Within this framework, all students must be provided with high-quality core (i.e., Tier 1) reading instruction. All students are typically screened three times a year using a skills-based measure of reading that is developmentally appropriate for their grade level. For example, kindergarten students may be screened on phonological awareness

(i.e., their ability to recognize sounds within spoken words) or their letter knowledge because these are highly predictive

“ **Parents may request a screening for characteristics of dyslexia OR a special education evaluation for a specific learning disability (SLD). Dyslexia is one type of SLD.**

of later reading success. Older students may be given a brief reading comprehension test or may be asked to read a grade-level passage to measure their oral reading

fluency. Students who perform below grade level expectations on one of these measures will require further testing to determine if they have not mastered earlier skills, such as word reading or decoding (i.e., sounding out words).

Screening tools are very brief measures of a particular skill that highly predict a future outcome. Students who perform well below grade level expectations (i.e., below the 25th percentile) on the screening tool are not likely to reach the next goal without intensive instructional support. Identifying students early allows educators to provide intervention as soon as possible to prevent early

. . . *continued on page 6*

TENNESSEE DEPARTMENT OF EDUCATION

Recommended Reading Intervention Times (Minutes per Day)

	Kindergarten	Grades 1–3	Grades 3–5	Grades 6–8	Grades 9–12
Tier 2	30	30	30	30	30
Tier 3	40–45	40–60	45–60	45–60	45–60

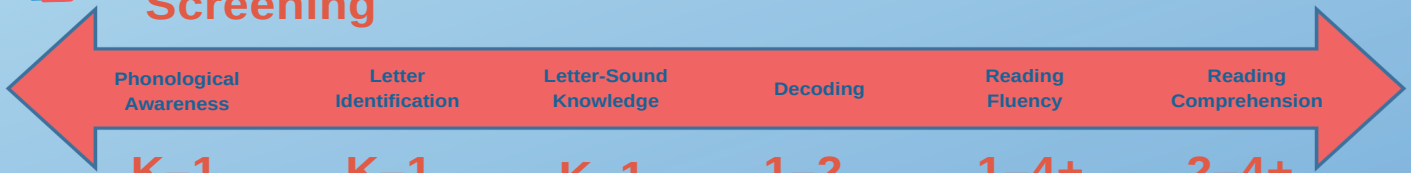
Source: TN Department of Education (n.d.) tn.gov/content/dam/tn/education/special-education/rti/rti2_manual.pdf

IDENTIFICATION OF CHARACTERISTICS OF DYSLEXIA WITHIN RTI



Tier 1 Universal Screening

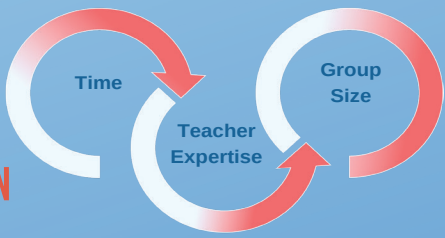
All students receive a developmentally appropriate skills-based screening of reading.



Students scoring below the 25th percentile receive a closer look at skills deficits followed by targeted intervention in Tier 2 or 3.



INCREASING INTENSITY OF INTERVENTION



In Tennessee, the school notifies parents that their child may have characteristics of dyslexia. If characteristics of dyslexia are present, the student receives a dyslexia specific intervention.



Student progress in tiered intervention is measured regularly. If the student is not making adequate progress, the intensity of the intervention is increased. Continued lack of response indicates further evaluation is needed.



Parents may request a special education evaluation at any time, if a specific learning disability, such as dyslexia, is suspected. The RTI process may not be used to delay an evaluation.

In Focus:

Dyslexia Screening and Evaluation, *continued from page 4*

reading problems from worsening over time.

Tennessee’s “Say Dyslexia” law requires all schools to screen for dyslexia characteristics through the RTI² framework. Screening also may be requested by the parent or by school personnel. Identified students must receive a “dyslexia-specific intervention.” Parents must be notified and provided with resources on dyslexia. Characteristics of dyslexia occur on a continuum of severity. Thus, students may receive the dyslexia-specific intervention in a Tier 2 or Tier 3 setting through general education or through special education services. Progress is monitored regularly to determine intervention effectiveness. If a student is not making adequate progress in Tier 2, he is to receive a more intensive Tier 3 intervention. Intervention may be intensified by increasing the time spent in intervention, or by placing

the student in a smaller group or with a teacher with more expertise.

For many students, Tier 2 or Tier 3 intervention is enough to meet their needs. However, students who show slow response to this intervention may need a more comprehensive evaluation to determine if they would meet criteria for a specific learning disability and require special education services. If a disability is suspected, parents have the legal right to request an evaluation at any point in the RTI process. RTI cannot be used to delay an evaluation.¹

Dyslexia is a specific learning disability in the area of basic reading skills or reading fluency. It is characterized primarily by poor word reading and spelling skills as well as by slow response to reading instruction that research has consistently shown to be effective. There are many reasons why a student may perform below grade level

in reading. When a school identifies a student with characteristics of dyslexia, this means that he or she is struggling with accurate or fluent reading skills or with spelling. Not all students identified with dyslexia characteristics will have dyslexia. Some may have a different disability or their difficulties may be primarily due to environmental or other factors, which would be examined as part of a comprehensive evaluation. Screening is necessary to identify students who display characteristics of dyslexia so schools may provide intervention as soon as possible. The student’s response to this intervention is what allows schools to determine if the child has a specific learning disability such as dyslexia. Regardless of the reason for the student’s difficulties, intervention is necessary for all students who display characteristics of dyslexia in order to give them the best opportunities to become successful readers. ■

¹ Source: U.S. Department of Education (2011): ed.gov/policy/speced/guid/idea/memosdcltrs/osep11-07rtimemo.pdf

2019–20 Dyslexia Success Series

Building Strong Foundations: K–1 Literacy Screening, Instruction, and Intervention

This Dyslexia Success Series will focus on identifying and instructing students in **kindergarten and first grade** who are at risk for or demonstrate characteristics of dyslexia. These sessions are integrated, with knowledge and skills building from the first workshop in September to the last one in February. A discount will be offered for registration for the full series, although you may sign up for single sessions as well.

These workshops are geared toward education professionals such as core reading teachers, RTI interventionists, special educators, school psychologists, speech-language pathologists, coaches, and administrators. Certificates of attendance will be given to support professional development credit. Parents are also welcome to attend.

All workshops will be held at 9:30 a.m.–12:30 p.m. on campus at MTSU. Light refreshments and water will be available.

Cost: series \$130; session \$25

Sept. 7, 2019

Screening for Reading Difficulties in the Early Grades

Screening kindergarten and first-grade students for potential reading difficulties allows for early intervention and an increased likelihood of better learning outcomes over time. This ensures that all students have the foundational skills needed to support their literacy development.

Oct. 5, 2019

Using Assessment Data to Identify Needs and Plan for Instruction

Screening not only indicates which children need intervention, it also supports data-based decisions for instruction. This practice should be considered a necessary next step in the screening process in order to plan appropriate, targeted instruction.

Nov. 2, 2019

The Sounds of Language: Phonological Awareness Instruction

Phonological awareness is critical for learning to read and spell in our alphabetic written language system. Direct instruction in phonological awareness in Pre-K through first grades provides substantial benefits for reading and spelling. Many struggling readers have a phonological processing weakness.

Dec. 7, 2019

The Symbols of Written Language: Letter Knowledge Instruction

Combining phonological awareness instruction with letter knowledge promotes proficiency with early decoding and spelling. Students need to become both accurate and automatic with letter naming and letter writing in support of their literacy development.

Jan. 25, 2020

Sound-Symbol Correspondence: Beginning Phonics Instruction

Students who have developed phonological awareness and letter knowledge have the foundations needed for understanding the alphabetic principal. This is the bridge to beginning phonics instruction.

Feb. 22, 2020

Vocabulary and Comprehension Instruction in the Early Grades

Comprehension is the goal of reading. Vocabulary and background knowledge support comprehension. At-risk students often need direct instruction to support growth in vocabulary and comprehension skills.

details and registration online in
the Calendar of Events

mtsu.edu/dyslexia

Instruction Matters

Mastery of the Alphabetic Principle Sets the Foundation for Reading Comprehension

Phonics instruction is the bridge between the sounds of language and the symbols that represent those sounds. As students become aware of the sounds of spoken language through phonological awareness instruction, they also need to learn the letters that represent those sounds in written language. Letter forms can vary by shape and sound, but their names are always consistent. Research has shown that children’s knowledge of letter names and their sounds is predictive of their future reading and spelling abilities.

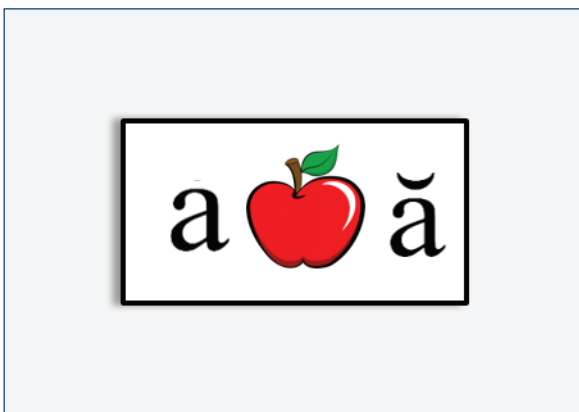
Early decoding is dependent on the alphabetic principle, the understanding of the relationship between letters and their sounds. Children

need lots of experience and practice with naming letters and learning the most frequent sounds they represent as they establish early, foundational reading skills. Children at risk for reading disabilities, such as dyslexia, need much more practice and many more repetitions with letter names and sounds to support retention in long-term memory.

All children benefit from direct, explicit instruction with letter-sound relationships, and it is vital for those children at risk of or with characteristics of dyslexia. Each letter-sound correspondence needs to be introduced in a logical sequence (starting with those that are high frequency and less complex), through the multimodal integration

of hearing the sound, seeing the letter, saying the sound, and writing the letter. Additionally, linking a keyword to the sound of the letter(s) serves as a mnemonic to support memory for reading and spelling.

Practice blending learned letter sounds together supports reading, and practice with segmentation supports spelling. The majority of students need plenty of practice with these skills at the word, syllable, and onset-rime levels before they are ready to practice with the individual sounds within words. Students with characteristics of dyslexia require even more of this practice. Mastery of these skills lays the foundation for independent reading comprehension. ■



A key word and picture are used in foundational reading instruction to emphasize a letter-sound association and to support students’ memory for that association.

Tools for Educators

Letter Knowledge and Phonics Instruction Guide

page 2

The **Letter Knowledge and Phonics Instruction Guide** is an example of a tiered intervention to support students who need additional practice learning letter-sound relationships, blending, and segmenting through direct, explicit, and systematic instruction. Based on assessment data, students are grouped according to their letter-sound knowledge and gaps. Previously learned letter sounds are reviewed and new correspondences are introduced systematically, moving from the less complex letter sounds (i.e., single letter-sound correspondences) to more complex (i.e., vowel diphthongs) over time as accuracy and automaticity develops. (See the helpful 4-step planning section on page 3 of the guide.) ■

Time/Activity	Instruction (with example activities)	Materials
Word Segmentation 3 min <input type="checkbox"/> consonants and short vowels in closed syllables <input type="checkbox"/> long vowels in open syllables <input type="checkbox"/> consonant digraphs in closed and open syllables <input type="checkbox"/> long vowels in silent syllables <input type="checkbox"/> vowel digraphs and diphthongs in syllables <input type="checkbox"/> r-controlled vowels in syllables	Segment words into individual sounds and match to letters. <ul style="list-style-type: none"> • Listen: Teacher says word slowly. • Say: Students repeat word and segment sounds. • Touch: Students select and touch correct letters as they segment, say the sound, and move each letter into a square of the Elkonin box. • Say: Students name letters, blend sounds, and read the word. 	alphabet letters Elkonin sound boxes word list
Word Chains <input type="checkbox"/> consonants and short vowels in closed syllables <input type="checkbox"/> consonant digraphs in closed syllables <input type="checkbox"/> long vowels in silent syllables	Manipulate initial, middle, and final phonemes. <ul style="list-style-type: none"> • Listen: Teacher reads word slowly. • Say: Students repeat the word and segment the sounds. • Touch: Students select and touch correct letters, say the sounds, and move each letter into a square of the Elkonin box. • Say: Students blend sounds together and read word. • Repeat steps using word chains to add or substitute sounds in 2-4 letter words. Emphasize sound position for each change. Example: This is coat. [c] [o] [t] [c] [o] [a] [t]. Change cog to ssoat (repeat through word chain). 	alphabet letters Elkonin sound boxes word chain list
Decodable Text/Comprehension 4 min	Supervised time reading aloud decodable, connected text. <ul style="list-style-type: none"> • Students read chorally, echo read, and/or individually read with immediate corrective feedback. • Students should be able to decode and read with at least 95% accuracy (miss no more than 1/20 words) for decodable text practice. • Teacher asks 2-3 strategic comprehension questions about the meaning of the text. 	decodable sentences decodable books

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page 1

Time/Activity	Instruction (with example activities)	Materials
Review 2 min	Review letter names and learned letter sounds. <ul style="list-style-type: none"> • Students touch and name each letter on alphabet strip. • Students name all learned letters, keywords, and sounds. 	alphabet strip letter cards keyword and sound cards
New Letter Sounds 4 min <input type="checkbox"/> single letter-sound correspondences for consonants and short vowel sounds <input type="checkbox"/> long vowel sounds <input type="checkbox"/> consonant digraphs <input type="checkbox"/> vowel digraphs <input type="checkbox"/> r-controlled vowels <input type="checkbox"/> diphthongs	Introduce new letter, keyword, and sound. <ul style="list-style-type: none"> • Listen: "What sounds do you hear that's the same in each of these words?" Say each word; students echo each word. • Say: What looks the same in the (initial, middle, or final position) of these words? Write words and guide students to discover pattern. • Acknowledge/prompt correct letter name and sound. Add keyword for the new sound and introduce to students with a one-sentence story that incorporates the target sound. Students repeat the letter name, keyword, and sound 3 times as they are shown the card for each. • Write: Model correct written letter formation. Provide guided prompts and practice sheets for students. Students name and write the letter. 	alphabet letters letter cards keyword and sound cards letter writing prompts (i.e., numbered arrow cues with verbal prompts as well) word list
Picture Sort 4 min <input type="checkbox"/> consonants in initial position <input type="checkbox"/> consonants in final position <input type="checkbox"/> short vowels in initial position <input type="checkbox"/> short vowels in middle position <input type="checkbox"/> long vowel sounds <input type="checkbox"/> consonant digraphs <input type="checkbox"/> vowel digraphs <input type="checkbox"/> r-controlled vowels <input type="checkbox"/> diphthongs	Sort pictures with target sound to their matching letter(s). <ul style="list-style-type: none"> • Select 2-3 target sounds to reinforce (i.e., short vowels [e], [i], [u] in middle position). • Teacher places letters (i.e., a, i, u) and keyword pictures (i.e., mat, fin, bus) as column headers and models matching the picture to the target letter-sound for 2-3 sounds. Say the name of the picture, isolate the target sound (initial, middle or final), emphasize the sound, and model matching to its letter name group. • Students take turns naming pictures, isolating the target sound, and matching the picture with its letter name group. Students work together as a group, then individually. 	letter cards keyword and sound cards picture sort cards

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page 3

Time/Activity	Instruction (with example activities)	Materials
Wide Reading/Listening Comprehension 4 min	Supervised time reading aloud / listening to connected text. <ul style="list-style-type: none"> • Students listen and/or share strategic reading with immediate, corrective feedback. • Texts should be at grade level expectation. • Teacher incorporates comprehension strategy such as vocabulary development, think aloud, K-W-L chart, and graphic organizers. • Teacher asks 2-3 strategic comprehension questions about the meaning of the text. 	Wide reading text/books
Closure 2 min	Review new learning. <ul style="list-style-type: none"> • Review letter name, sound, and key word for new letter(s). • Review written letter formation, then students trace and write a copy. • Give word or nonsense word and have student identify position of the target sound (initial, middle, final). 	letter cards keyword and sound cards target words letter writing prompts (i.e., numbered arrow cues with verbal prompts as well)

Planning

Step 1 Identify letters-sounds targeted for review and reinforcement based on assessment data and observation. Review

Step 2 Identify subskill and sequence of instruction with pacing based on student needs. New Letter Sounds

Step 3 Gather and prepare materials. Example resources: Florida Center for Reading Research (FCRR), West Virginia Phonics Lessons, Institute for Education Sciences (IES) practice guides. Picture Sort Word Segmentation Word Chains

Step 4 Progress monitor subskills to determine movement through the sequence of instruction until goal is met. Lack of sufficient progress over time may indicate a need to change intervention and/or tier placement.

Van.2.021218 Tennessee Center for the Study and Treatment of Dyslexia | Middle Tennessee State University Page 3 of 3

Center News

Service to the State

Erin Alexander, assistant director for clinical services, is a member of the Knox County Dyslexia Advisory Council that was formed in January. This council comprises a variety of stakeholders, including parents, schools, and community organizations. The council serves as a resource to Knox County Schools and to teacher preparation programs in Knox County and the surrounding area.

Recent

State, Regional, National, and International Conference Presentations

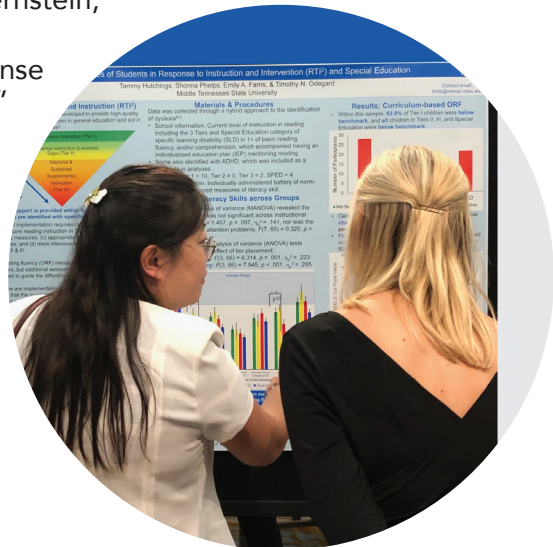
“Experiencing the Big 5 through Structured Literacy™,” co-presented by Melinda Hirschmann at the 17th annual Rise conference of the Tennessee branch of the International Dyslexia Association, Nashville, April 6, 2019

“Dyslexia and Related Reading Disabilities,” presented by Tim Odegard and Jennifer Flipse, 2019 General and Special Education Conference, San Diego, May 8–10, 2019

Presentations at the 26th annual meeting of the Society for the Scientific Study of Reading in Toronto, July 17–20, 2019:

- “Characterizing Treatment Response in a Sample of Children with Dyslexia,” presented by Anna Middleton, Emily A. Farris, Timothy N. Odegard, and Jeremiah Ring
- “The Contribution of Morphological Awareness to Literacy-Based Resiliency in College Students,” presented by Emily A. Farris, Theodore Cristan II, Stuart E. Bernstein, and Timothy N. Odegard
- “Reading Profiles of Students in Response to Intervention and Special Education,” poster presentation by Tamera Hutchings, Shonna Phelps, Emily A. Farris, and Timothy N. Odegard

Poster presentation by Tamera Hutchings, MTSU graduate student in the Literacy Studies Ph.D. program, at the 26th annual meeting of the Society for the Scientific Study of Reading in Toronto, July 17, 2019



Registration now open!



Tennessee Center for the
Study and Treatment of Dyslexia

MIDDLE TENNESSEE STATE UNIVERSITY

COMPREHENSION CONSTRUCTION ZONE

a Blueprint for Instruction

For K–8 educators and administrators
Friday, Oct. 25, 2019, 8:30 a.m.–3:30 p.m.

Designing and delivering informed instruction requires a knowledge of the multidimensional nature of comprehension and the language processes and skills necessary for constructing meaning. It is particularly important for working with at-risk students, including those with dyslexia.

This workshop will present a blueprint, a master plan, for helping students acquire and access 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.

This workshop continues our focus on Structured Literacy principles of direct, explicit, systematic, and diagnostic instruction.

Nancy Hennessy, M.Ed., LDT-C, is past president of the International Dyslexia Association and recipient of its Margaret Byrd Rawson Lifetime Achievement Award. She is an experienced teacher and administrator. Hennessy co-authored Module 6 of LETRS, *Digging for Meaning: Teaching Text Comprehension* (2nd edition) with Louisa Moats, and was a national trainer for Language Essentials for Teachers of Reading and Spelling (LETRS). As an educational consultant, she presents workshops and training courses to educators nationally and internationally.

MTSU's Ned McWherter Learning Resources Center
(LRC), Room 101

Coming Soon: Check our website for a live streaming option!

Registration fee: \$140, includes materials, parking, and lunch (for on-site attendees)

Register: mtsu.edu/dyslexia

MIDDLE
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STATE UNIVERSITY.

I AM *true* **BLUE**

Workshops and Conferences

Save the Date!
11.16.2019



**EMPOWERING PARENTS OF
STRUGGLING READERS**

A SPECIAL EVENT FOR PARENTS OF K-12 STUDENTS PRESENTED BY:



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