As you get settled...

Brainstorm:

- What do you think of when you hear the word “*dyslexia*”?
- List everything you associate with this term!

WEBINAR

Straight facts on dyslexia: What the research actually tells us

nwea Professional Learning

Before we begin

- 45-minute presentation, 15 minutes for Q&A
- Listen mode only
- Submit questions via the Q&A box
- Recorded and sharable
- Short survey at the end

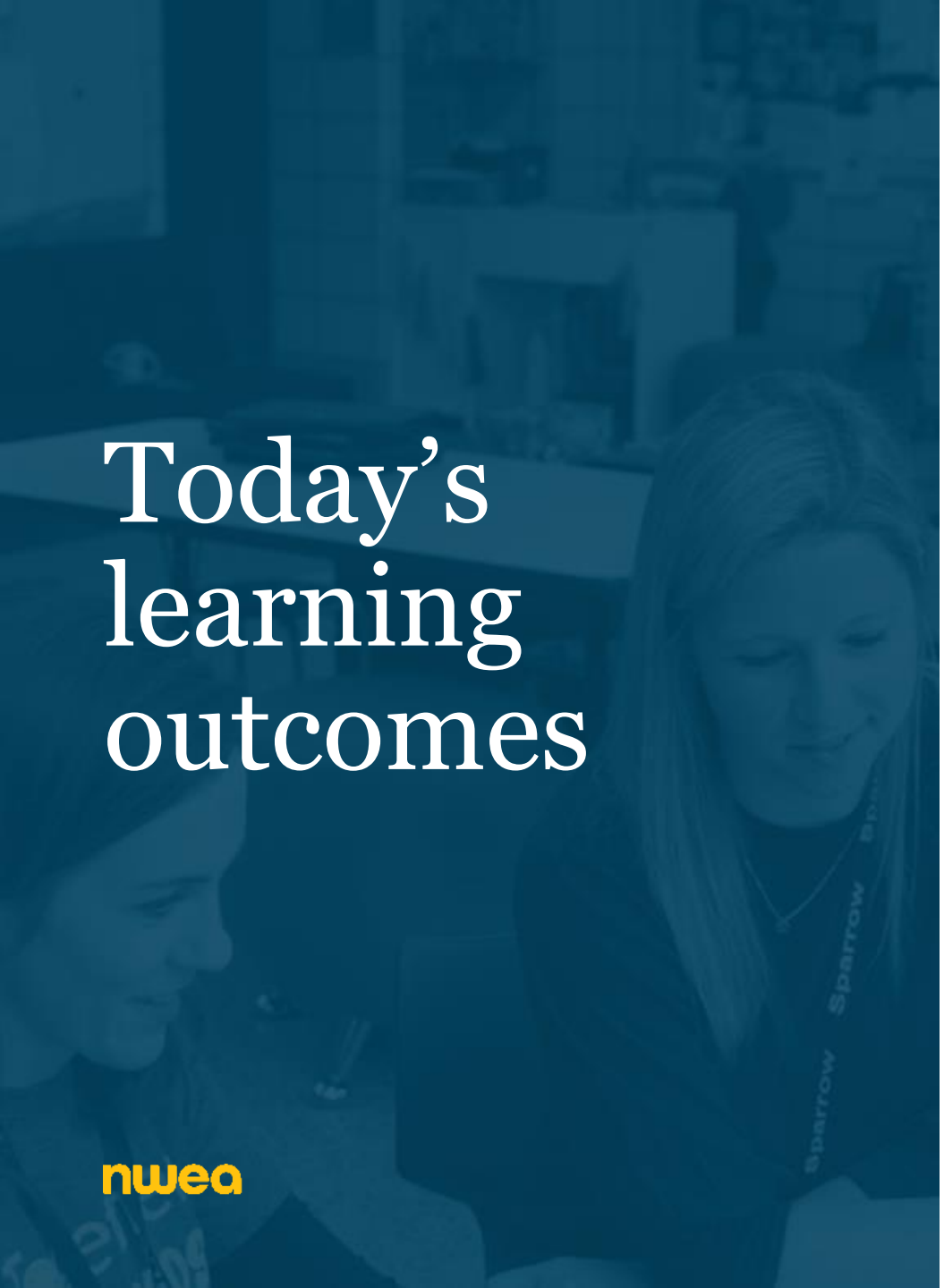
Professional Learning Strategy, Sr. Consultant

Tiffany Peltier, PhD

OUR MISSION

Partnering to help all kids learn®

We help kids get what they need in the classroom, so they can pursue their passions, shape their future, and realize their potential.



Today's learning outcomes

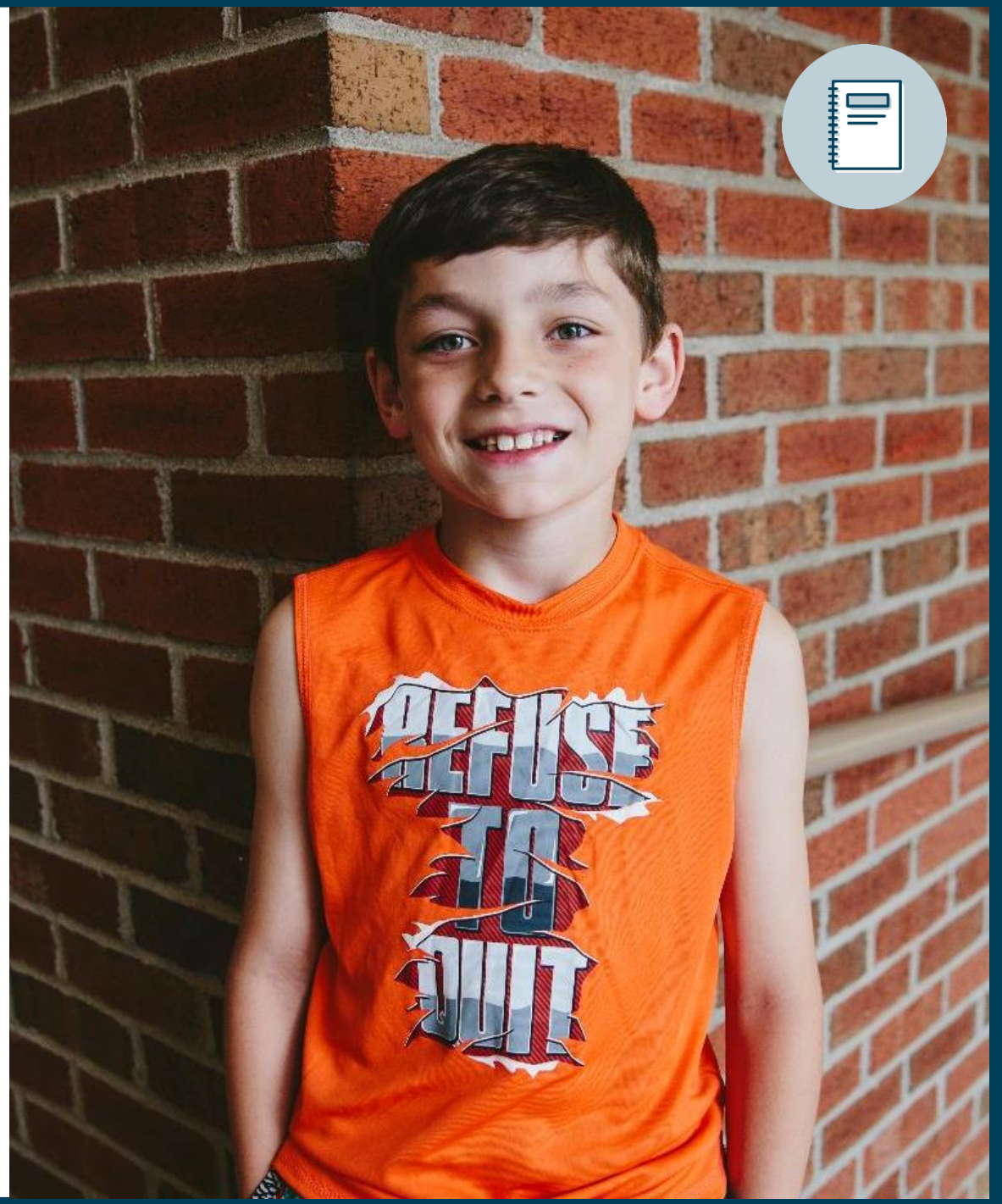
1. Learn more about dyslexia and separate fact from fiction
2. Get up to speed on the current research and federal laws regarding dyslexia
3. Understand best practices for screening to identify students with dyslexia and connect to intervention

Case study: Joseph’s scores

Fall reading screening assessments were completed for all 1st-graders. Joseph’s scores showed he is below benchmark and at risk for dyslexia. He was meeting benchmark in kindergarten. Joseph’s dad has emailed you to better understand what this means. How would you respond?

Good morning,

I received Joseph’s dyslexia scores. I didn’t know he had reading problems at school. Does this mean he has dyslexia? What is dyslexia?

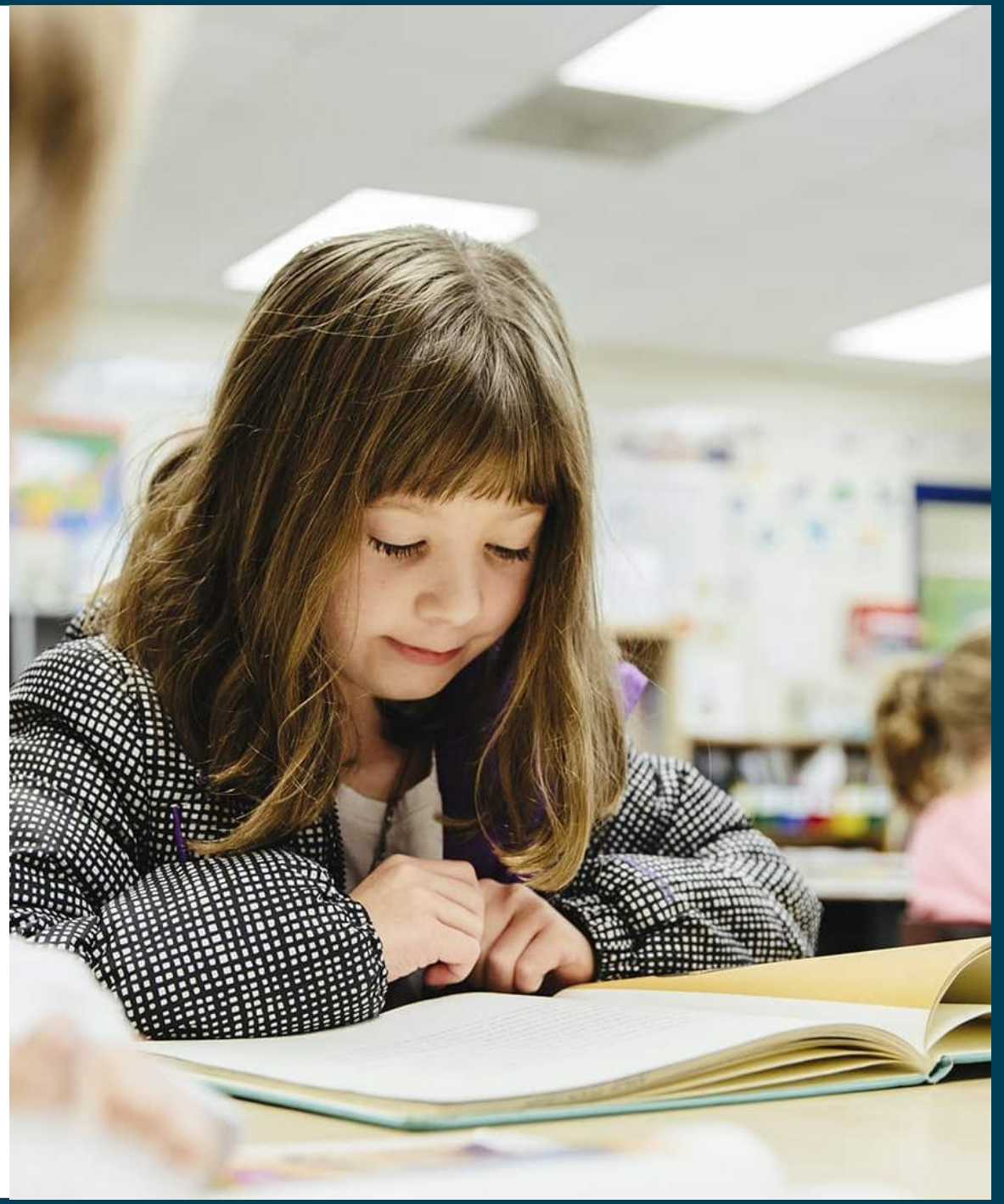


True or false?

1. Dyslexia means people see words or letters backwards or flipped.
2. Dyslexia identification has a well-defined cutoff. Students either have dyslexia or they do not.
3. Eye tracking exercises are usually effective in remediating dyslexia.
4. Dyslexia should usually be diagnosed by a pediatrician.
5. Schools cannot use the term dyslexia to identify students for special education services.
6. Colored lenses and colored overlays are research-based accommodations to help students with dyslexia.

Dyslexia: Myth or fact?

- **Common Myth**
- **Common Myth**
- **Common Myth**
- **Common Myth**
- **Common Myth**
- **Common Myth**



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What is dyslexia?

“dys”: impaired or difficult

“lexia” (lexis): word

Dyslexia is when a student has a greater difficulty with learning to read words than their peers

From the International Dyslexia Association (IDA):

“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**.”

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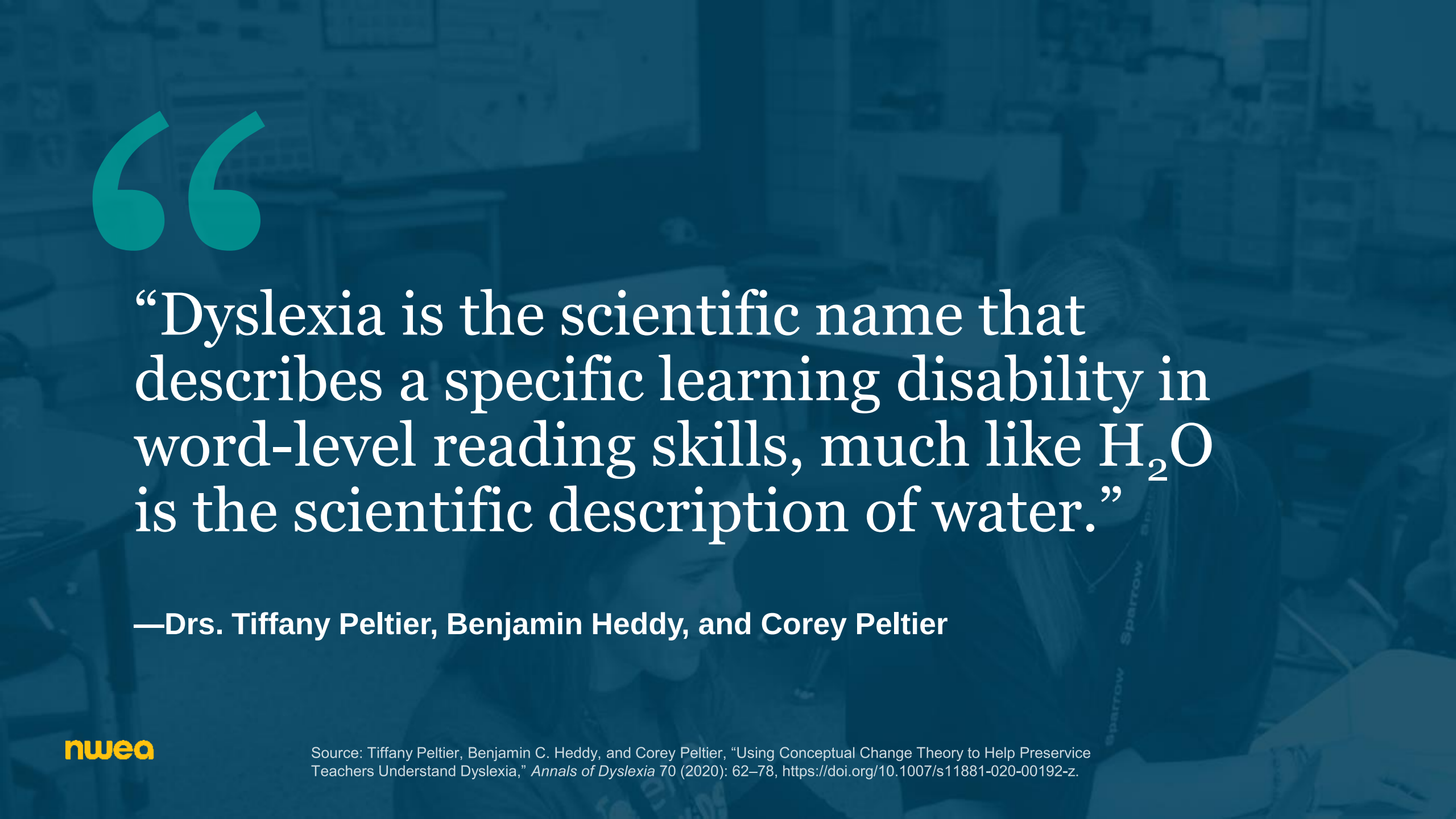
Source: International Dyslexia Association, “Definition of Dyslexia,” https://dyslexiaida.org/definition-of-dyslexia/.



“Dyslexia is the scientific name that describes a specific learning disability in word-level reading skills, much like H_2O is the scientific description of water.”

—Drs. Tiffany Peltier, Benjamin Heddy, and Corey Peltier

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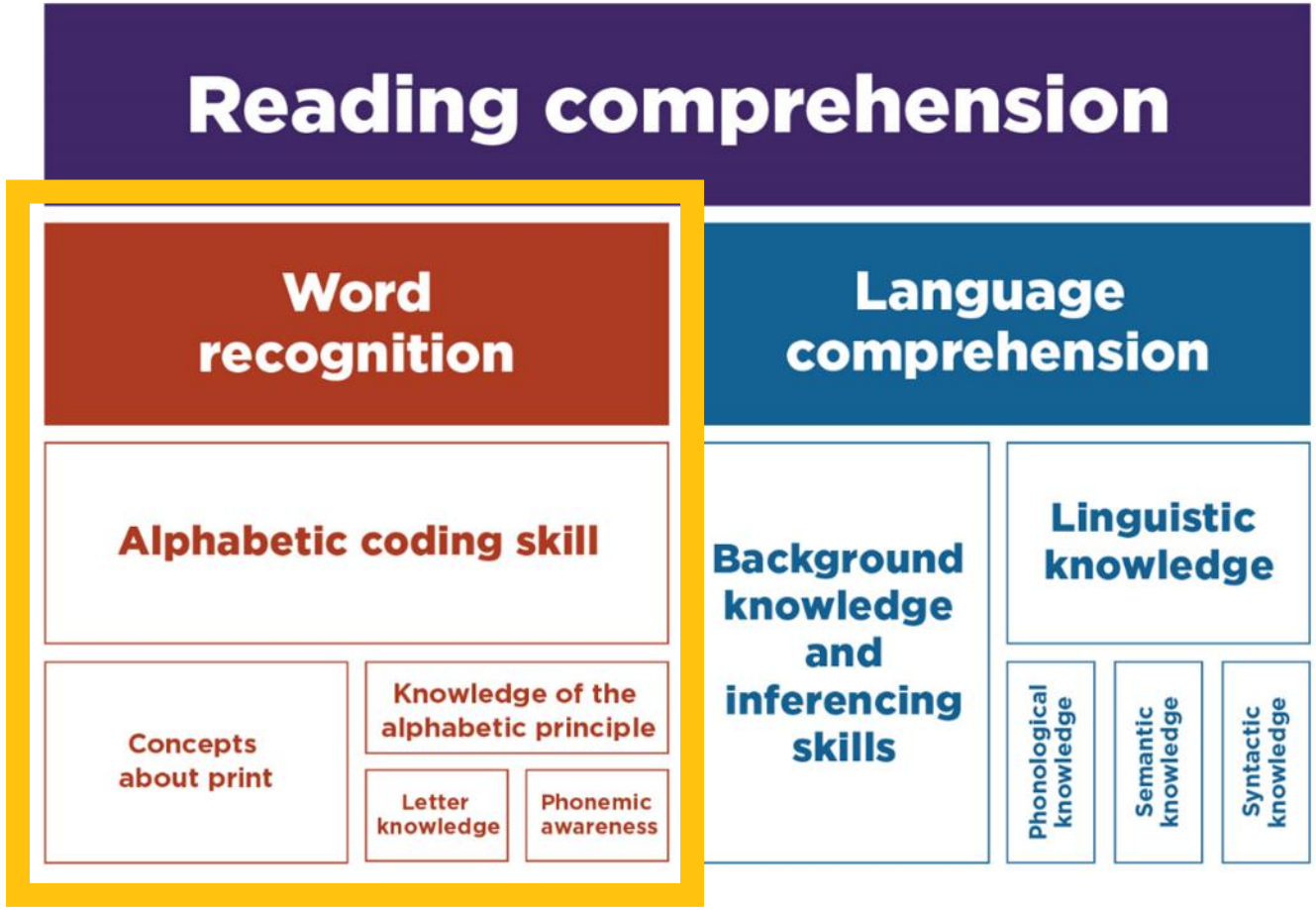
Source: Tiffany Peltier, Benjamin C. Heddy, and Corey Peltier, “Using Conceptual Change Theory to Help Preservice Teachers Understand Dyslexia,” *Annals of Dyslexia* 70 (2020): 62–78, https://doi.org/10.1007/s11881-020-00192-z.

The simple view of reading

Source: Formula based on Philip B. Gough and William E. Tunmer, “Decoding, Reading, and Reading Disability,” *RASE: Remedial & Special Education* 7, no. 1 (1986): 6–10.

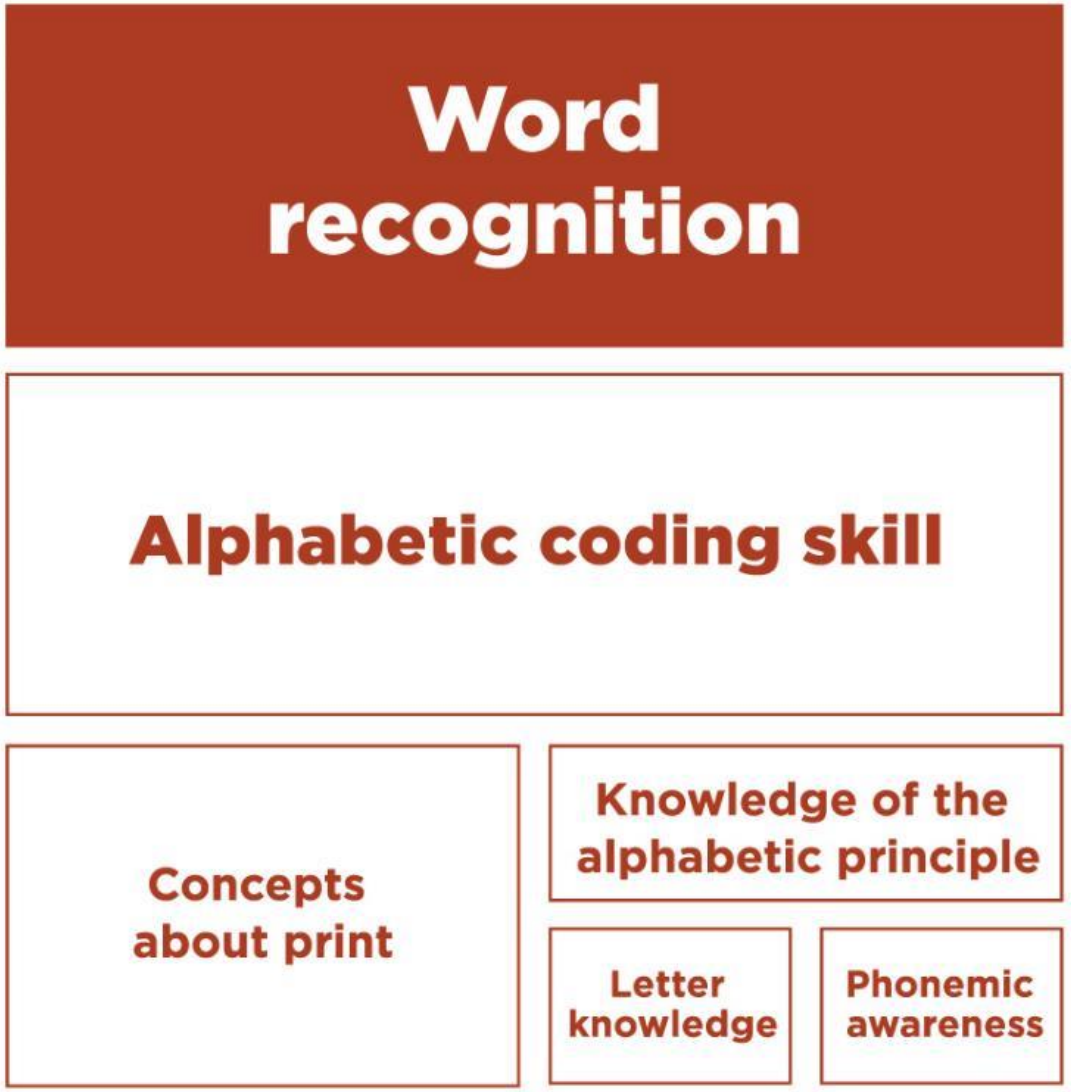
The cognitive foundations framework



Source: Concept for graphic based on Wesley A. Hoover and William E. Tunmer, "The Primacy of Science in Communicating Advances in the Science of Reading," *Reading Research Quarterly* 57, no. 2, 399–408, https://doi.org/10.1002/rrq.446.

Word recognition

- **Dyslexia** means the student has *poor word recognition* and *slower growth in word recognition when provided same instruction*.
- Dyslexia does **not** describe a student's language comprehension skills.



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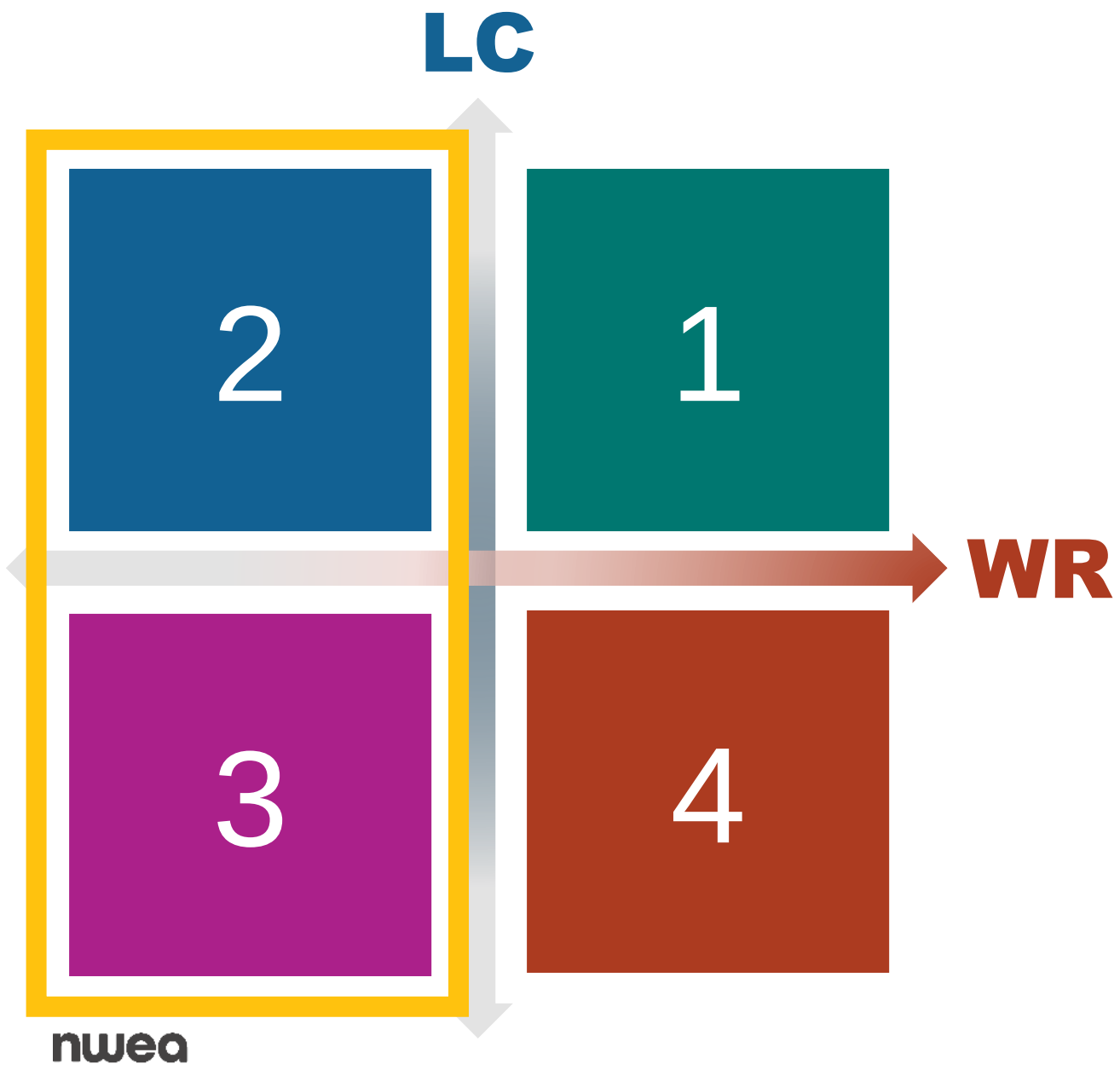
Source: Concept for graphic based on Wesley A. Hoover and William E. Tunmer, "The Primacy of Science in Communicating Advances in the Science of Reading," *Reading Research Quarterly* 57, no. 2, 399–408, https://doi.org/10.1002/rrq.446.



A dyslexia profile

1. How is this **similar to** or **different from** your previous understanding of dyslexia?
2. What are your **role** and **responsibilities** in working with students who:
   - Are at risk for dyslexia
   - Have been identified with dyslexia

Simulation: Reading with dyslexia

Swap the following letters

o = e

d = c

k = t

w = h

a = f

Kwo roc wfk honk enke kwo bey’s wofc buk slic eaa quidtly. Wo fstoc wis cfc ke gok wim f noh wfk hwon kwo defdw dflloc en kwo pweno. Wis cfc roplioc, I cen’k kwint kwoy fro pukking in f noh ercor unkil noxk menkw.

Wek ce yeu kwint kwo bey hfs aooling?

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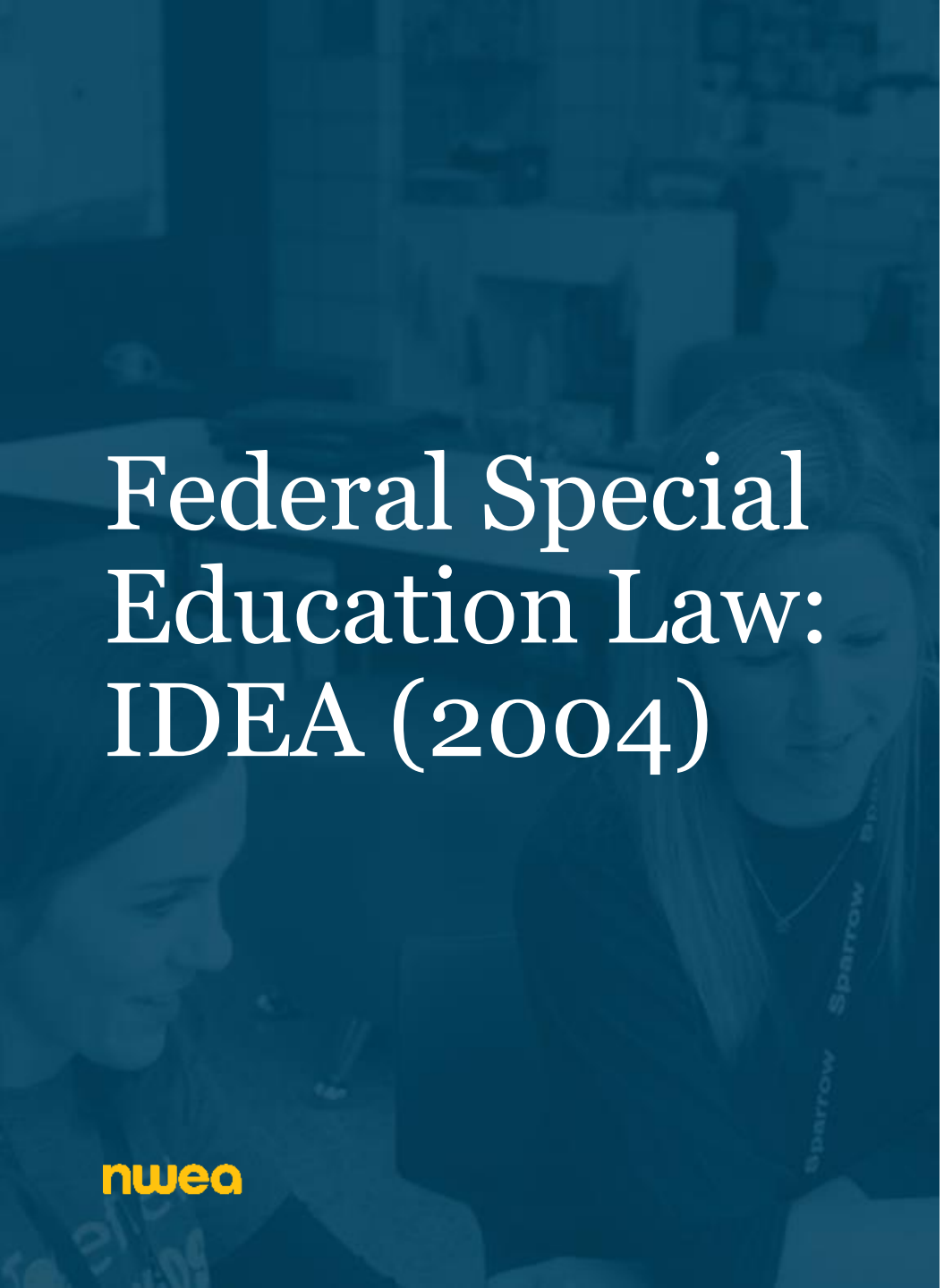


Federal Special Education Law: IDEA (2004)

From IDEA Sec. 300.8 (c) (10)

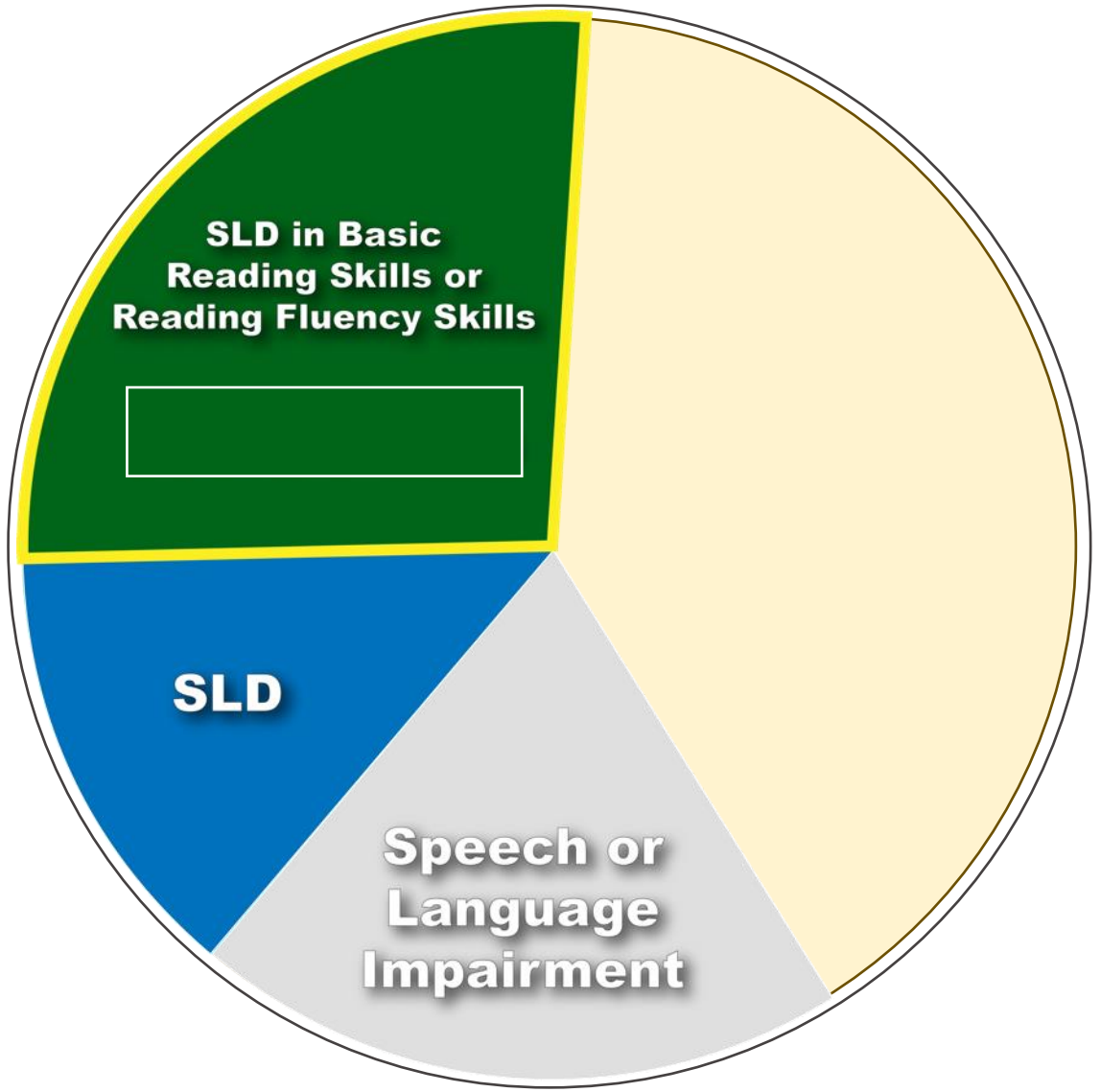
"Specific learning disability means a disorder in one or more of the basic psychological processes involved in understanding or in using language, spoken or written, that may manifest itself in the imperfect ability to listen, think, speak, read, write, spell, or to do mathematical calculations, including conditions such as perceptual disabilities, brain injury, minimal brain dysfunction **dyslexia**, and developmental aphasia.

From IDEA Sec. 300.309

(i) Oral expression.
(ii) Listening comprehension.
(iii) Written expression.
(iv) Basic reading skill.
(v) Reading fluency skills.
(vi) Reading comprehension.
(vii) Mathematics calculation.
(viii) Mathematics problem solving"

Source: US Department of Education, Individuals with Disabilities Education Act, https://sites.ed.gov/idea/regs/b/a/300.8/c/10 and https://sites.ed.gov/idea/regs/b/d/300.309.

Dyslexia and US public schools



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Mythbusting

Which statements are aligned with federal law?

- “My school doesn’t identify dyslexia” **Common Myth**
- ”My school doesn’t identify students with dyslexia” **Common Myth**
- “Dyslexia should be identified outside the school system, by a psychologist, pediatrician, or eye doctor” **Common Myth**
- Dyslexia is an SLD (SLD in basic reading skills/reading fluency SLDs) **Evidence-aligned**

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Categorize the numbers: Big or small?

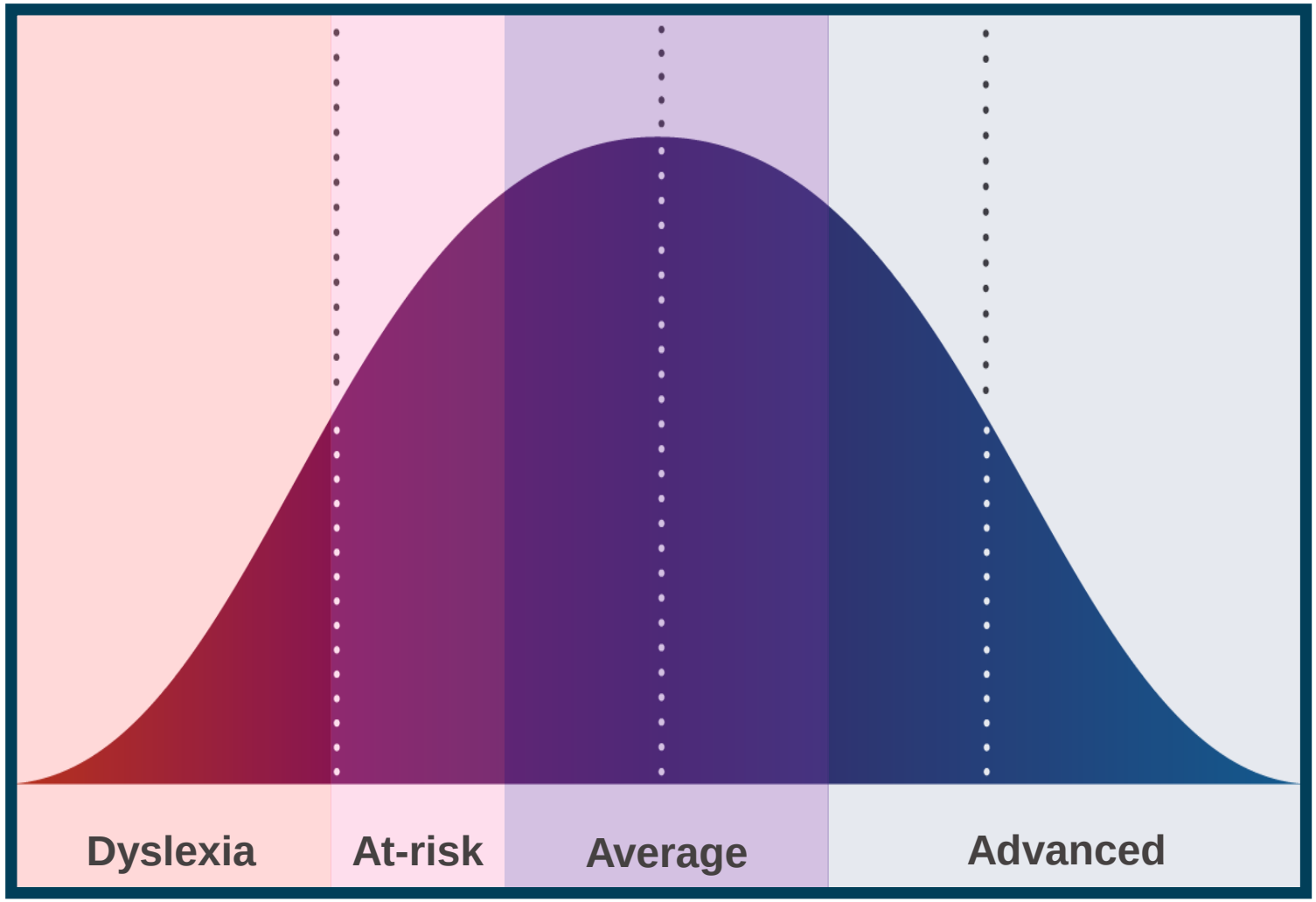
8	22	14	38	17

12	3	13	27

Difficulty or disability?

Three-pronged approach

- Low achievement
- Low response to generally effective intervention
- Exclusionary factors



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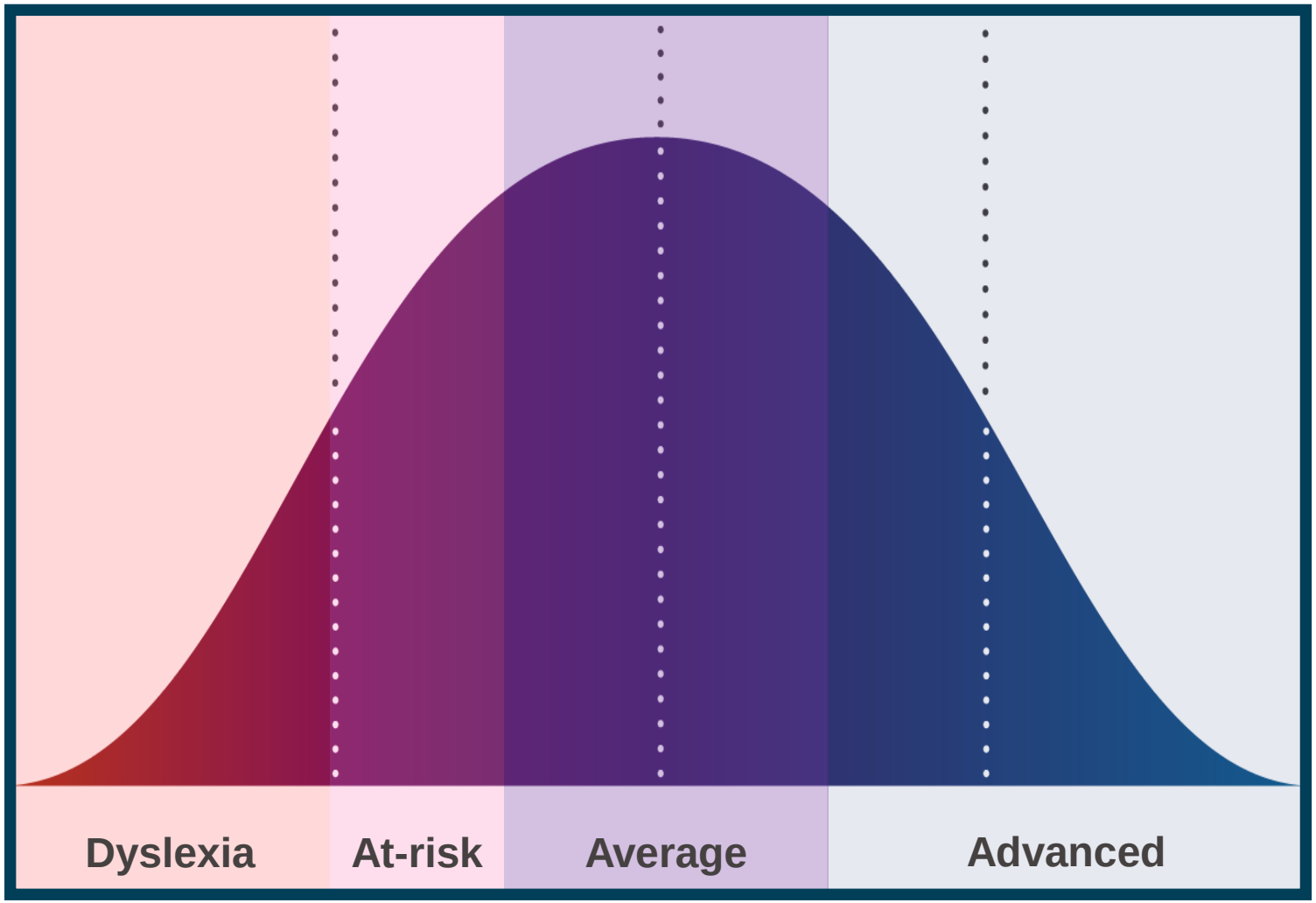
Aligning instruction for optimal benefit

- **Dyslexia:** Most intensive, teacher-managed decoding instruction
- **At risk:** Intensive, teacher-managed decoding instruction
- **Average:** Teacher-managed decoding instruction waning as reading develops
- **Advanced:** Vocabulary-building activities and content-focused instruction, including book clubs and independent reading time



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Source: Carol McDonald Connor, Frederick J. Morrison, and Leslie Katch, "Beyond the Reading Wars: Exploring the Effect of Child-Instruction Interactions on Growth in Early Reading," *Scientific Studies of Reading* 8, no. 4 (2004): 305–336, https://doi.org/10.1207/s1532799xssr0804_1.

The simple view of reading

Source: Formula based on Philip B. Gough and William E. Tunmer, “Decoding, Reading, and Reading Disability,” *RASE: Remedial & Special Education* 7, no. 1 (1986): 6–10.

“There are **two** common sources of reading difficulties in which schools can have a major impact. These two areas are word recognition and language comprehension (Catts et al., 2005). These two areas are also associated with two common disabilities that are not well understood by the general public—**dyslexia** and **developmental language disorder** (DLD; Adlof & Hogan, 2018, 2019). Students who need the most intensive intervention to become proficient with word recognition have dyslexia. Students who need the most intensive intervention to advance their language comprehension have DLD.”

—Dr. Adrea Truckenmiller

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Adrea Truckenmiller, “New and Not-Well-Known Research about Reading Disabilities: Teachers Want to Know," *The Reading Teacher* 77, no. 5 (March/April, 2024): https://doi.org/10.1002/trtr.2280.

Simulation: Reading with DLD

The analysis of the symmetries, their patterns, and the imprints on the phenomenology of the related critical points remain an important subject, with several open issues. In particular, we have seen that the nature of the phase transition as a function of the number of flavors, and the fate of the axial symmetry are under debate. The nature of the transition with increasing N_f has also a potential relevance for phenomenology, as models for strong electroweak breaking often capitalizes on the strong first order transition expected for large N_f.

After reading,

1. Summarize the text, then draw an illustration of the main point.
2. Define the following terms:
   - Axial symmetry
   - Electroweak breaking
   - First order transition

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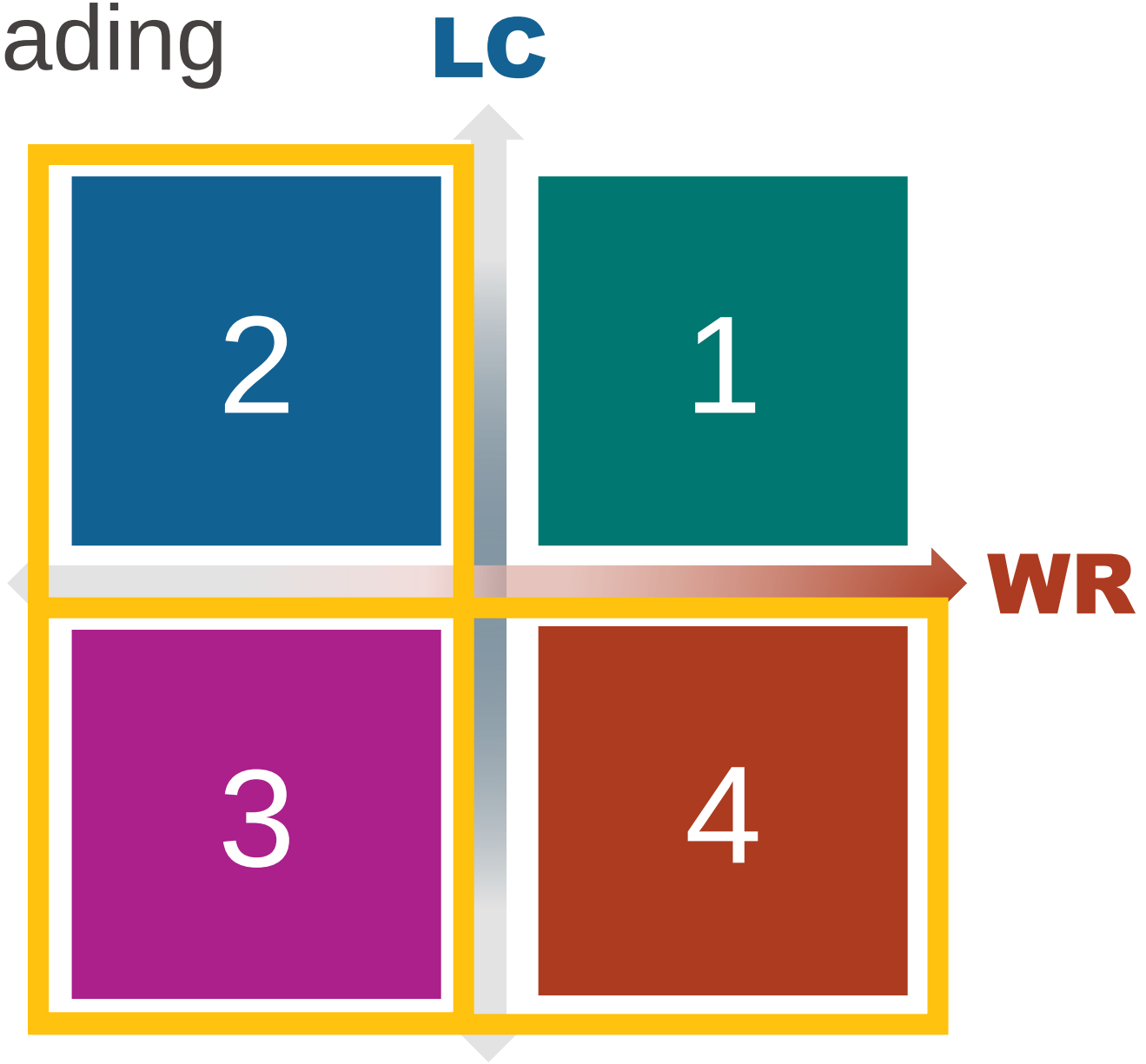
Source: Gert Aarts et al, “Phase Transitions in Particle Physics: Results and Perspectives from Lattice Quantum Chromo-Dynamics,” *Progress in Particle and Nuclear Physics* 133 (2023): https://doi.org/10.1016/j.ppnp.2023.104070.

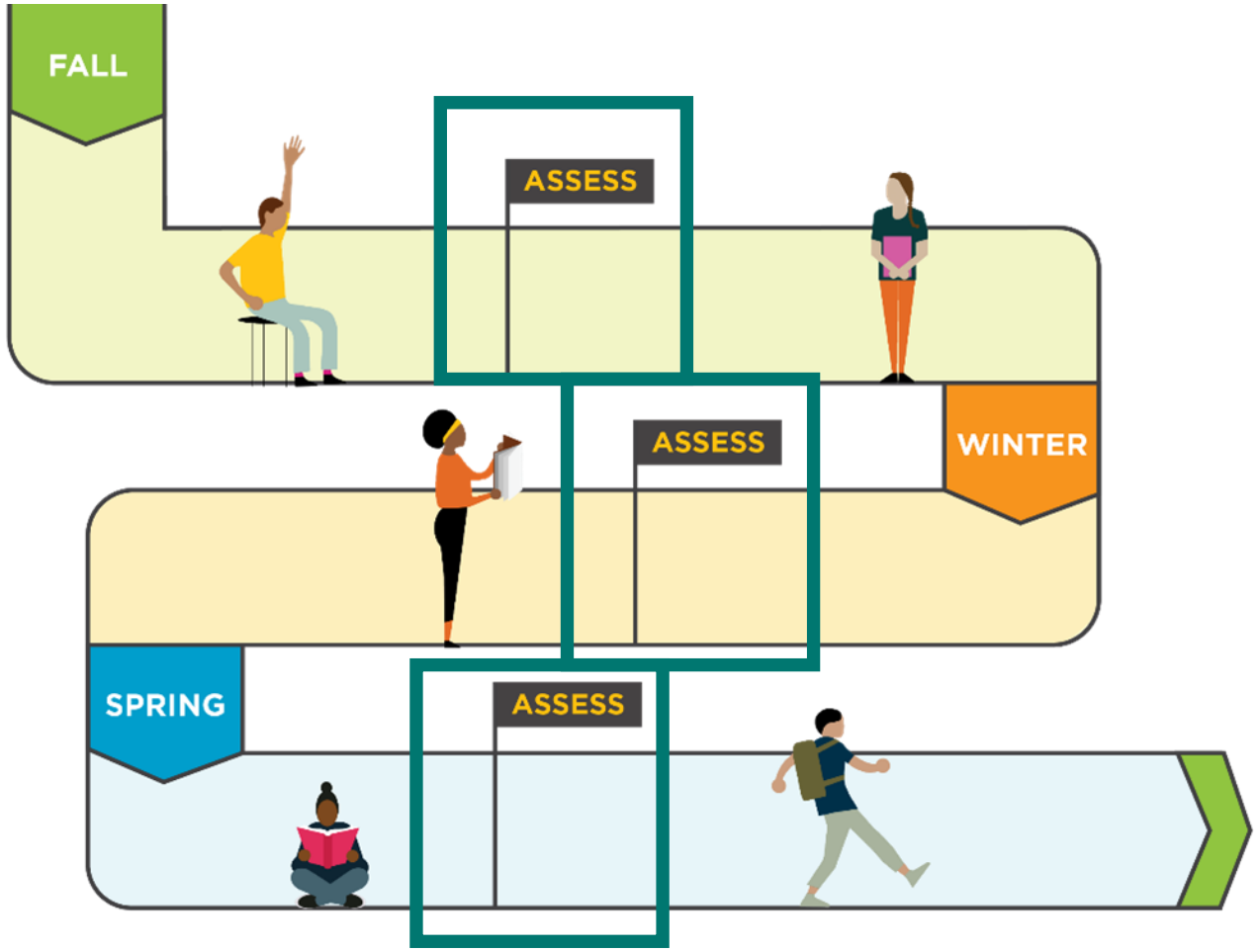
The Simple View of Reading

- Which quadrant(s) would a student at-risk for or with dyslexia fall?
- Which quadrant(s) would a student at-risk for or with Developmental Language Disorder (DLD) fall?



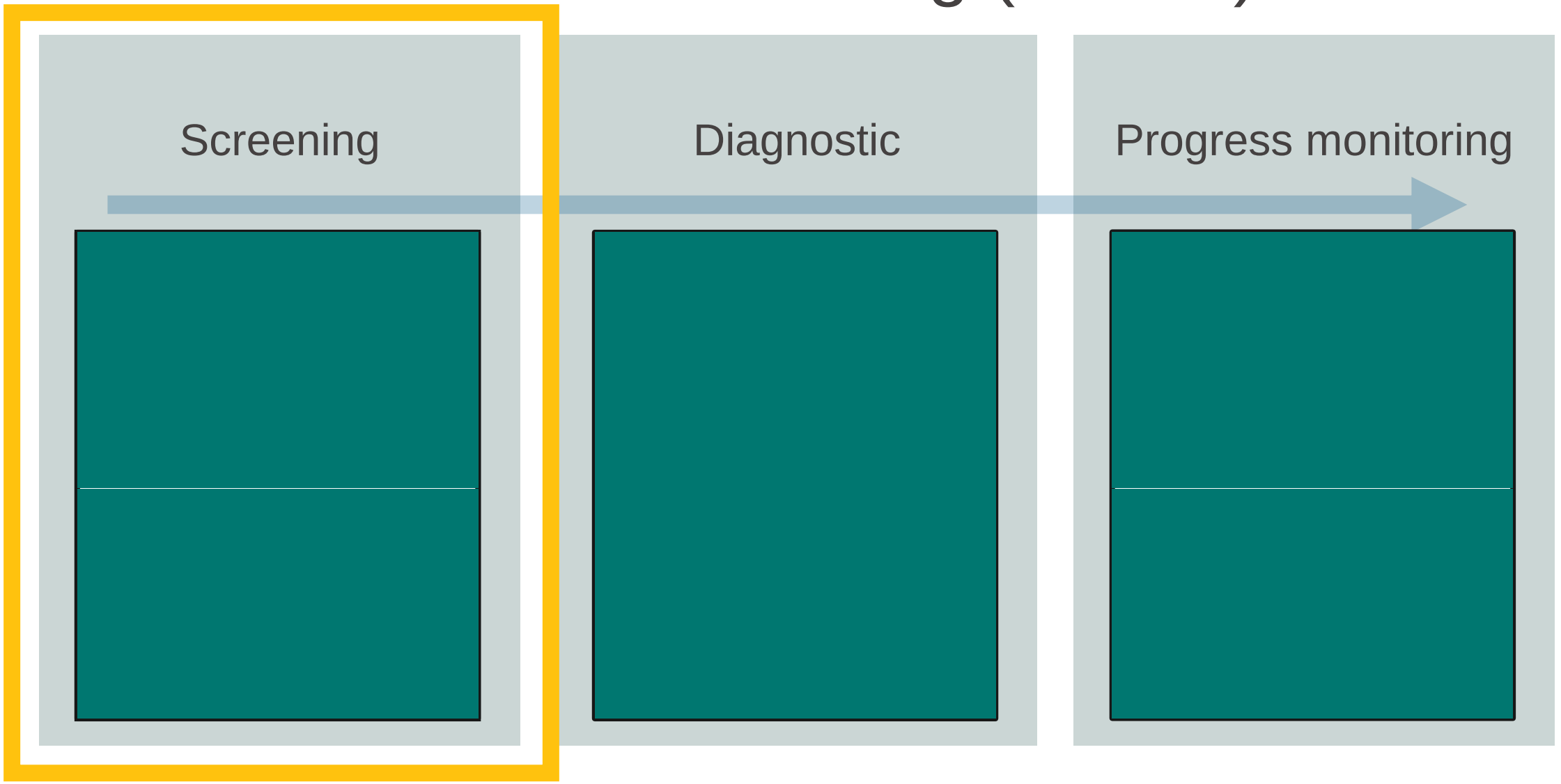
Screening for risk

IDEA's Child Find: "The State must have in effect policies and procedures to ensure that—All children with disabilities residing in the State, including . . . children with disabilities attending private schools, regardless of the severity of their disability, and who are in need of special education and related services, are identified, located, and evaluated."



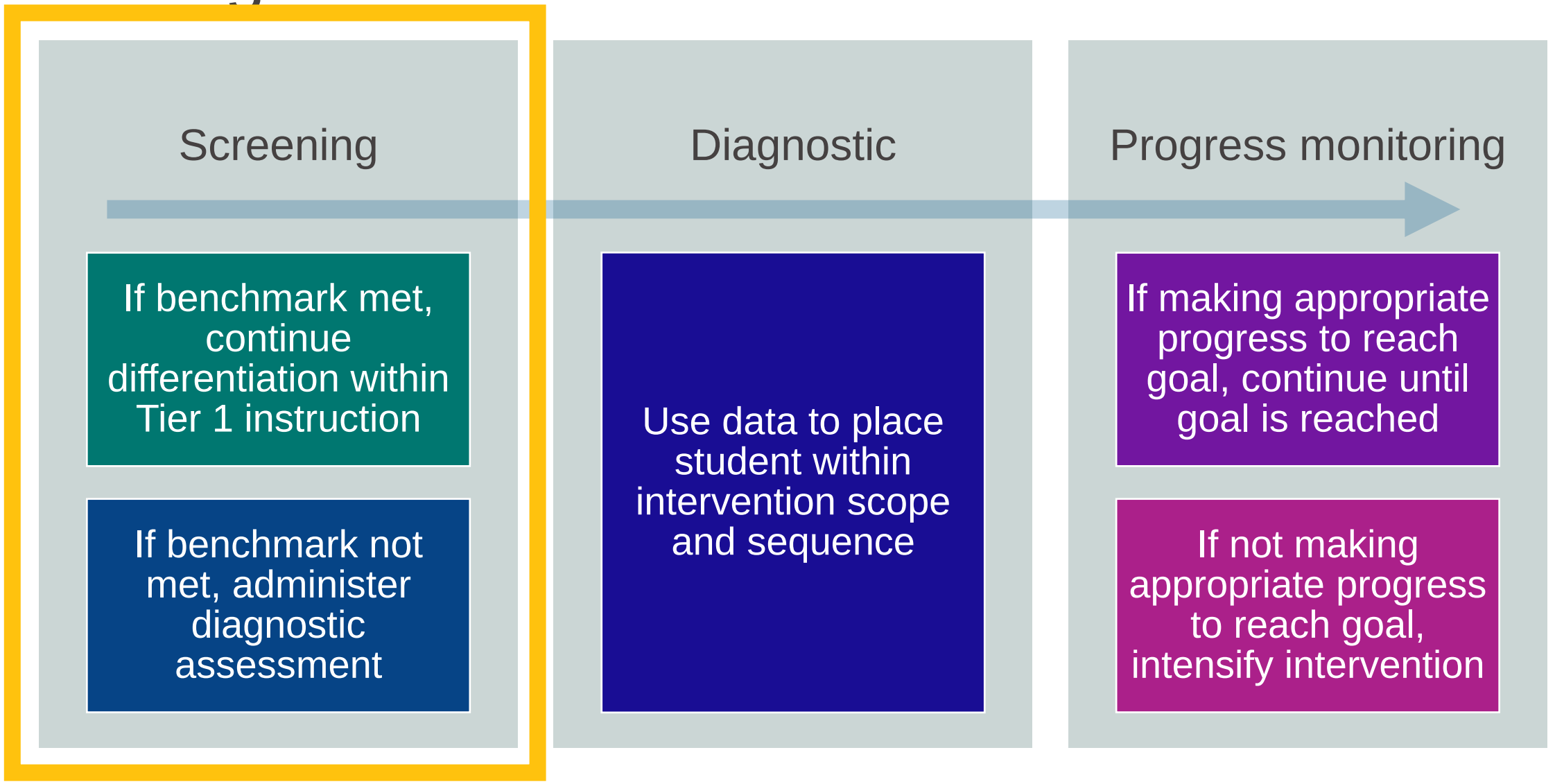
Source: US Department of Education, Individuals with Disabilities Education Act, "Child Find," https://sites.ed.gov/idea/regs/b/b/300.111.

Data-based decision-making (DBDM)



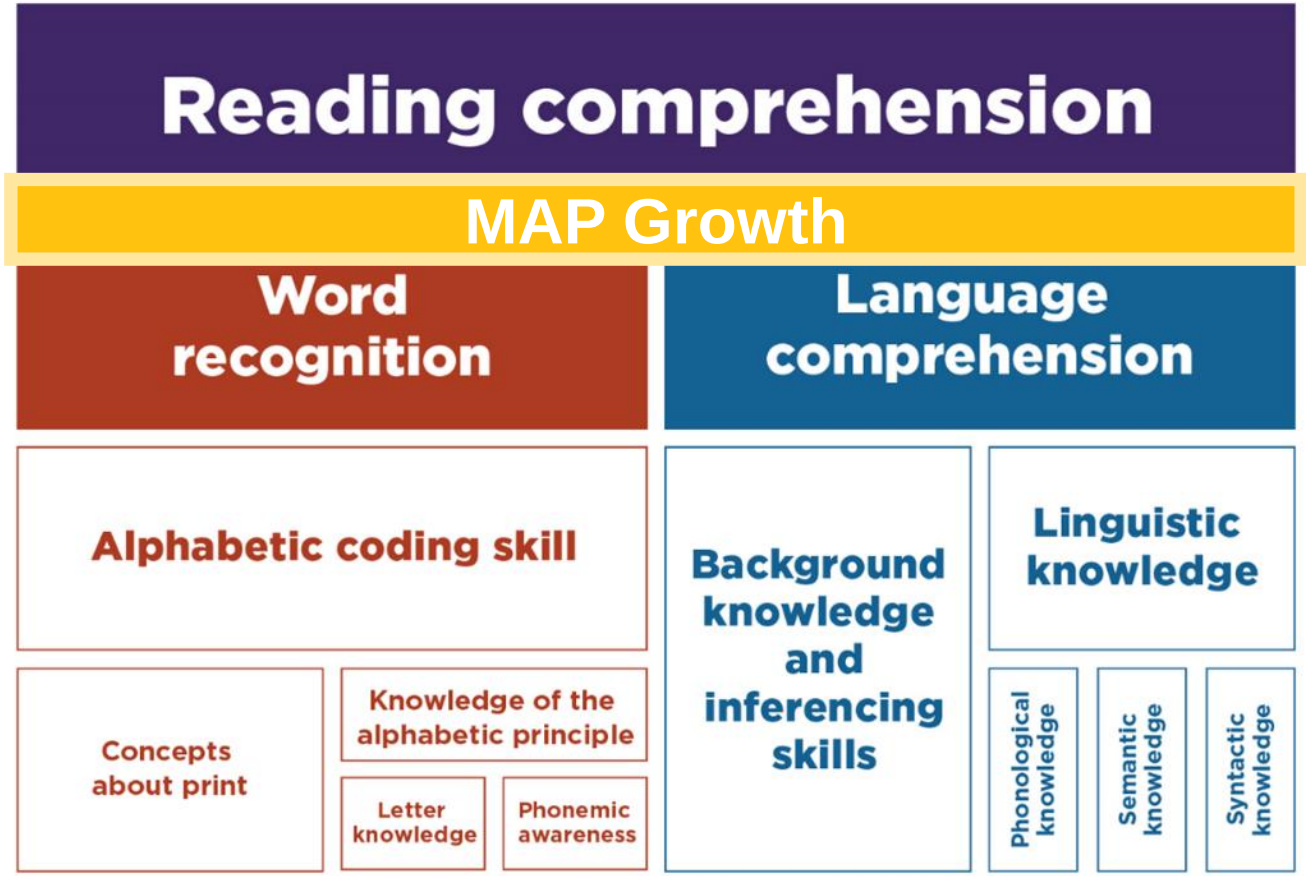
Source: Marissa J. Filderman and Jessica R. Toste, “Effects of Varying Levels of Data Use to Intensify a Multisyllabic Word Reading Intervention for Upper Elementary Students With or At Risk for Reading Disabilities,” *Journal of Learning Disabilities* 55, no. 5 (2022): 393-407. https://doi.org/10.1177/00222194211048405.

Making decisions with DBDM



Source: Marissa J. Filderman and Jessica R. Toste, “Effects of Varying Levels of Data Use to Intensify a Multisyllabic Word Reading Intervention for Upper Elementary Students With or At Risk for Reading Disabilities,” *Journal of Learning Disabilities* 55, no. 5 (2022): 393-407. https://doi.org/10.1177/00222194211048405.

The cognitive foundations framework



Source: Concept for graphic based on Wesley A. Hoover and William E. Tunmer, “The Primacy of Science in Communicating Advances in the Science of Reading,” *Reading Research Quarterly* 57, no. 2, 399–408, https://doi.org/10.1002/rrq.446.

Screening for overall reading comprehension

Example: MAP Growth

Class Profile

Instructional Area Details by Student—Demo Growth: Reading 2-5

Homeroom | Grades 4, 5 | Mesa Verde Elementary School | Reading

Student Name (168) ↑	Grade	Achievement Percentile	RIT Score	Lexile
Bennett, Wanda	5	75th	216	900L-1050L
Bennett, Wanda	5	82nd	220	975L-1125L
Bennett, Wanda	5	71st	220	975L-1125L
Bennett, Wanda Q	4	75th	216	900L-1050L
Bennett, Wanda Q	4	71st	220	975L-1125L
Bennett, Wanda Q	4	82nd	220	975L-1125L
Carlin, Alishia	5	62nd	210	780L-930L
Carlin, Alishia	5	48th	210	780L-930L
Carlin, Alishia	5	48th	204	665L-815L
Carlin, Alishia Q	4	48th	204	665L-815L

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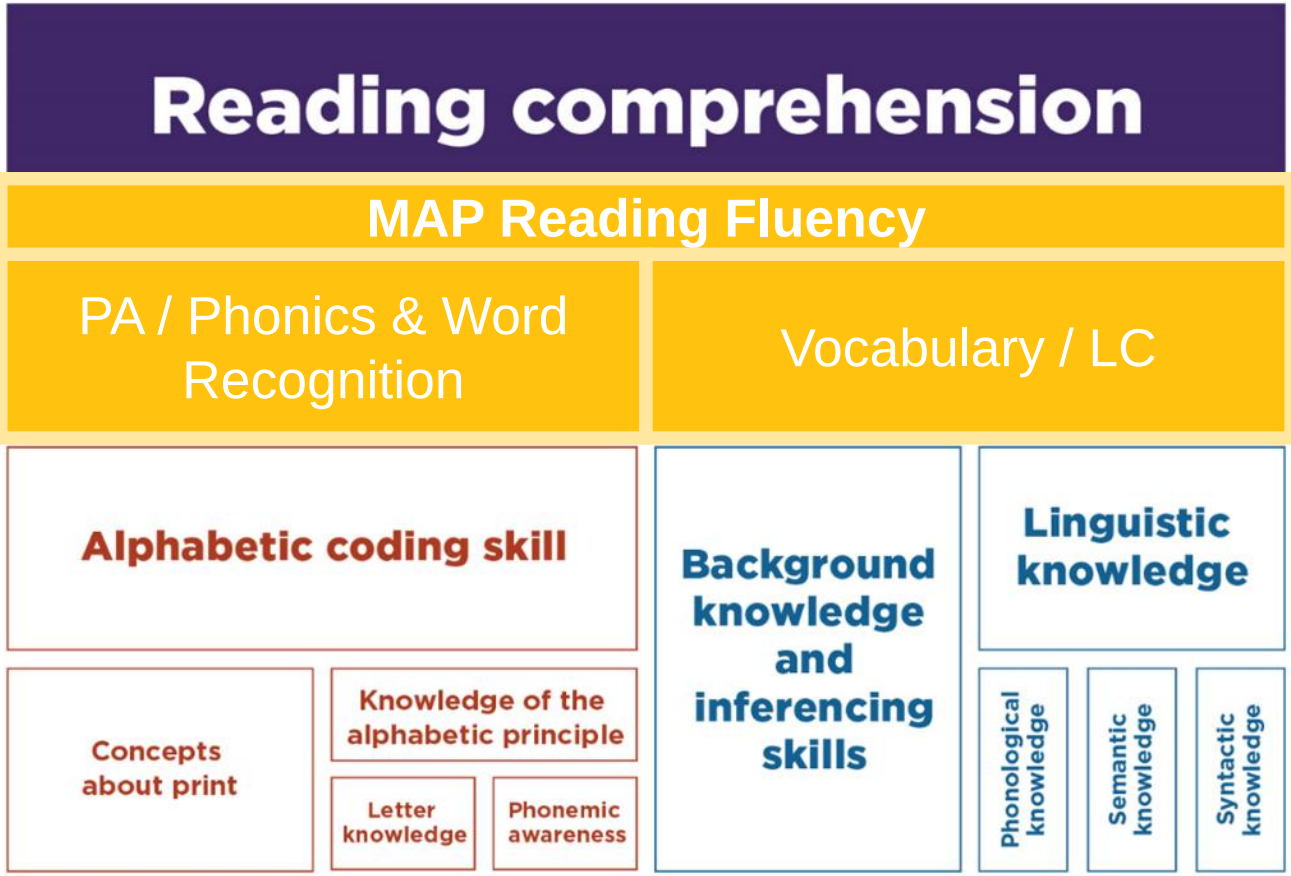
The cognitive foundations framework



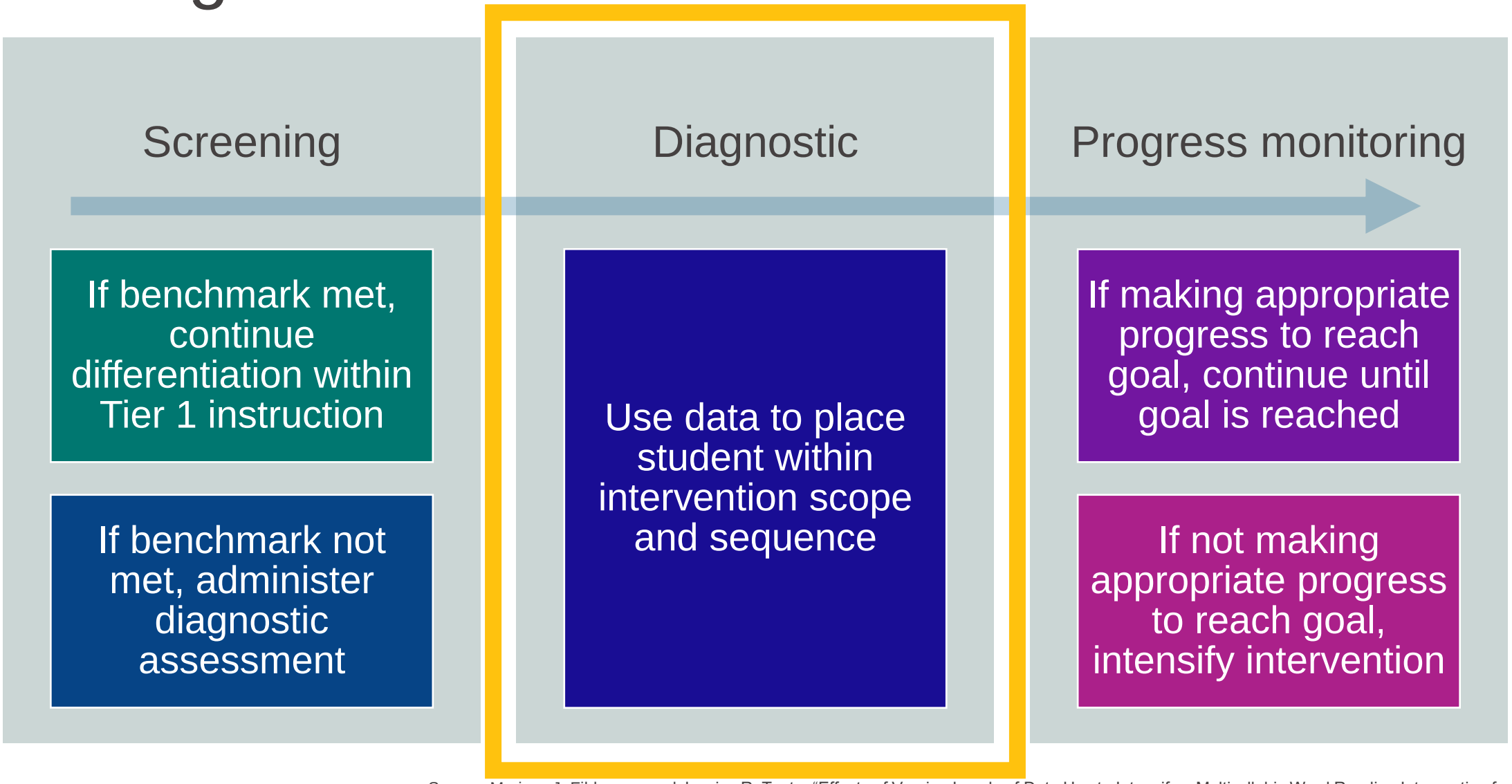
Source: Concept for graphic based on Wesley A. Hoover and William E. Tunmer, "The Primacy of Science in Communicating Advances in the Science of Reading," *Reading Research Quarterly* 57, no. 2, 399–408, https://doi.org/10.1002/rrq.446.

Screening for both WR and LC

Example: MAP Reading Fluency

		FOUNDATIONAL SKILLS						ORAL READING					
Student	Tested Grade	Listening Comprehension		Picture Vocabulary		Phonological Awareness	Phonics/Word Recognition	Sentence Reading Fluency		Oral Reading Rate	Accuracy	Oral Reading Level	Literal Comprehension
Scott, Johnny	2	B	53%	A	60%	A Phonemic Manipulation	B Decodable: CVC	A	10/11				
Ball, Horace	2	M	100%	M	100%	B Blending & Segmenting	A Decodable: One-syllable	A	12/15				
Moore, Heather	2	M	87%	M	100%	A Phonemic Manipulation	A Decodable: One-syllable	A	14/18				
Boone, Peter	2							A	16/18	M 54	M 98%	500L	A
Bryant, Carlos	2							M	23/25	M 82	M 96%	575L	M
Crouse, Donn	2							M	25/25	M 79	A 90%	530L	M
Davis, Samuel	2							M	25/26	E 127	E 98%	570L	E
Estrada, Casey	2							M	20/21	M 79	M 95%	475L	M
Faulk, Jennefer	2							A	15/20	A 38	B 71%	375L	B

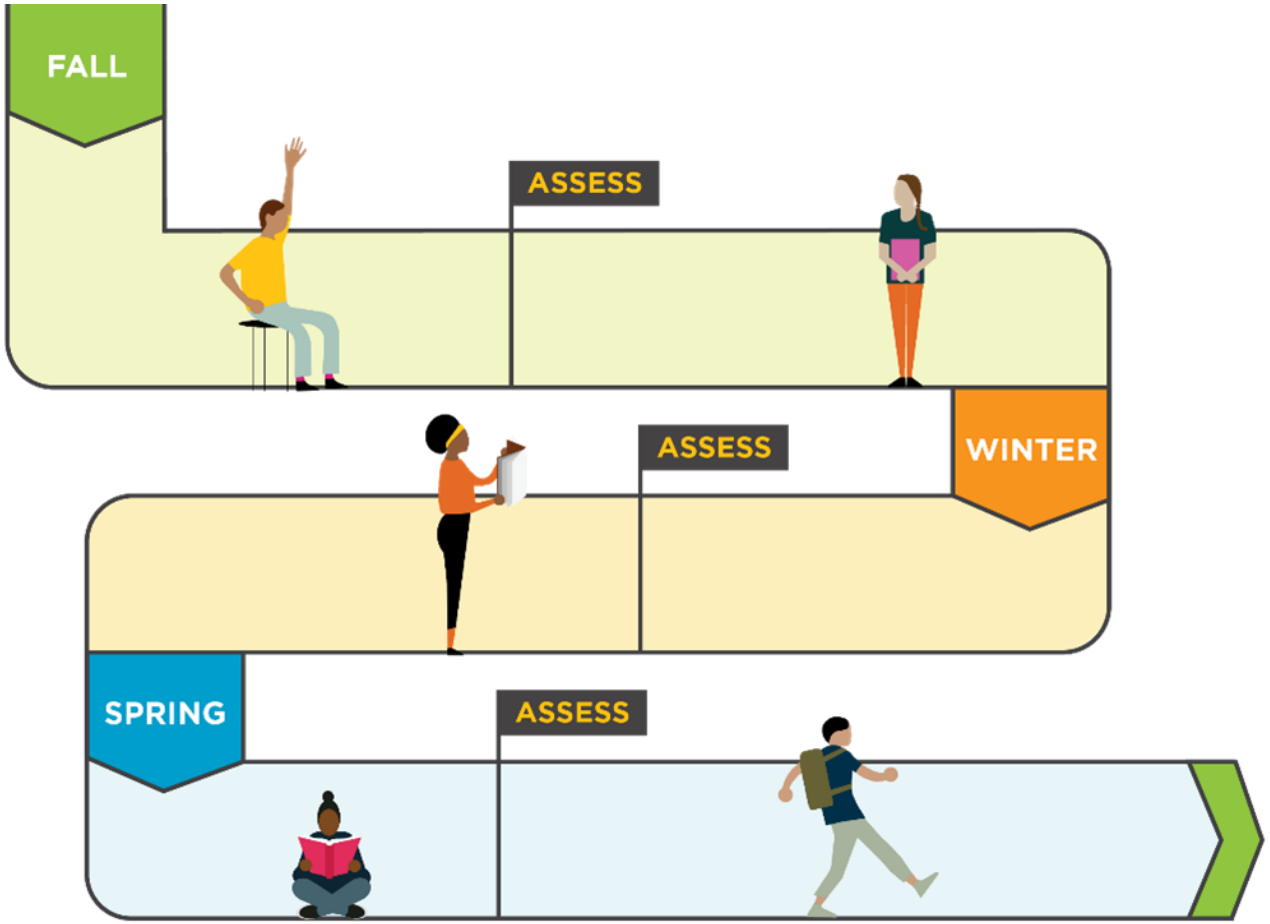
Making decisions with DBDM



Source: Marissa J. Filderman and Jessica R. Toste, “Effects of Varying Levels of Data Use to Intensify a Multisyllabic Word Reading Intervention for Upper Elementary Students With or At Risk for Reading Disabilities,” *Journal of Learning Disabilities* 55, no. 5 (2022): 393-407. https://doi.org/10.1177/00222194211048405.

Literacy assessments

- What literacy assessments do you use to make instructional decisions?
- How often are they given and how is each used for instructional decision-making?



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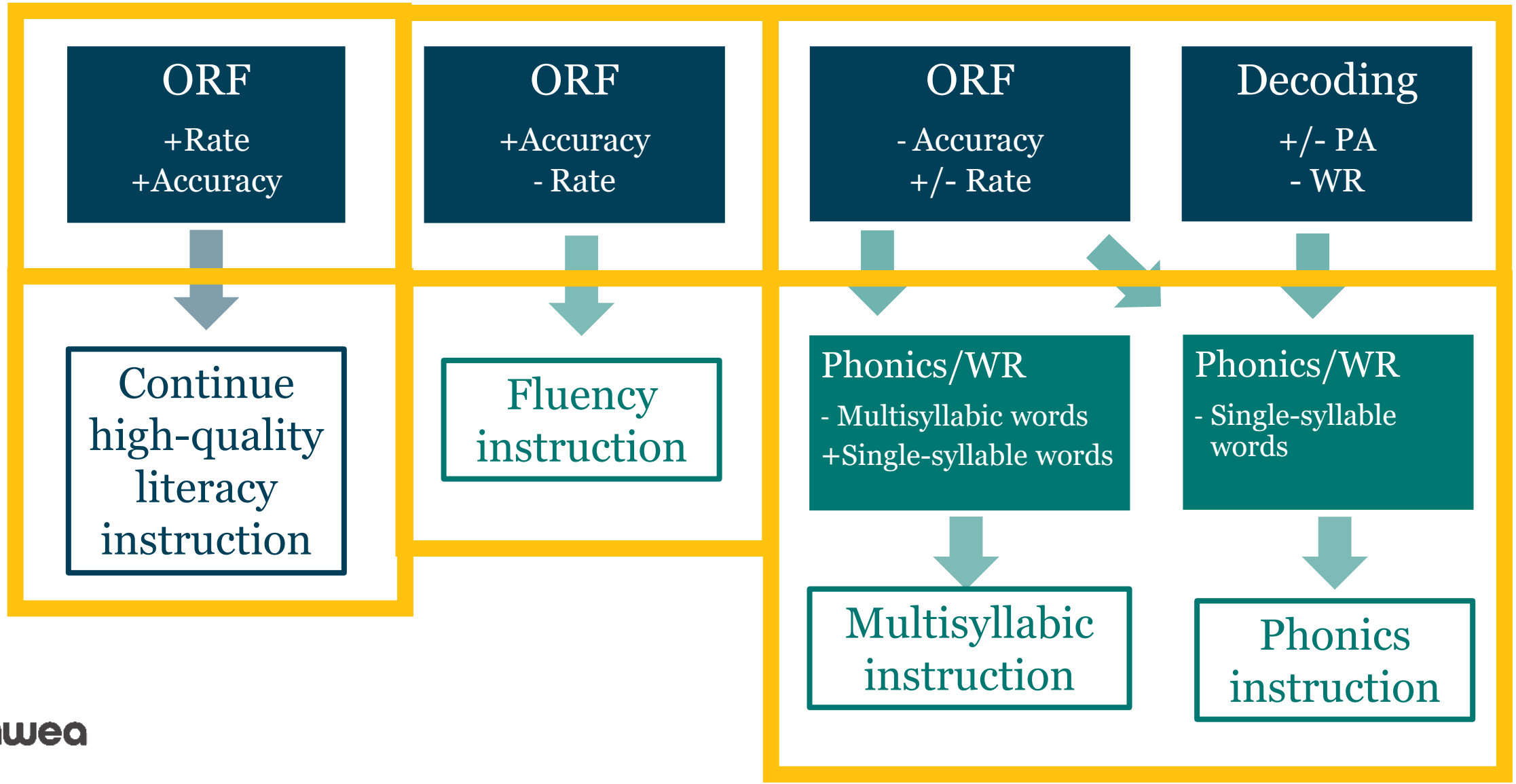
Demo: Aligning instruction to student needs



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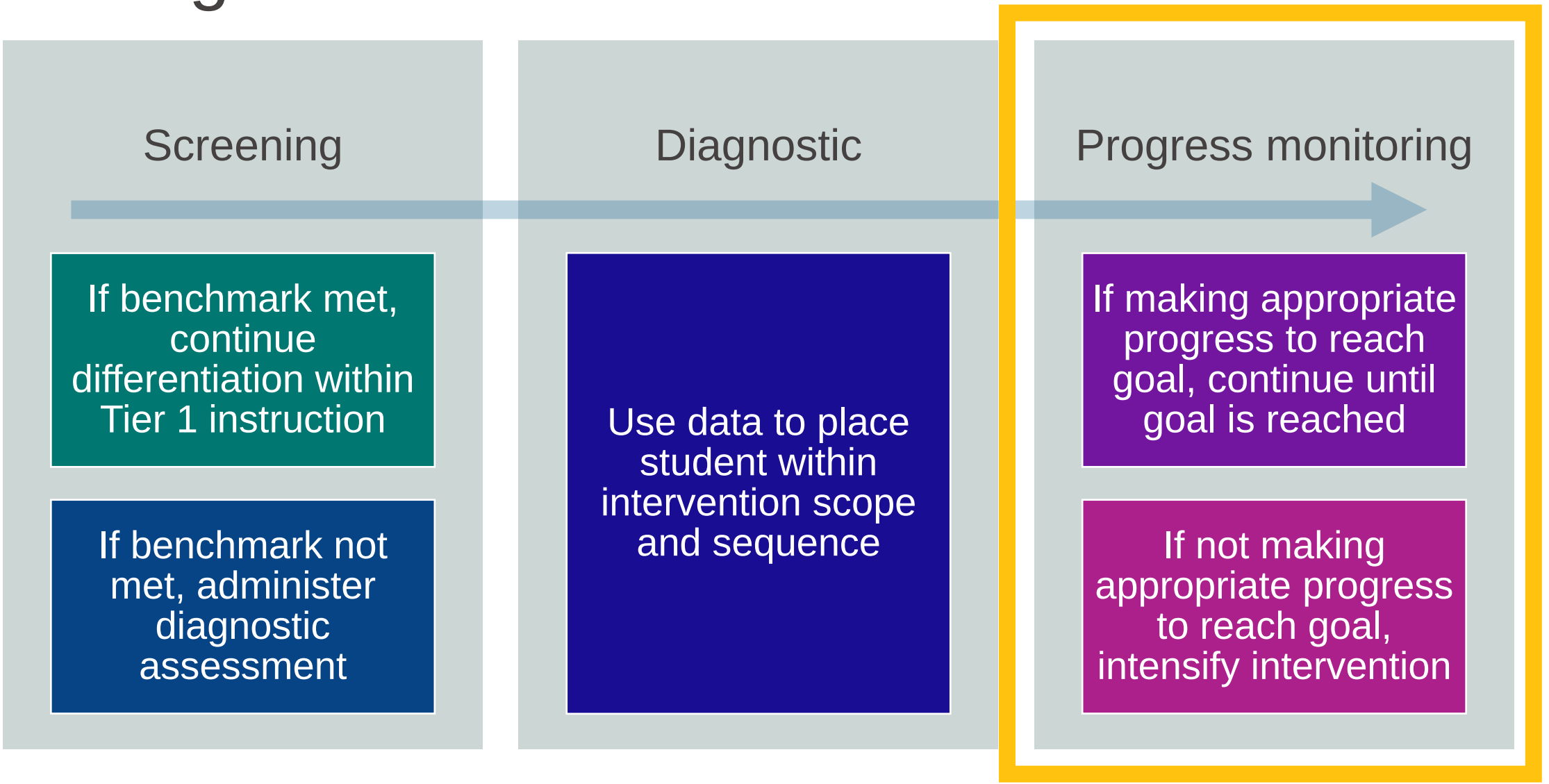
Making decisions with DBDM

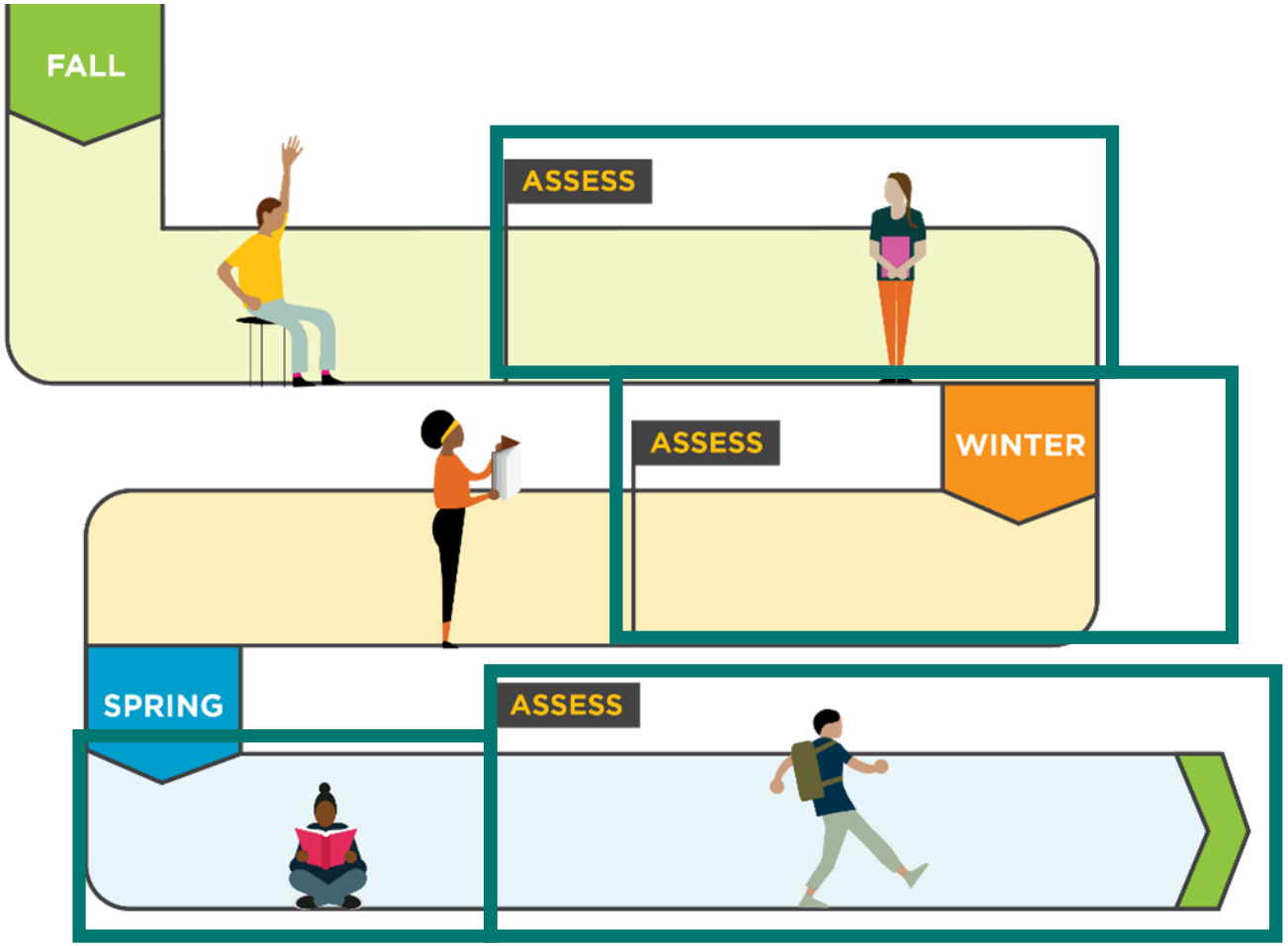


Source: Marissa J. Filderman and Jessica R. Toste, “Effects of Varying Levels of Data Use to Intensify a Multisyllabic Word Reading Intervention for Upper Elementary Students With or At Risk for Reading Disabilities,” *Journal of Learning Disabilities* 55, no. 5 (2022): 393-407. https://doi.org/10.1177/00222194211048405.

Evaluating progress monitoring data

Questions to discuss:

- Does the data show the student's **trajectory** will reach grade level by the end of this term?
    - If not, how will we intensify their intervention?
- Looking at the data of all student's receiving this intervention, is the intervention **generally effective**?



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Intensifying interventions

DOSAGE

- ❑ Size of instructional group
- ❑ Number of sessions per week
- ❑ Number of minutes of each session
- ❑ Number of opportunities to respond per student per minute

ALIGNMENT

- ❑ The intervention targets all skills in which the student has gaps
- ❑ The intervention does not target unnecessary skills the student has already mastered
- ❑ Incorporates a meaningful focus on grade-level standards

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Sources: Lynn S. Fuchs, Douglas Fuchs, and Amelia S. Malone, "The Taxonomy of Intervention Intensity," *TEACHING Exceptional Children* 50, no. 4 (November 2017): 194–202, https://doi.org/10.1177/0040059918758166; National Center on Intensive Intervention at American Institutes for Research, "Taxonomy of Intervention Intensity: Academics," https://intensiveintervention.org/sites/default/files/Taxonomy-Overview-Handout508.pdf.

Myth-busting dyslexia identification methods
Which are aligned with the science of reading?

IQ—achievement discrepancy approach

- Largely discredited
- Classifications do not result in educationally meaningful groups

Common Myth

Patterns of processing strengths and weaknesses approaches (PSW)

- Recent reviews show little empirical evidence for the validity of this method
- Classifications do not result in educationally meaningful groups—may actually exacerbate reliability issues

Common Myth

Instructional response (RtI method)

- Results in a number of meaningful groups, such as academic achievement, cognitive performance, behavior, and brain activation patterns

Evidence-aligned

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Source: National Center on Improving Literacy (2023). The Critical Role of Instructional Response for Identifying Dyslexia and Other Learning Disabilities. Washington, DC: U.S. Department of Education, Office of Elementary and Secondary Education, Office of Special Education Programs, National Center on Improving Literacy. Retrieved from https://www.improvingliteracy.org.

References: Miciak, J., & Fletcher, J. M. (2020). The Critical Role of Instructional Response for Identifying Dyslexia and Other Learning Disabilities. *Journal of Learning Disabilities*, 22219420906801. Advance online publication. https://doi.org/10.1177/0022219420906801

“We have argued that much of the controversy and confusion related to dyslexia identification and treatment results from a misunderstanding of the inherent attributes of dyslexia and SLDs more generally. Current evidence supports a dynamic, treatment-focused model for dyslexia identification treatment, best implemented in MTSS.”

—Jeremy Miciak and Jack M. Fletcher

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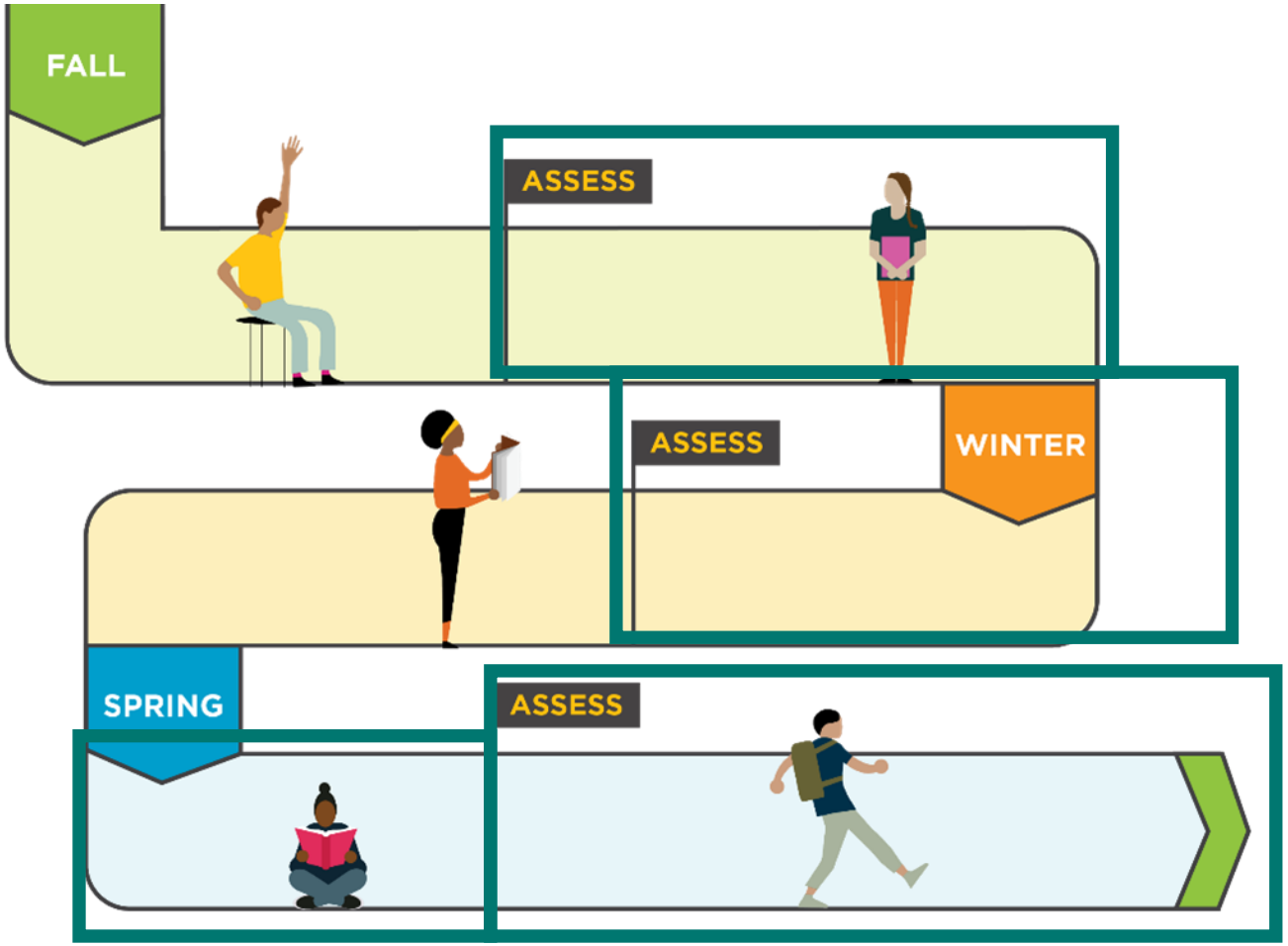
Jeremy Miciak and Jack M. Fletcher, “The Critical Role of Instructional Response for Identifying Dyslexia and Other Learning Disabilities,” *Journal of Learning Disabilities*, 53(5) (2020): 343–353, https://doi/10.1177/0022219420906801.

Best practice: Evaluating SLD through RTI

IDEA: All states must allow evaluation of RTI on determining the existence of a SLD:

"The child does not make sufficient progress to meet age or State-approved grade-level standards in one or more of the areas [listed on the previous slide] when using a process based on the child's response to scientific, research-based intervention."



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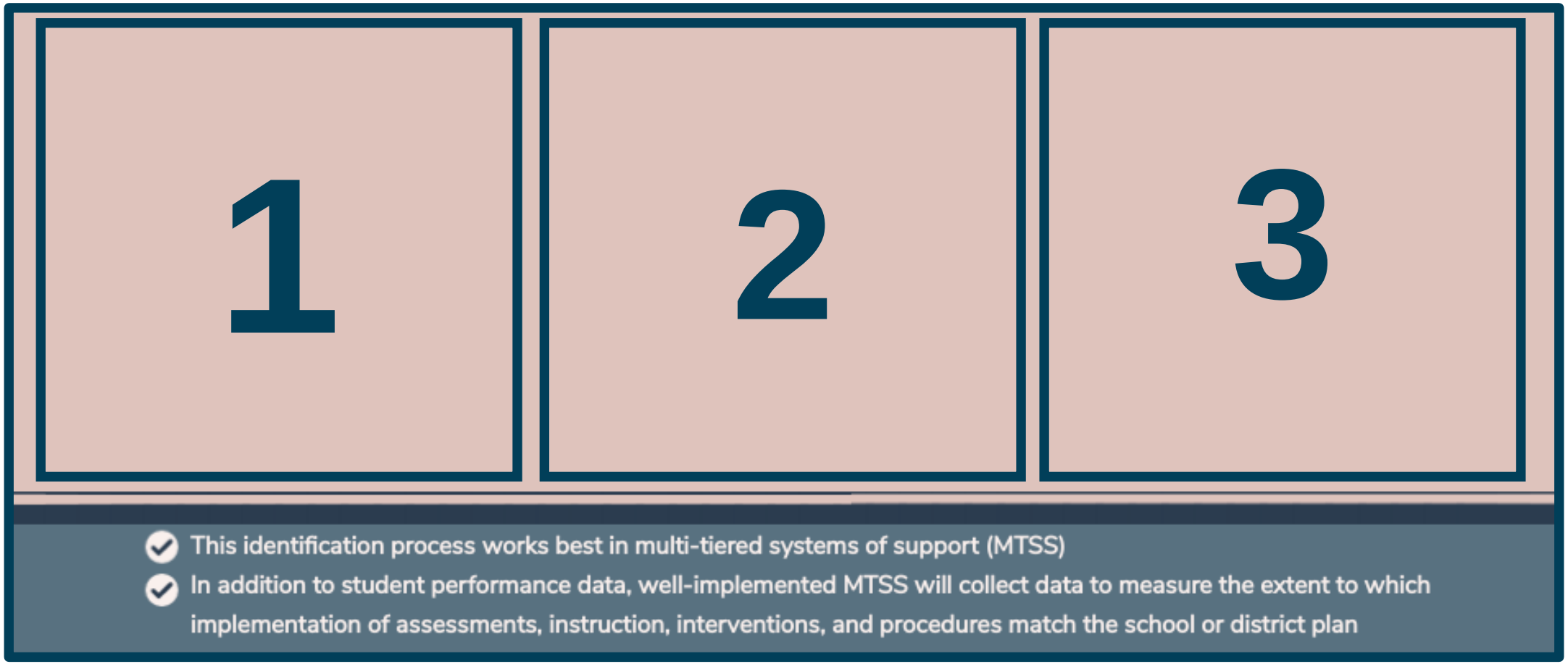
Source: US Department of Education, Individuals with Disabilities Education Act, "Determining the existence of a specific learning disability," https://sites.ed.gov/idea/regs/b/d/300.309.

Dyslexia identification gold standard: The 3-pronged approach



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Source: National Center on Improving Literacy (2023). The Critical Role of Instructional Response for Identifying Dyslexia and Other Learning Disabilities. Washington, DC: U.S. Department of Education, Office of Elementary and Secondary Education, Office of Special Education Programs, National Center on Improving Literacy. Retrieved from https://www.improvingliteracy.org.

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Access vs. intervention

ACCESS

- Inclusive practices that ensure all students can participate in classroom activities

Goal:

- Provide access to instruction and assessment materials

INTERVENTION

- Provides targeted support to address the unique needs of learners who are struggling

Goal:

- Accelerate learning

True or false?

1. Dyslexia means people see words or letters backwards or flipped.
2. Dyslexia identification has a well-defined cutoff. Students either have dyslexia or they do not.
3. Eye tracking exercises are usually effective in remediating dyslexia.
4. Dyslexia should usually be diagnosed by a pediatrician.
5. Schools cannot use the term dyslexia to identify students for special education services.
6. Colored lenses and colored overlays are research-based accommodations to help students with dyslexia.

Revisiting the case study: Joseph's scores

Fall reading screening assessments were completed for all 1st-graders. Joseph's scores showed he is below benchmark and at-risk for dyslexia. He was meeting benchmark in kindergarten. Joseph's dad has emailed you to better understand what this means. How would you respond now?

Good morning,

I received Joseph's dyslexia scores. I didn't know he had reading problems at school. Does this mean he has dyslexia? What is dyslexia?

What’s next?

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Introducing: Your reading dream team

map Reading Fluency

Educator

Adaptive Reading Fluency assessment

Maya
Personalized Reading Coach

nwea

Adaptive Whole Class Assessment

Fall — Winter — Spring

Adaptive Assessment

AREAS COVERED

- Oral reading fluency
- Literal comprehension
- Foundational reading skills
- Universal screening

Actionable data

Class | Group | Student

Reader profiles and next steps

Universal Screener flag

MAP Reading Fluency assessment results

Foundational skills data

PA
Phonological awareness

PH
Phonics & word recognition

LC
Language Comprehension

- ZPD in Phonological Awareness and Phonics
- Decoding and language comprehension

Oral reading data

FL
Oral reading fluency

RC
Reading comprehension

- Words (scaled) correct per minute
- Decoding accuracy
- Literal comprehension
- Oral reading Lexile level

Actionable data

Class

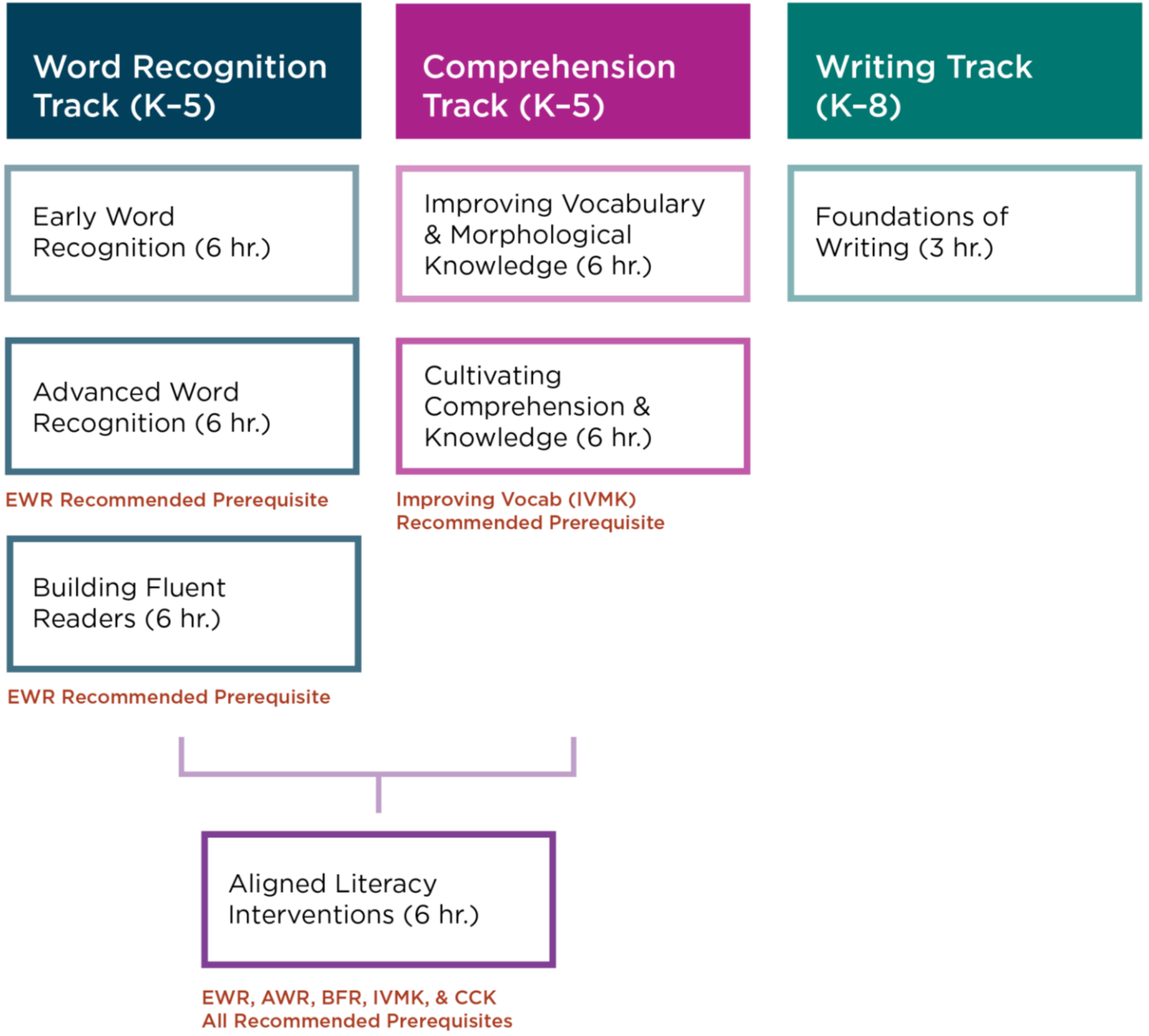
Group

Student

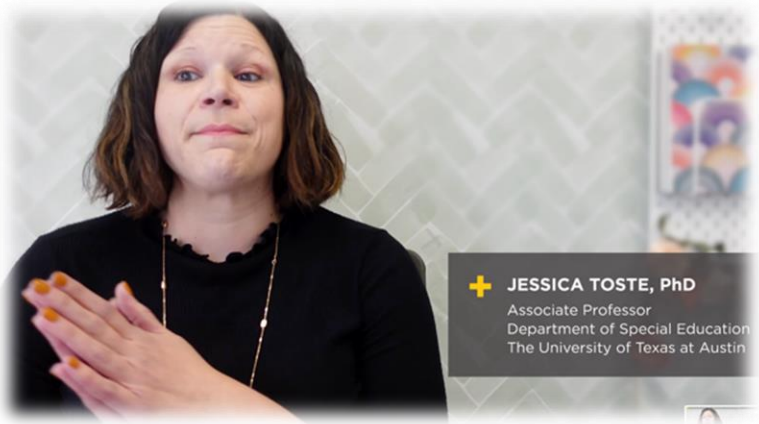
Reader profiles and next steps

Universal Screener flag

Literacy Professional Learning



Science of Reading Resource Page



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Q&A