# SCREENING FOR RISK AND CHARACTERISTICS OF DYSLEXIA

#### Introduction

Screening students for risk of dyslexia in kindergarten enables early intervention to prevent reading difficulties from compounding. Screening students for characteristics of dyslexia in first grade and forward allows for targeted instructional support for student progress. The procedures and forms in this guide provide a structure for schools to organize assessment tools and conduct consistent, research-informed screening for identification of risk and characteristics of dyslexia for students in kindergarten through 8th grade.

Melinda Hirschmann Emily A. Farris Erin Alexander Jennifer Flipse Tim Odegard

Copyright © 2021, Middle Tennessee State University All rights reserved. Unless authorized in writing by Middle Tennessee State University, no part of this publication may be reproduced or used in any manner inconsistent with the Tennessee Center for Dyslexia copyright.

Correspondence about the use of any part of this publication should be directed to:

Middle Tennessee State University

Screening for Risk and Characteristics of Dyslexia

200 N. Baird Lane

Murfreesboro, TN 37132

dyslexia@mtsu.edu

0620-9089 / Middle Tennessee State University does not discriminate against students, employees, or applicants for admission or employment on the basis of race, color, religion, creed, national origin, sex, sexual orientation, gender identity/expression, disability, age, status as a protected veteran, genetic information, or any other legally protected class with respect to all employment, programs, and activities sponsored by MTSU. The Assistant to the President for Institutional Equity and Compliance has been designated to handle inquiries regarding the non-discrimination policies and can be reached at Cope Administration Building 116, 1301 East Main Street, Murfreesboro, TN 37132; Marian.Wilson@mtsu.edu; or 615-898-2185. The MTSU policy on non-discrimination can be found at mtsu.edu/iec.

#### About the Authors

#### Melinda Hirschmann, Ed.D., CALT

Melinda Hirschmann is Assistant Director for Educational Services and School Outreach at the Tennessee Center for the Study and Treatment of Dyslexia. Melinda collaborates with Tennessee schools to provide professional development for literacy instruction and intervention in grades K-12. She also instructs aspiring special education teachers as an adjunct professor at Middle Tennessee State University. She earned her Master of Education degree in Special Education from Tennessee State University and her Doctor of Education degree from Lipscomb University. She served adolescent struggling readers as a middle school special education reading interventionist for 10 years. Melinda is a Certified Academic Language Therapist and regularly tutors children using structured literacy instruction. She is a board member of the Tennessee branch of the International Dyslexia Association member of the Tennessee branch of the International Dyslexia Association where she has appreciated the collaborative work produced in support of screening students for characteristics of dyslexia.

#### **Emily Farris, Ph.D.**

Emily Farris is the Assistant Director for Educational Services and Research Initiatives at the Tennessee Center for the Study and Treatment of Dyslexia at Middle Tennessee State University. She co-leads many of the research activities within the laboratory and serves as adjunct graduate faculty. She completed her B.A. in psychology and M.A. in Clinical/Counseling Psychology from Midwestern State University, her Ph.D. in experimental psychology at the University of Texas Arlington, and her postdoctoral fellowship in psychiatry and neuroscience at the University of California San Francisco under the mentorship of Dr. Fumiko Hoeft.

#### Erin Alexander, Ed.S., NCSP, CALT

Erin Alexander is Assistant Director for Clinical Services at the Tennessee Center for the Study and Treatment of Dyslexia at Middle Tennessee State University. She trains and supervises graduate assistants who conduct assessments at the center, consults with parents and school personnel regarding how to best identify and support students with reading difficulties, provides workshops for parents and delivers professional development to school personnel. She is a Nationally Certified School Psychologist who previously worked in that role for a Tennessee school district. Erin is a member of the Tennessee Dyslexia Advisory Council, established in 2016 to advise the Tennessee Department of Education on matters related to dyslexia. Ms. Alexander is also a Certified Academic Language Therapist who provides intervention to students with characteristics of dyslexia.

#### Jennifer Flipse, Ph.D.

Jennifer Flipse is the Director at the Tennessee Center for the Study and Treatment of Dyslexia at Middle Tennessee State University, where she also serves as adjunct graduate faculty. She holds a Ph.D. in Literacy Studies with a concentration in Literacy Measurement and Analysis from Middle Tennessee State University. Additionally, Jennifer has been a secondary ELA classroom educator and RTI interventionist.

#### Timothy Odegard, Ph.D.

Tim Odegard, Ph.D., is a professor of psychology and holds the Katherine Davis Murfree Chair of Excellence in Dyslexic Studies at Middle Tennessee State University. Before joining the faculty at MTSU, Tim served on the faculty at the University of Texas Arlington and UT Southwestern Medical School in Dallas. He serves as Editor-in-Chief of *Annals of Dyslexia*. In addition to being a research scientist, Tim is a reading therapist, having completed a two-year dyslexia specialist training program at Texas Scottish Rite Hospital for Children.

#### About the Center

The **Tennessee Center for the Study and Treatment of Dyslexia** actively conducts research and supports the translation of research to practice. It is a model for interdisciplinary research dedicated to unraveling the puzzle of dyslexia and reading struggles that impact far too many individuals across Tennessee and our nation. The center translates research to practice through the organization and delivery of professional services to students with dyslexia, to psychologists and teachers who identify and instruct them, and to schools that must orchestrate a broad range of factors that will enable these students to achieve their potential.

# Table of Contents

Dart 1	· What	ckille	should	hο	screened?
Pari I	· vvnai	\KIII\	<b>NITE OF THE S</b>	111	VI LEELIEUT

Purpose	1
Dyslexia	1
Research-informed reading development	2
Emergent print skills	3
Emergent comprehension skills	4
Print skills	4
Reading comprehension skills	5
Other impacts on reading development	5
Part 2: Organizing your assessment tools	
Types of educational tests	7
Developing your dyslexia screener	9
Step 1: Compile a list of your assessments	9
Step 2: Organize using the inventory form	2
Step 3: Identify screening gaps	1
Step 4: Review with stakeholders	1
Step 5: Transfer to student data forms	1
Part 3: Determining risk or characteristics of dyslexia	2
References14	
Appendix A District Literacy Screeners Inventory-Kindergarten	
Appendix B Dyslexia Screener- Kindergarten Student Data Form	
Appendix C District Literacy Screeners Inventory 1st-8th grades	
Appendix D Dyslexia Screener - Student Data Form 1 <sup>st</sup> -8th grades	
Appendix F Example District Literacy Screeners Inventory 4 <sup>th</sup> grade	

#### Part 1

#### What skills should be screened?

#### **Purpose**

The District Literacy Screeners Inventory form (see Appendix A and C) is intended to be used at the school district level to organize student literacy screening tools. Using the organizational structure presented in this inventory supports a research-informed approach for using data to optimize the identification of kindergarten (K) students at risk for dyslexia and 1<sup>st</sup> - 8<sup>th</sup> grade students with characteristics of dyslexia. Compiling resources in an organized and unified format at the district level will support consistent implementation of screening measures and analysis of student data at the school and educator levels.

This inventory provides the groundwork for the administration and interpretation of student literacy screeners. It supports compliance with state-mandated literacy screening laws. It also provides the basis for differentiating student instruction and intervention within a tiered system of support.

### **Dyslexia**

By completing this inventory, you will ensure that you have the measures needed to identify students at risk for dyslexia and students demonstrating the primary characteristics of dyslexia. Odegard et al. (2017) noted that "individuals with dyslexia struggle to read words accurately and/or fluently, despite receiving the same reading instruction as their peers who acquire the ability to read words" (p. 1)<sup>1</sup>.

A team of literacy experts presented a consensus definition of dyslexia that was adopted by the International Dyslexia Association Board of Directors in November 2002:

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  $(p. 2)^2$ .

This definition is currently incorporated in many state laws, including Tennessee<sup>3–6</sup>.

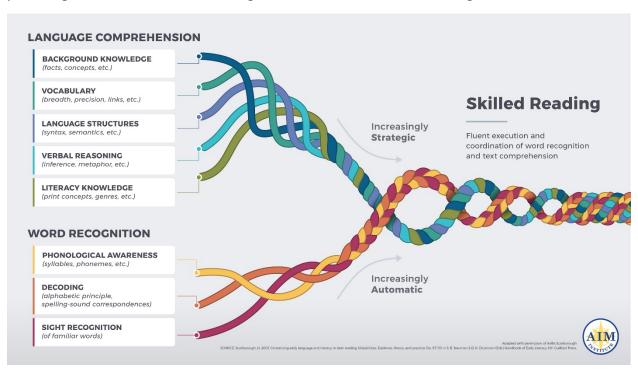
The primary characteristics of dyslexia are demonstrated when students exhibit difficulties with word reading and spelling. Screening emergent literacy skills allows schools to identify students who are at risk for reading problems before they are decoding and spelling words. Many intervention studies have shown that with appropriate and intense early intervention (i.e., in K through second grade), the overwhelming majority of students will develop early reading skills and exhibit word reading accuracy scores that are at least at the 30<sup>th</sup> percentile<sup>7</sup>. Accurate and automatic word reading skills are vital for developing independent reading comprehension.

The goal of screening and identification is to provide students with the preventative and targeted intervention they need so foundational reading problems do not compound over time.

#### Research-informed reading development

The Simple View of Reading formula highlights the role of decoding and oral language comprehension in students' ability to understand what they read<sup>8</sup>. Both decoding and language comprehension must be proficient for reading comprehension to occur. These skills can be assessed separately, and intervention efforts must be targeted to the student's specific weakness. Students may struggle with decoding, language comprehension, or both. Students with characteristics of dyslexia have weaknesses with the decoding aspect of reading comprehension, while they typically have average or better oral comprehension skills. However, some students with characteristics of dyslexia also exhibit weakness in oral language skills that undergird listening comprehension. It is also possible for students to have both a specific language impairment and dyslexia.

Scarborough's Reading Rope figure further details the subskills impacting word reading and language comprehension<sup>9</sup>. The rope provides a graphic description of how the two components are interwoven to produce skilled reading. Many of the subskills noted in the figure, such as phonological awareness and decoding, are included in universal reading screeners.



The National Reading Panel report identified five essential components needed for reading instruction: phonemic awareness, phonics (teaching sound-symbol correspondences for decoding), fluency, vocabulary, and comprehension<sup>10</sup>. These skills and the subskills that underlie their development progress on an overlapping continuum.

The District Literacy Screeners Inventory is organized to reflect the typical development of these critical components needed for reading comprehension. In the following sections, subskills are grouped based on the Simple View of Reading and Scarborough's Reading rope regarding aspects of print, such as decoding and comprehension. Earlier developing subskills that support each of these areas are specified as emergent print or emergent comprehension skills.

When screening kindergarten students, the focus begins with *emergent print* and *emergent comprehension* skills. Some measures of print skills become applicable later in the academic year. Screening these emergent print and comprehension skills allows for the identification of students *at risk* for dyslexia. The goal of this early identification is to address weaknesses in emergent skills, so those weaknesses do not compound over time and require even more complex and comprehensive intervention.

Screening for *primary characteristics* of dyslexia begins in first grade as those emergent print skills progress, supporting the development of decoding, word reading, and spelling skills. Screening and responding with intervention as needed in the early grades, K-2, provides the optimal opportunity to support students who exhibit risk or characteristics of dyslexia.

The specific literacy components that are included in the District Literacy Screeners Inventory organizational tool are described below.

### **Emergent print skills**

Emergent skills are pre-reading skills that can be assessed to identify students *at risk* for reading difficulties such as dyslexia. Emergent print skills are those skills that support decoding (using sound-symbol knowledge to pronounce a word), word reading (connecting a printed word to its sound and meaning with accuracy and automaticity), spelling, and accurate text reading.

Phonological awareness refers to the ability to notice and think about all levels of spoken sounds, from whole words to syllables, onset-rime units, and phonemes.

Assessing phonological awareness skills can identify students who may be at risk for difficulty developing foundational reading skills. Phonological awareness skills generally develop along a continuum from awareness of larger sound units (e.g., rhymes) to awareness of the smallest sound units (i.e., individual phonemes)<sup>11</sup>. A student's ability to perform phonological awareness tasks in Kindergarten is a strong predictor of future reading achievement in the early grades<sup>12</sup>.

Phonemic awareness refers to the ability to notice and think about the smallest units of speech sounds, which are represented with letters in an alphabetic writing system such as English. Phonemic awareness has a significant impact on reading and spelling proficiency<sup>13</sup>. Therefore, its development is a good predictor of reading development<sup>14</sup>. Measures of phoneme segmentation in the second half of kindergarten are appropriate to show a student's response to explicit phonemic awareness instruction. Student performance on phoneme segmentation measures at that time is highly predictive of future reading ability<sup>12</sup>.

Alphabet knowledge refers to the accurate and automatic recognition of letter shapes and names. Letter naming ability in Kindergarten has predictive value for estimating first grade reading achievement<sup>12,15</sup>. The ability to recognize and name letters is a necessary skill for students to learn the sound-symbol associations needed for phonics instruction<sup>15,16</sup>.

Sound-symbol recognition refers to knowing the relationship between speech sounds and the letter or letters used to represent them in print. It is also referred to as the alphabetic principle. Students must develop the ability to automatically make these associations to decode (letters to sounds) and spell (sounds to letters) words.

#### **Emergent comprehension skills**

Oral vocabulary refers to the words students understand when listening (receptive vocabulary) and the words students use when speaking (expressive vocabulary). Students use the spoken words they have heard to make sense of the words they decode in print. Students have a harder time reading words and mapping them to memory when the words are not already part of their oral vocabulary. Vocabulary knowledge also is a key contributor to reading comprehension<sup>10</sup>.

Listening comprehension refers to a student's ability to understand language that he or she hears. The ability to understand language is a necessary component of reading comprehension<sup>17</sup>. Oral language refers to spoken language: communicating through speaking and listening. Oral language and reading have mutual benefits. Oral language impacts reading comprehension, and reading influences oral language<sup>18</sup>. As the Simple View of Reading and Scarborough's Reading Rope figure have exemplified, reading is a language-based skill<sup>8,9</sup>. Students who have a weakness in understanding oral language may be at risk for reading comprehension difficulties.

#### **Print skills**

Decoding refers to using sound-symbol correspondence knowledge to read words. Nonsense words (i.e., made-up words without meaning that have a typical phonetic spelling) are often used to screen a student's ability to apply phonics knowledge to decode an unknown word. Screening nonsense word reading can help identify children at risk for future reading problems. While nonwords are useful for screening decoding ability, nonsense word reading should not be an instructional target. A weakness in this area indicates a need for survey-level assessment in emergent print skills to target intervention efforts appropriately.

Word reading refers to the ability to accurately and effortlessly read a printed word. This skill is also referred to as word recognition. Word reading screeners are recommended in early grades because word reading skills are a strong predictor of reading comprehension<sup>19</sup>.

Encoding is another word for spelling. A student's spelling ability reflects their understanding of sound-symbol relationships as well as conventional spelling patterns. Spelling and reading share many of the same types of skills (for example, phonemic awareness, sound-symbol

relationships, and morphological awareness, which includes affixes and word roots). Analyzing spelling errors from spelling or writing screeners offers insight into both spelling and reading development.

#### **Reading comprehension skills**

Reading vocabulary refers to printed words that a student understands. It is necessary for reading comprehension. Students need to know the meaning of the words they are reading. Students need well developed decoding skills and a large corpus of words in their oral/listening vocabularies to read words accurately <u>and</u> with understanding.

Reading comprehension is the product of the foundational word reading and language comprehension skills students need to develop and integrate for skilled reading. Text comprehension encompasses many cognitive processes and skills. Reading comprehension screeners vary in the skills they represent and their ability to determine intervention targets<sup>20,21</sup>. A maze test, where students select from three given words to fill in a missing word in a sentence, relies on word recognition and context. When that test is timed, reading fluency rate also impacts the score<sup>22</sup>. Passage reading assessments, which require students to read a passage and answer questions, reflect many reading components, such as attention, memory, decoding, word reading, vocabulary, and background knowledge. Multiple sources of data should be considered when determining a student's ability to comprehend printed text.

#### Other sources of data and impacts on reading development

Rapid Automatic Naming (RAN) refers to the ability to accurately and automatically name a repeated sequence of known objects, colors, numbers, or letters. RAN measures are predictive of future reading ability<sup>23,24</sup>. RAN is thought to represent some of the complex processes used in reading. RAN is also connected to reading fluency. RAN tests can help identify pre-readers at risk for difficulties acquiring beginning reading skills. Students who struggle with reading sometimes perform slower than their peers on RAN tests. Students who have difficulty with both RAN and phonological awareness may have more severe reading problems and require the most intensive intervention. RAN tests measure cognitive processes; RAN itself is not an instructional target. RAN can improve when other components of reading are targeted for instruction and subsequently improve<sup>25</sup>.

Oral reading fluency (ORF) refers to reading aloud at an appropriate rate with word-level accuracy and expression. Scores obtained from ORF screening measures should reflect data on both words correct per minute (rate), and total words read correctly (accuracy). Well-developed oral reading fluency is the product of achieving proficiency with many integrated subskills, such as decoding, word recognition, vocabulary, grammar, and oral language. Screening ORF can identify students at risk for reading underachievement and students who may need additional skills-based diagnostic assessments<sup>26,27</sup>. Decoding and emergent print skills should be examined for students whose ORF scores are below expectations for word reading

accuracy. ORF can also predict a student's reading comprehension. Research has shown a high correlation between accurate, fluent text reading and reading comprehension<sup>28</sup>.

Family and teacher observations provide additional information about a student's background and classroom performance. They can include rating scales or informal descriptions of the student's language abilities (speaking, listening, reading, and writing) and behavior in academic settings. Estimates from several studies revealed that when a parent or sibling has word level reading problems consistent with dyslexia, the student is four times more likely to have reading problems than if they come from a family without a history of reading problems<sup>29</sup>. Thus, it can be helpful to know if someone in the student's family struggled with reading.

#### Part 2

#### Organizing your assessment tools

Universal screening is a process for identifying students at risk of later reading problems. In elementary and middle school, universal screening is typically conducted three times a year (i.e., fall, winter, and spring). Student scores are often compared to a benchmark goal based on grade level expectations. Students who score at or above the benchmark score are likely to achieve future reading goals if they continue to receive strong core instruction. Students who score below benchmark or below a cut point for risk are not likely to meet subsequent reading goals unless they receive intensive support and intervention. Students who score well below the benchmark are likely to need the most intensive intervention. Schools may also use percentile ranks to decide which students should receive intervention and what level of intervention they need. For example, a district using the Response to Intervention framework may determine that all students below the 10<sup>th</sup> percentile (i.e., students scoring below 90% of their peers) will receive Tier 3 intervention.

Universal screening measures may be paper and pencil tasks administered directly by the teacher or computer-administered. In a computer-adaptive measure, individual students are given different test questions based on their performance on the test. The student's overall performance in reading or a reading subskill can then be compared to a typical student's performance in the same grade. Instructional recommendations may be provided as well.

Skills-based universal reading screeners contain measures that can also be used to identify students at risk of dyslexia or with characteristics of dyslexia. However, after kindergarten, most skills-based universal screeners will not include all components needed to screen for characteristics of dyslexia, especially when considering the requirements of many state dyslexia laws. The universal screener will need to be supplemented with other screening tools.

Multiple data sources should be considered when determining a student's level of risk and need for intervention. The following summarizes the types of tools that a district may have available for assessing student risk status and instructional needs.

#### Types of educational tests

Curriculum-based measures (CBMs) are used to indicate how well students are acquiring basic academic skills. CBMs are brief, timed measures (called probes) that are given in a standardized format. They can be delivered quickly and frequently using alternate forms with similar items, sensitive to short-term gains. For these reasons, CBMs are well suited for universal screening and progress monitoring. Examples of CBMs include the screening components within aimswebPlus, DIBELS, and easyCBM.

Criterion-referenced measures are used to determine a student's understanding of a specific skill based on specific performance criteria. This type of test is not designed to compare or rank students. Instead, it is intended to reveal how well an individual student demonstrates mastery

of a skill with defined performance levels. Examples include the CORE Phonics Survey and the Phonological Awareness Screening Test (PAST).

Curriculum-embedded measures are those assessments that reflect learning from the instructional materials that were used to teach. Because they are directly linked to specific instruction, teachers can use them to check student understanding and mastery of skills recently taught. They are embedded in the curriculum, for example, as chapter and unit tests. Other examples include the assessments given at the end of steps or levels in many reading intervention programs such as S.P.I.R.E. and the Wilson Reading System.

Individually administered formal diagnostic tests are standardized, norm-referenced tests that compare an individual student's score to a large group of other same-age or same-grade peers who took the test. Compared to CBMs, they require more training for the evaluator, take a longer time to administer, are not sensitive to short-term reading gains, and cannot be given multiple times a year. They are typically included as part of a comprehensive assessment of a student's strengths and weaknesses. They are often used in evaluations to determine eligibility for special education services. This type of test is not directly tied to the curriculum and is not used for universal screening purposes. Examples include the Kaufman Test of Educational Achievement (KTEA) and the Wechsler Individual Achievement Test (WIAT). Similar tests, such as the Comprehensive Test of Phonological Processing (CTOPP), may be used to measure other processes related to reading development (e.g., phonological awareness or rapid automatic naming).

#### **Developing Your Dyslexia Screener**

#### Step 1 Compile a list of your assessments

Compile a list of the literacy assessments that are available within your district. This list should include your universal screener (which is likely a CBM), criterion-referenced measures, and curriculum-embedded measures (from both teacher-directed instruction and computer-based, supplemental instruction). Also include other data sources used in your district, such as teacher observation forms, that provide information about student strengths and weaknesses.

When applicable, also identify what comprises the composite score for your reading screener. For example, an early literacy composite score may include Letter Naming Fluency, and Letter Word Sounds Fluency as components. List the subtests contained in your universal screener along with the time periods and grades for which they are administered. For example, upper elementary and middle school screeners may include an oral reading fluency measure and a reading comprehension measure with fall, winter, and spring benchmarking periods.

#### Step 2 Organize your assessments using the inventory form

After compiling your list of assessments, sort each tool into the appropriate category on the district inventory form: emergent print skills, emergent comprehension skills, print skills, or comprehension skills. A brief review of these categories is provided below, along with information about when each type of skill will most likely be part of a universal screening instrument and when a supplement will likely be needed.

Performance on screeners of emergent print skills supports the identification of students at risk for dyslexia. These components (phonological/phonemic awareness, alphabet knowledge, and sound-symbol recognition) are marked with one asterisk (\*).

These skills are typically measured as part of a kindergarten universal screener for reading. Those data may serve as your screener for the risk of dyslexia as well. As these emergent skills develop into print skills and are no longer included on universal screening (typically after 1<sup>st</sup> grade), supplemental measures will need to be used for dyslexia screening.

Emergent comprehension skills are vital for the development of skilled reading. Oral vocabulary and other oral language screeners are often not included in universal screening, so those measures may not be readily available. Including these screeners when they are available will support obtaining a more complete student literacy profile. Students with characteristics of dyslexia typically have average listening comprehension skills. However, receptive (listening) and expressive (speaking) oral language weaknesses can co-occur with dyslexia. Early identification of a weakness in these areas allows for targeted intervention that matches a student's needs. Students with significant language delays may require intervention from a speech-language pathologist.

With appropriate core instruction and practice, typical students progress and develop print skills throughout the elementary grades. Decoding, word reading, and spelling skills are marked with two asterisks (\*\*). Weaknesses in those areas represent primary characteristics of dyslexia, so they are required to be screened. Early screening allows weaknesses to be identified as those skills are developing. Early screening in kindergarten through 2<sup>nd</sup> grade supports identifying students with characteristics of dyslexia. When those print skills are included on universal screeners, they may also be used for the dyslexia screener. Supplemental measures will need to be used when decoding, word reading, and spelling are no longer included within universal screening instruments. As word-level accuracy and fluency continue to develop, oral reading fluency measures become more prevalent as reading screeners. The accuracy and rate scores from an oral reading fluency measure, when available, should also be recorded on the dyslexia screener.

Reading comprehension skills are the product of the integration of decoding and language comprehension skills as they are practiced over time. Comprehension measures are useful in identifying students who are not keeping up with their peers with consolidating print and language skills into independent reading. A student who scores below expectations on a comprehension measure may be displaying a secondary consequence of dyslexia. It is necessary to consider the student's emergent print and print level skills to determine if characteristics of dyslexia are present.

Other sources of data should always be included in the screening process. Teacher observations and classroom tests can corroborate screening results. A family history of reading and spelling problems elevates a student's risk for dyslexia, so this is helpful information to obtain. A RAN measure should be included in screening; as previously noted, a RAN weakness is a risk factor for dyslexia. In addition, many state laws require schools to measure RAN as part of their dyslexia screening process.

Match a screener from your compiled measures to each required component on the inventory form. You may need to complete a separate inventory form for each of your targeted grade levels depending on the grade and time periods available from your tools and how they align with each screening component. As previously noted, universal screening measures will need to be supplemented in 1<sup>st</sup>-8<sup>th</sup> grades. See the completed sample for reference (Appendix E).

- Add the assessment name in the measure column (e.g., for the Word Reading component, write in "aimswebPlus Word Reading Fluency").
- Place the time periods for which scores are available in the scoring column (e.g., aimswebPlus Word Reading Fluency scoring is available for Spring of Kindergarten and Fall, Winter and Spring for 1<sup>st</sup> Grade students).
- Determine and fill in the criteria that will be used to indicate a student is at risk. That may be a percentile rank (e.g., below the 25<sup>th</sup> percentile), a benchmark indicator (e.g., below benchmark), or a risk range (e.g., significant risk)

#### Step 3 Identify screening gaps

Once you have organized your existing assessments into the inventory form for each targeted grade level, determine if there is a component without a tool to measure it. Seek out appropriate screeners, which could be CBM or criterion referenced, to use as measures for those components. See the eBook *Dyslexia Within RTI* for other potential measures. Additional lists of other measures can be found at the <u>National Center on Intensive Intervention</u> or in state-specific guidance documents about response to intervention and dyslexia screening. Add the information for those screeners to your form. Consider other sources of information about these skills, such as teacher observations or checklists, when screeners are not available.

#### Step 4 Review with stakeholders

Once you have filled in the form (i.e., ensuring that all required components marked with one or two asterisks and the optional ones you have included are represented with measures, scoring periods, and risk criteria), review your screening plan with district interventionists and other decision-makers who work closely with student screening data. Confirm your plan or adjust your inventory organizer as needed.

#### Step 5 Transfer to student data forms

Finally, for each of your targeted grade levels, transfer the measure name and criteria for risk for each component into the matching sections on the grade level Student Data Forms. These screening forms are used to organize individual student data and consistently guide the identification of students at risk for or with characteristics of dyslexia.

#### Part 3 Determining risk or characteristics of dyslexia

Identifying students at risk for dyslexia during the earliest stages of literacy development optimizes the opportunity for early and preventative intervention. There is no single test or data point that can be used to determine risk for or characteristics of dyslexia. An informed analysis of each student's data form, emphasizing the components associated with the risk of developing dyslexia (those components marked with one asterisk), can be used to determine if a kindergarten student is likely to be at risk or not.

A typical risk pattern in early kindergarten includes weaknesses in phonological/phonemic awareness, alphabet knowledge, and sound-symbol recognition. Any combination of weaknesses in these areas should identify the student as at risk and result in skills-based, tiered intervention to address the weaknesses.

In late Kindergarten and forward, characteristics of dyslexia are identified when a student is not meeting expectations on decoding, word reading, and spelling screeners. Again, any combination of weaknesses in these areas marked with one or two asterisks on the data form should identify the student as at risk or with characteristics of dyslexia and result in skills-based, tiered intervention to address the weaknesses.

A positive family history of reading and spelling problems and/or a RAN deficit may also be present and indicate an elevated risk for dyslexia. However, a student may have no known family history and no RAN deficit and still be at risk for dyslexia.

Also, examine the data collected for emergent comprehension skills, if a screener for these skills was available for the student. Students with dyslexia often score at benchmark (or within the average range) for oral vocabulary and listening comprehension. However, because reading is a language-based skill, some students at risk of or with characteristics of dyslexia may also display oral language weaknesses, including difficulties expressing themselves orally and/or having problems with listening comprehension.

Weaknesses with reading comprehension may be a secondary consequence of word-level reading difficulties (i.e., dyslexia). A reading comprehension weakness may or may not be displayed by a student with characteristics of dyslexia.

Analyze the student's data profile and determine if it indicates risk for dyslexia, characteristics of dyslexia, or another reading difficulty:

At risk for dyslexia: Kindergarten students with weaknesses in emergent print skills and/or developing print skills (this may or may not include weaknesses with emergent comprehension skills)

Characteristics of dyslexia: students in late Kindergarten and later grades with weaknesses in print skills (this will likely include weaknesses with emergent print skills and reading comprehension as well); students with mixed reading difficulties

(weaknesses in both emergent print skills/print skills and emergent comprehension and/or reading comprehension skills) are also displaying characteristics of dyslexia

At risk for reading comprehension difficulty: weaknesses noted with emergent comprehension skills and/or reading comprehension skills while emergent print skills/print skills are developing within expectations

Administer survey-level/diagnostic assessments for demonstrated areas of weakness to determine specific student needs and plan targets for intervention. For example, if the student screening data revealed a weakness with phonemic awareness, administer a diagnostic assessment that provides more detail about the student's ability to isolate, blend, and segment phonemes. Complete the reporting and intervention planning prompts included on the reverse side of the student form.

Students with identified weaknesses benefit from early, targeted intervention to develop their skills. For students at risk for dyslexia, the goal is to prevent these weaknesses from spiraling into word and text level problems that negatively impact the development of vocabulary, background knowledge, and reading comprehension. Students with characteristics of dyslexia require a Structured Literacy approach to intervention. Evidence-based core instruction, regular screening, and targeted, appropriate intervention work together to support the reading development of students at risk of or with characteristics of dyslexia.

#### References

- Odegard TN, Cooper J, Hirschmann M, Alexander E. Dyslexia within RTI: A Guide for Identifying and Providing Instruction to Students with Characteristics of Dyslexia in Grades K - 3. Middle Tennessee State University; 2017. https://mtsu.edu/dyslexia/documents/Dyslexia within RTI.pdf
- 2. Lyon GR, Shaywitz SE, Shaywitz BA. A definition of dyslexia. *Annals of Dyslexia*. 2003;53(1):1-14. doi:10.1007/s11881-003-0001-9
- Gearin B, Petscher Y, Stanley C, Nelson NJ, Fien H. Document analysis of state dyslexia legislation suggests likely heterogeneous effects on student and school outcomes. *Learning Disability Quarterly*. Published online 2021:1-13. doi:10.1177/0731948721991549
- Phillips BAB, Odegard TN. Evaluating the impact of dyslexia laws on the identification of specific learning disability and dyslexia. *Annals of Dyslexia*. 2017;67(3):356-368. doi:10.1007/s11881-017-0148-4
- 5. Worthy J, Villarreal D, Godfrey V, et al. A critical analysis of dyslexia legislation in three states. *Literacy Research: Theory, Method, and Practice*. 2017;66:406-421. doi:https://doi.org/10.1177/2381336917718501
- 6. Youman M, Mather N. Dyslexia laws in the USA: A 2018 update. *Perspectives on Language and Literacy*. 2018;44(2):37-41.
- 7. Torgesen JK. Avoiding the devasting downward spiral: The evidence that early intervention prevents reading failure. *American Educator*. 2004;28(3):6-9, 12-13, 17-19, 45-47.
- 8. Gough P, Tunmer W. Decoding, reading, and reading disability. *Remedial and Special Education*. 1986;7(1):6-10. doi:10/1177/074193258600700104
- 9. Scarborough HS. Connecting early language and literacy to later reading (dis)abilities: Evidence, theory, and practice. In: Neuman S, Dickinson D, eds. *Handbook for Research in Early Literacy*. Guilford Press; 2001:97-110.
- 10. National Reading Panel. Teaching Children to Read: An Evidence-Based Assessment of the Scientific Research Literature on Reading and Its Implications for Reading Instruction: Reports of the Subgroups. National Institute of Child Health and Human Development; 2000. https://www.nichd.nih.gov/sites/default/files/publications/pubs/nrp/Documents/report.pdf
- 11. Liberman IY, Shankweiler D, Fischer FW, Carter B. Explicit syllable and phoneme segmentation in the young child. *Journal of Experimental Child Psychology*. 1974;18(2):201-212. doi:doi.org/10.1016/0022-0965(74)90101-5

- 12. Schatschneider C, Fletcher JM, Francis DJ, Carlson CD, Foorman BR. Kindergarten prediction of reading skills: A longitudinal comparative analysis. *Journal of Educational Psychology*. 2004;96(2):265-282. doi:10.1037/0022-0063.96.2.265
- 13. Al Otaiba S, Puranik CS, Rouby DA, Greulich L, Sidler JF, Lee J. Predicting kindergarteners' end-of-year spelling ability based on their reading, alphabetic, vocabulary, and phonological awareness skills, as well as prior literacy experiences. *Learning Disability Quarterly*. 2010;33(3):171-183. doi:10.1177/073194871003300306
- 14. Lam EA, McMaster KL. Predictors of responsiveness to early literacy intervention: A 10-year update. *Learning Disability Quarterly*. 2014;37(3):134-147. doi:10.1177/0731948714529772
- 15. Adams MJ. Beginning to Read: Thinking and Learning about Print. MIT Press; 1990.
- 16. National Early Literacy Panel. Developing Early Literacy: Report of the National Early Literacy Panel (A Scientific Synthesis of Early Literacy Development and Implications for Intervention). National Institute for Literacy and National Center for Family Literacy; 2009. http://lincs.ed.gov/publications/pdf/NELPReport09.pdf
- 17. Hogan TP, Adlof SM, Alonzo CN. On the importance of listening comprehension. International Journal of Speech-Language Pathology. 2014;16(3):199-207. doi:10.3109/17549507.2014.904441
- 18. Kamhi AG, Catts HW. Language and Reading Disabilities. Pearson; 2014.
- 19. Garcia JR, Cain K. Decoding and reading comprehension: A meta-analysis to identify which reader and assessment characteristics influence the strength of the relationship in English. *Review of Educational Research*. 2014;84(1):74-111. doi:10.3102/0034654313499616
- Cutting LE, Scarborough HS. Prediction of Reading Comprehension: Relative Contributions
  of Word Recognition, Language Proficiency, and Other Cognitive Skills Can Depend on How
  Comprehension Is Measured. Scientific Studies of Reading. 2006;10(3):277-299.
  doi:10.1207/s1532799xssr1003
- 21. Keenan JM, Betjemann RS, Olson RK. Reading comprehension tests vary in the skills they assess: Differential dependence on decoding and oral comprehension. *Scientific Studies of Reading*. 2008;12(3):281-300. doi:10.1080/1088843082132279
- 22. Muijselaar MML, Kendeou P, de Jong PF, van den Broek PW. What does the CBM-Maze test measure? *Scientific Studies of Reading*. 2017;21(2):120-132. doi:10.1080/10888438.2016.1263994
- 23. Torgesen JK, Wagner RK, Rashotte CA, Burgess S, Hecht S. Contributions of Phonological Awareness and Rapid Automatic Naming Ability to the Growth of Word-Reading Skills in

- Second-to Fifth-Grade Children. *Scientific Studies of Reading*. 1997;1(2):161-185. doi:10.1207/s1532799xssr0102 4
- 24. Wolf M. Naming speed and reading: The contribution of the cognitive neurosciences. *Reading Research Quarterly*. 1991;26(2):123-141. doi:10.2307/747978
- 25. Norton ES, Wolf M. Rapid automatized naming (RAN) and reading fluency: Implications for understanding and treatment of reading disabilities. *Annual Review of Psychology*. 2012;63:427-452. doi:10.1146/annurev-psych-120710-100431
- 26. Deno SL. Curriculum-based measurement: The emerging alternative. *Exceptional Children*. 1985;52(3):219-232. doi:10.1177/001440298505200303
- 27. Fuchs LS, Fuchs D, Hosp M, Jenkins JR. Oral reading fluency as an indicator of reading competence: A theoretical, empirical, and historical analysis. *Scientific Studies of Reading*. 2001;5(3):239-256. doi:10.1207/S1532799XSSR0503 3
- 28. Roehrig AD, Petscher Y, Nettles SM, Hudson RF, Torgesen JK. Accuracy of the DIBELS oral reading fluency measure for predicting third grade reading comprehension outcomes. *Journal of School Psychology*. 2008;46:343-366. doi:10.1016/j.jsp.2007.06.006
- 29. Snowling MJ, Melby-Lervag M. Oral language deficits in familial dyslexia: A meta-analysis and review. *Psychological Bulletin*. 2016;142(5):498-545. doi:10.1037/bul0000037



# **District Literacy Screeners Inventory- Kindergarten**

Emergent print skills			
zmergene printe skins			
Component	Measure	Time period	Criteria for risk
Phonological/phonemic			
awareness* Alphabet knowledge*			
7 upriduce informedge			
Sound-symbol recognition*			
Emergent comprehension ski	lls		
Component	Measure	Time period	Criteria for risk
Oral vocabulary			
Listening comprehension			
Print skills			
Component	Measure	Time period	Criteria for risk
Decoding**			
Word reading**			
Encoding (spelling)**			
Oral reading fluency- accuracy**	Not applicable in K		
Reading comprehension skills	3	·	
Component	Measure	Time period	Criteria for risk
Oral reading fluency- rate**	Not applicable in K		
Reading vocabulary	Not applicable in K		
Reading comprehension	Not applicable in K		
Other sources of data			
Component	Measure	Time period	Criteria for risk
Teacher ratings of language and academic behaviors			
Family history*/ratings			
Classroom performance (grades, assessments)			
Rapid automatic naming (RAN)*			

<sup>\*</sup>at risk indicator \*\*primary characteristic of dyslexia



Dyslexia Screener - Kindergarten Student Data Form	
Student	Date

School \_\_\_\_\_\_Teacher\_

Step 1 Universal Screener	(skills based)		Date administered	d:
Component	Measure	Student	Criteria for risk	At risk
•		score		indicated?
Reading composite				Yes or No
Step 2 Consider other sou	rces of data			
Component	Measure	Student	Criteria for risk	At risk
•		score		indicated?
Teacher ratings of language				Yes or No
and academic behaviors				
Family history*/ratings				Yes or No
Classroom performance				Yes or No
(grades, assessments)				
Rapid automatic naming (RAN)*				Yes or No
Step 3 Screen for risk of d	yslexia		Date(s) administer	red:
Component	Measure	Student	Criteria for risk	Area of
•		score		weakness?
Emergent print skills	•	-1		
Phonological/phonemic				Yes or No
awareness*				
Alphabet knowledge*				Yes or No
Sound-symbol recognition*				Yes or No
Emergent comprehension s	kills			
Oral vocabulary				Yes or No
Listening comprehension				Yes or No
Print skills			1	
Decoding**				Yes or No
Word reading**				Yes or No
Encoding (spelling)**				Yes or No
Oral reading fluency- accuracy**	Not applicable in K			Yes or No
Comprehension skills		1		
Oral reading fluency- rate**	Not applicable in K			Yes or No
Reading vocabulary	Not applicable in K			Yes or No
Reading comprehension	Not applicable in K			Yes or No
	1	1		

## **Dyslexia Screener - Kindergarten Student Data Form**

## This screening indicates that the student is at risk for dyslexia. Yes or No

The student has risk and weaknesses noted in components marked with a single asterisk (\*).

OR

## This screening indicates that the student has characteristics of dyslexia. Yes or No

The student has risk and weaknesses noted in components marked with a double asterisk (\*\*), which may be in addition to those with a single asterisk (\*).

specif	additional survey-level assessments may be needed for error analysis and to determine ic areas of weakness to be targeted for intervention.  ecific areas of weakness to be targeted for intervention:
Interv	ention setting:
	Tier 2 intensive, skills-based intervention
	Start date # days/week # mins/day
	Intervention program
	Teacher providing intervention
	Progress monitoring tool
	Tier 3 intensive, skills-based, comprehensive intervention
	Start date # days/week # mins/day
	Intervention program
	Teacher providing intervention
	Progress monitoring tool
Other	documentation:
	Family notified with resources included
	Accommodations considered
П	Student and intervention recorded in student management system (when required)



# District Literacy Screeners Inventory (1st-8th grades) – Grade: \_\_\_\_\_

Emergent print skills			
Component	Measure	Time period	Criteria for risk
Phonological/phonemic awareness*			
Alphabet knowledge*			
Sound-symbol recognition*			
Emergent comprehension skills			
Component	Measure	Time period	Criteria for risk
Oral vocabulary			
Listening comprehension			
Print skills			
Component	Measure	Time period	Criteria for risk
Decoding**			
Word reading**			
Encoding (spelling)**			
Oral reading fluency- accuracy**			
Reading comprehension skills			
Component	Measure	Time period	Criteria for risk
Oral reading fluency- rate**			
Reading vocabulary			
Reading comprehension			
Other sources of data			
Component	Measure	Time period	Criteria for risk
Teacher ratings of language and academic behaviors			
Family history*/ratings			
Classroom performance			
(grades, assessments) Rapid automatic naming			
(RAN)*			

<sup>\*</sup>at risk indicator \*\*primary characteristic of dyslexia



Dyslexia Screener - Student Data Form (1 <sup>st</sup> – 8 <sup>th</sup> grades)					
Student	Grade	Date			
School	_Teacher				

Step 1 Universal Screene	r (skills based)		Date administered	d:
Component	Measure	Student	Criteria for risk	At risk
		score		indicated?
Reading composite				Yes or No
Step 2 Consider other sou	urces of data			
Component	Measure	Student	Criteria for risk	At risk
•		score		indicated?
Teacher ratings of language				Yes or No
and academic behaviors				
Family history*/ratings				Yes or No
Classroom performance				Yes or No
(grades, assessments)				
Rapid automatic naming (RAN)*				Yes or No
Step 3 Screen for charact	eristics of dyslexia	- 1	Date(s) administer	red:
Component	Measure	Student	Criteria for risk	Area of
		score		weakness?
Emergent print skills	•			
Phonological/phonemic				Yes or No
awareness*				
Alphabet knowledge*				Yes or No
Sound-symbol recognition*				Yes or No
Emergent comprehension s	kills	1		
Oral vocabulary				Yes or No
Listening comprehension				Yes or No
Print skills				
Decoding**				Yes or No
Word reading**				Yes or No
Encoding (spelling)**				Yes or No
Oral reading fluency- accuracy**				Yes or No
Comprehension skills				
Oral reading fluency- rate**				Yes or No
Reading vocabulary				Yes or No
Reading comprehension				Yes or No
		1	1	

# **Dyslexia Screener - Student Data Form**

# This screening indicates that the student has characteristics of dyslexia. Yes or No

=	additional survey-level assessments may be needed for error analysis and to determine ic areas of weakness to be targeted for intervention.
•	ecific areas of weakness to be targeted for intervention:
Interve	ention setting:
	Tier 2 intensive, skills-based intervention
	Start date # days/week # mins/day
	Intervention program
	Teacher providing intervention
	Progress monitoring tool
	Tier 3 intensive, skills-based, comprehensive intervention
	Start date # days/week # mins/day
	Intervention program
	Teacher providing intervention
	Progress monitoring tool
Other	documentation:
	Family notified with resources included
	Accommodations considered
	Student and intervention recorded in student management system (when applicable)



# District Literacy Screeners Inventory (1st-8th grades) – Grade: 4th

Emergent print skills			
Component	Measure	Time period	Criteria for risk
Phonological/phonemic awareness*	CORE Phoneme Segmentation Test	spring	Below benchmark
Alphabet knowledge*	CORE Phonics Surveys Parts A-D	Fall, Winter, Spring	Below benchmark
Sound-symbol recognition*	CORE Phonics Surveys Parts A-D	Fall, Winter, Spring	Below benchmark
Emergent comprehension	skills		
Component	Measure	Time period	Criteria for risk
Oral vocabulary	Teacher and family observation	Any time	Observed difficulty
Listening comprehension	Teacher and family observation	Any time	Observed difficulty
Print skills			
Component	Measure	Time period	Criteria for risk
Decoding**	CORE Phonics Surveys Parts E-L (pseudowords)	Fall, Winter, Spring	Below benchmark
Word reading**	CORE Phonics Surveys Parts E-L (real words)	Fall, Winter, Spring	Below benchmark
Encoding (spelling)**	Developmental Spelling Analysis (by Ganske)	Any time	Below grade level expectations
Oral reading fluency-	easyCBM Reading Fluency	Fall, Winter,	Below 96%
accuracy** Reading comprehension sk	ills	Spring	accuracy
Component	Measure	Time period	Criteria for risk
Oral reading fluency- rate**	easyCBM Reading Fluency	Fall, Winter, Spring	Below 25 <sup>th</sup> percentile
Reading vocabulary	CORE Vocabulary Screening Test	Any time	Bellow benchmark
Reading comprehension	easyCBM Proficient Reading	Fall, Winter, Spring	Below 25 <sup>th</sup> percentile
Other sources of data		. 9	<u>.</u>
Component	Measure	Time period	Criteria for risk
Teacher ratings of language and academic behaviors	Informal rating scale	Any time	Language and academic concerns
Family history*/ratings	Informal interview	Any time	Positive history and/or concerns
Classroom performance (grades, assessments)	Curriculum embedded measures (CEMs)	Any time	Below grade level expectations
Rapid automatic naming (RAN)*	CTOPP-2 Rapid Symbolic Naming composite	Any time	Standard Score below 90

<sup>\*</sup>at risk indicator \*\*primary characteristic of dyslexia

