Using Data to Screen For Dyslexia

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National Center on **INTENSIVE INTERVENTION** at the American Institutes for Research®

National Center on Improving Literacy

Lead for Literacy

IDEAs that Work

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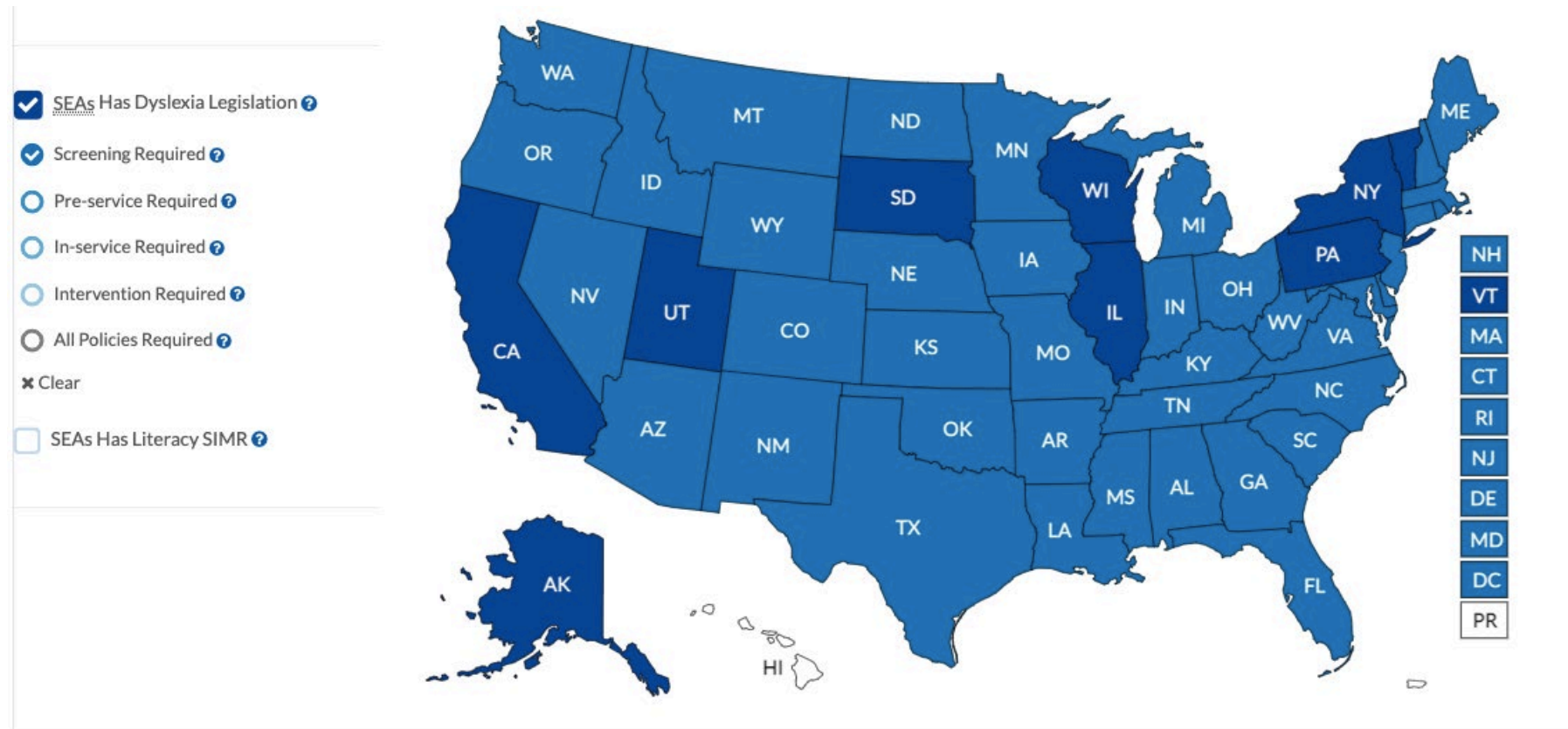# 2023 OSEP Leadership and Project Directors' Conference

Agenda

- Dyslexia definition & legislation

- Selection of dyslexia screening tools

- Best practices for screening procedures

- Implementation of an MTSS framework to support dyslexia screening & decision making

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Current Challenges

- Legislation and Definition

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Current Challenges

- Legislation and Definition

"Dyslexia is a specific learning disability that is neurological in origin. It is characterized by difficulties with accurate and/or fluent word recognition and by poor spelling and decoding abilities. These difficulties typically result from a deficit in the phonological component of language that is often unexpected in relation to other cognitive abilities and the provision of effective classroom instruction. Secondary consequences may include problems in reading comprehension and reduced reading experience that can impede the growth of vocabulary and background knowledge."

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Current Challenges

- Legislation and Definition

Word reading		Written expression		Phonological memory		Oral language		Comprehension		Rapid naming		Onset rime		Family history
1. Decoding	9.	Encoding	12.	Phonological memory	14.	Fluency	17.	Comprehension	20.	Alphabet knowledge	22.	Onset rime	23.	Family history
2. Fluency	10.	Spelling	13.	Nonsense word repetition	15.	Oral language	18.	Reading comprehension	21.	Rapid naming				
3. Phonics	11.	Written expression			16.	Vocabulary	19.	Oral/linguistic comprehension						
4. Letter-sound (or sound-symbol) correspondence														
5. Phonemic awareness														
6. Phonological awareness														
7. Word reading														
8. Sight word reading														

Current Challenges

- Legislation and Definition

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Why Screen for Dyslexia?

Early reading intervention ➡ Reduction for the risk of reading problems in general - and specifically word-level reading issues epitomized by dyslexia
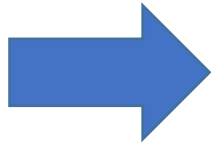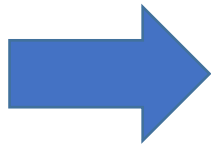
Early screening ➡ First step for preventative intervention – paramount importance for states, districts, & schools take action to improve services for students with disabilities

Selection of Screening Tools: Skills

Grade	Skills
Kindergarten	• Phonological and phonemic awareness • Rapid automatic naming tasks (letter naming fluency) • Letter-sound association • Phonological memory
First	• Phoneme awareness & segmentation • Letter manipulation • Nonword repetition • Oral vocabulary • Word recognition fluency
Second	• Word ID (real or nonsense) • Oral reading fluency • Reading comprehension

Selection of Screening Tools: Quality

Essential to select screening tools that:

- Accurately classify risk
  - Key to avoid both false positives and false negatives

- Are reliable and valid
  - Key to avoid unreliable scores or screeners that lack validity due to methods not being sensitive to the risk characteristics associated with dyslexia

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Spotlight on the Academic Screening Tools Chart

Legend	⬤ Convincing evidence	◖ Partially convincing evidence	○ Unconvincing evidence	▬ Data unavailable	d Disaggregated data available

FILTER RESULTS

Subject
- ☐ Reading
- ☐ Mathematics

Grade
- ☐ Pre-K
- ☐ Elementary (K-5)
- ☐ Middle School (6-8)
- ☐ High School (9-12)

[Apply Filters] [Show Advanced Filters] [Clear Filters]

[Compare Tools] [Reset Chart]

				Classification Accuracy	Technical Standards	Usability Features
All ☐	**Title**	**Area**	**Grade**	**Classification Accuracy Fall**	**Classification Accuracy Winter**	**Classification Accuracy Spring**
☐	Acadience Math	Composite	Grade 2	◖	◖	◖
☐	Acadience Math	Composite	Grade 3	◖	◖	◖
☐	Acadience Math	Composite	Grade 4	◖	◖	◖

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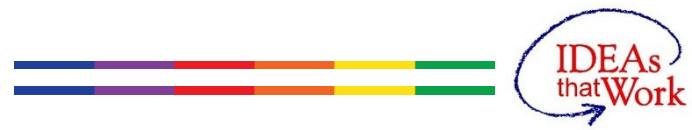
Definition of Screening

- The National Center on Intensive Intervention defines screening as a process using tools with convincing evidence of classification accuracy, reliability, and validity to identify students who demonstrate risk for poor learning outcomes and may benefit from intervention to meet their academic, social, emotional, and/or behavioral needs.

Tools Chart Structure & Review Criteria

- The tools chart includes three tabs
  1. Classification Accuracy
  2. Technical Standards
  3. Usability Features

Note: Presence on the chart does not indicate NCII endorsement.

Legend

- ● Convincing evidence
- ◐ Partially convincing evidence
- ○ Unconvincing evidence
- — Data unavailable
- [d] Disaggregated data available

View Chart Resources

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Classification Accuracy

- Ratings are provided for classification accuracy across 3 points of the year (Fall, Winter, Spring) for up to 2 criteria

Classification Accuracy	Technical Standards	Usability Features
Classification Accuracy Fall	**Classification Accuracy Winter**	**Classification Accuracy Spring**
⊖	⊖	⊖

Remember: Click on the header for more information about each of these areas were rated.

Technical Standards

- Reliability
- Validity
- Sample Representativeness
- Bias Analysis Conducted

Remember: Click on the header for more information about each of these areas were rated.

Classification Accuracy		Technical Standards		Usability Features
Reliability	**Validity**	**Sample Representativeness**		**Bias Analysis Conducted**
—	●	Regional without Cross-Validation		No

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Usability Features

- Administration Format

- Administration & Scoring Time

- Scoring Format

- Types of Decision Rules

- Evidence Available for Multiple Decision Rules

- Usability Study

Classification Accuracy		Technical Standards	Usability Features	
Admin Format	**Admin & Scoring Time**	**Scoring Format**	**Types of Decision Rules**	**Evidence Available for Multiple Decision Rules**
Individual Group	3 minutes	Manual	Benchmark Goals	Yes

Implementation Information

For implementation information click the title, area, grade or informant

All ☐	Title	Area	Grade	Cl... Clas...
☐	Acadience Math	Composite	Grade 2	
☐	Acadience Math	Composite	Grade 3	

Compare Tools | R...

Acadience Math
Composite

Summary

⬇ **Descriptive Information**

⬇ **Acquisition & Cost**

⬇ **Training & Technical Support**

⬇ **Administration**

Descriptive Information

Please provide a description of your tool:

Acadience Math is a screening and progress monitoring assessment used to measure math skills. The Acadience Math screening measures are efficient indicators of math skills. For each grade and time of year, the Acadience Math component measures that correlate highly with later outcomes are combined to form a Math Composite Score. The component measures used in the Composite Score depend upon grade and time of year. The Composite Score is the best overall predictor of later outcomes and conveys that all of the aspects of math proficiency are critical.

The tool is intended for use with the following grade(s).

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Dig Deeper Into the Data

Reliability

Grade	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6
Rating	—	—	—	—	—

Legend: 🔴 Convincing evidence 🌗 Partially convincing evidence ⭕ Unconvincing evidence — Data unavailable d Disaggregated data available

*Offer a justification for each type of reliability reported, given the type and purpose of the tool.

*Describe the sample(s), including size and characteristics, for each reliability analysis conducted.

*Describe the analysis procedures for each reported type of reliability.

*In the table(s) below, report the results of the reliability analyses described above (e.g., internal consistency or inter-rater reliability coefficients).

Type of Reliability	Age / Grade	n	Median Coefficient	95% Confidence Interval Lower Bound	95% Confidence Interval Upper Bound

Results from other forms of reliability analysis not compatible with above table format:

Manual cites other published reliability studies:

> Click on the rating bubble to view the additional data used by reviewers to determine the rating

Classification Accuracy		Technical Standards	Usability Features

		Reliability	Validity	Sample Representativeness	Bias Analysis Conducted
☐	Acadience Math	Composite	Grade 2	—	🔴	Regional without Cross-Validation	No
☐	Acadience Math	Composite	Grade 3	—	🔴	Regional without Cross-Validation	No

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Advanced Filtering

- Looking for something specific? Use the advanced filtering to narrow your search

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Using Tools Chart to Select Dyslexia Screeners

- Tools Charts provide information on:
    - Skills included in screeners – ensures screening for the right skills at the right time to accurately assess risk for dyslexia
    - Ability of tool to accurately classify risk – ensures both false positives and negatives are avoided
    - Reliability and validity of tool – ensures avoidance of unreliable scores or screeners that lack validity

Tools and Tech for Screening Procedures

CBM at Home

CBM at Home

CBM at Home

CBM at Home

CBM at Home

CBM at Home

Academic Screening Tools Chart Selector

Academic Screening Tools Chart Selector

Sidebar

Grade Selection

☑ K ☐ 1 ☐ 2 ☐ 3

Screener Type

☑ Reading ☑ Math

Table View Criteria

8 items selected	▼
Select All	Deselect All

Cost	✔
Additional Scoring Time	✔
Administration Time	✔
Predictive Validity	✔
Concurrent Validity	✔
Reliability	✔
Classification Accuracy Estimate	✔
Classification Accuracy Time Point	✔

Screeners Table: Grade K Math & Reading

Screener Name	Cost	Additional Scoring Time	Administration Time	Predictive Validity	Concurrent Validity	Reliability	Classification Accuracy	
							Estimate	Time Point
Acadience Reading (aka DIBELS Next)	$0.00	1 min(s)	5 min(s)	0.48	0.40	0.83	0.79	Fall
DIBELS 8th Edition - Composite	$0.00	5 min(s)	0 min(s)	0.76	0.85	0.84	0.87	Fall
DIBELS 8th Edition - Letter Naming Fluency	$0.00	1 min(s)	2 min(s)			0.83	0.85	Fall
DIBELS 8th Edition - Nonsense Word Fluency Correct Letter Sounds	$0.00	1 min(s)	2 min(s)			0.90	0.82	Fall
DIBELS 8th Edition - Phonemic Segmentation Fluency	$0.00	1 min(s)	2 min(s)			0.85	0.79	Fall
DIBELS 8th Edition - Word Reading Fluency	$0.00	1 min(s)	2 min(s)			0.91	0.87	Winter

Academic Screening Tools Chart Selector

Sidebar

Grade Selection

☑ K ☐ 1 ☐ 2 ☐ 3

Screener Type

☑ Reading ☐ Math

Table View Criteria

4 items selected ▾

FILTER CRITERIA

Download Table

File Name: untitled

⬇ Download

Screeners Table: Grade K Reading

Screener Name	Cost	Reliability	Classification Accuracy	
			Estimate	Time Point
Acadience Reading (aka DIBELS Next)⧉	$0.00	0.83	0.79	Fall
DIBELS 8th Edition - Composite⧉	$0.00	0.84	0.87	Fall
DIBELS 8th Edition - Letter Naming Fluency⧉	$0.00	0.83	0.85	Fall
DIBELS 8th Edition - Nonsense Word Fluency Correct Letter Sounds⧉	$0.00	0.90	0.82	Fall
DIBELS 8th Edition - Phonemic Segmentation Fluency⧉	$0.00	0.85	0.79	Fall
DIBELS 8th Edition - Word Reading Fluency⧉	$0.00	0.91	0.87	Winter
FastBridge - earlyReading Composite⧉	$7.50	0.83	0.95	Fall
i-Ready® Diagnostic⧉	$6.00	0.81	0.79	Fall
Imagine Learning⧉		0.88	0.75	Fall
iSTEEP - Initial Sound Fluency⧉	$2.00	0.88	0.82	Fall
iSTEEP - Letter Sound Fluency⧉	$2.00	0.92	0.89	Fall
iSTEEP - Word Identification Fluency⧉	$2.00	0.92	0.92	Spring
Lexia RAPID Assessment⧉	$7.20	0.94	0.84	Fall
MAP® Growth™⧉		0.80	0.77	Fall
MAP® Reading Fluency™⧉		0.83	0.82	Fall
mCLASS: Reading 3D⧉	$20.90	0.81	0.83	Fall
Phonological Awareness Literacy Screening (PALS) - PALS for Kindergarten⧉	$5.50	0.95	0.74	Fall
TPRI Early Reading Assessment⧉		0.88	0.98	Fall

Previous 1 Next

Academic Screening Tools Chart Selector

Sidebar

Grade Selection

☑ K ☐ 1 ☐ 2 ☐ 3

Screener Type

☑ Reading ☐ Math

Table View Criteria

4 items selected	▾

FILTER CRITERIA

Download Table

File Name: Best Screening Table Ever

⬇ **Download**

	A	B	C	D	E	F
1	Screener Name	Links	Cost	Reliability	Classification Accuracy Estimate	Classification Accuracy Time Point
2	Acadience Reading (aka DIBELS Next)	https://charts.intensiveintervention.o	0	0.83	0.79	Fall
3	DIBELS 8th Edition - Composite	https://charts.intensiveintervention.o	0	0.84	0.87	Fall
4	DIBELS 8th Edition - Letter Naming Fluency	https://charts.intensiveintervention.o	0	0.83	0.85	Fall
5	DIBELS 8th Edition - Nonsense Word Fluency Correct Letter	https://charts.intensiveintervention.o	0	0.9	0.82	Fall
6	DIBELS 8th Edition - Phonemic Segmentation Fluency	https://charts.intensiveintervention.o	0	0.85	0.79	Fall
7	DIBELS 8th Edition - Word Reading Fluency	https://charts.intensiveintervention.o	0	0.91	0.87	Winter
8	FastBridge - earlyReading Composite	https://charts.intensiveintervention.o	7.5	0.83	0.95	Fall
9	Imagine Learning	https://charts.intensiveintervention.o	NA	0.88	0.75	Fall
10	i-Ready® Diagnostic	https://charts.intensiveintervention.o	6	0.81	0.79	Fall
11	iSTEEP - Initial Sound Fluency	https://charts.intensiveintervention.o	2	0.88	0.82	Fall
12	iSTEEP - Letter Sound Fluency	https://charts.intensiveintervention.o	2	0.92	0.89	Fall
13	iSTEEP - Word Identification Fluency	https://charts.intensiveintervention.o	2	0.92	0.92	Spring
14	Lexia RAPID Assessment	https://charts.intensiveintervention.o	7.2	0.94	0.84	Fall
15	MAP® Growth„¢	https://charts.intensiveintervention.o	NA	0.8	0.77	Fall
16	MAP® Reading Fluency„¢	https://charts.intensiveintervention.o	NA	0.83	0.82	Fall
17	mCLASS: Reading 3D	https://charts.intensiveintervention.o	20.9	0.81	0.83	Fall
18	Phonological Awareness Literacy Screening (PALS) - PALS fo	https://charts.intensiveintervention.o	5.5	0.95	0.74	Fall
19	TPRI Early Reading Assessment	https://charts.intensiveintervention.o	NA	0.88	0.98	Fall

Adolescent Assessment of Literacy

Welcome

Welcome to the Adolecent Assessment of Literacy or AAL. This assessment has been specially developed to assess the literacy of students from the 4th to the 8th grade.

When you are ready follow the links below to either take the computer based version of AAL or download a paper and pencil version with instructions on administration. After completing the assessment follow the link labeled 'Test Scores' below or in the navbar at the top of the page. Thank you.

Get Started

Adolescent Assessment of Literacy

1
Take the Assessment

To navigate to the assessment click this link or press the get tarted button above. You can also navigate to the assessment using the navbar at the top of the page.

2
Interpret Your Score

After completing the assessment and receiving you score, navigate to the your score page. This page will help you understand what your score means.

3
Discover Resources

After interpreting your score you may discover a need for further intervention. Navigate to the resources page from the navbar at the top of the page for helpful links to get you started.

Lead for Literacy (L4L) Center

- Building capacity of **elementary school and district leaders** to *recognize* evidence-based literacy practices and to *facilitate* their implementation through *identifying* and *supporting* instruction and intervention programming and professional development, including coaching.

Our Focus: "Evidence-based"…
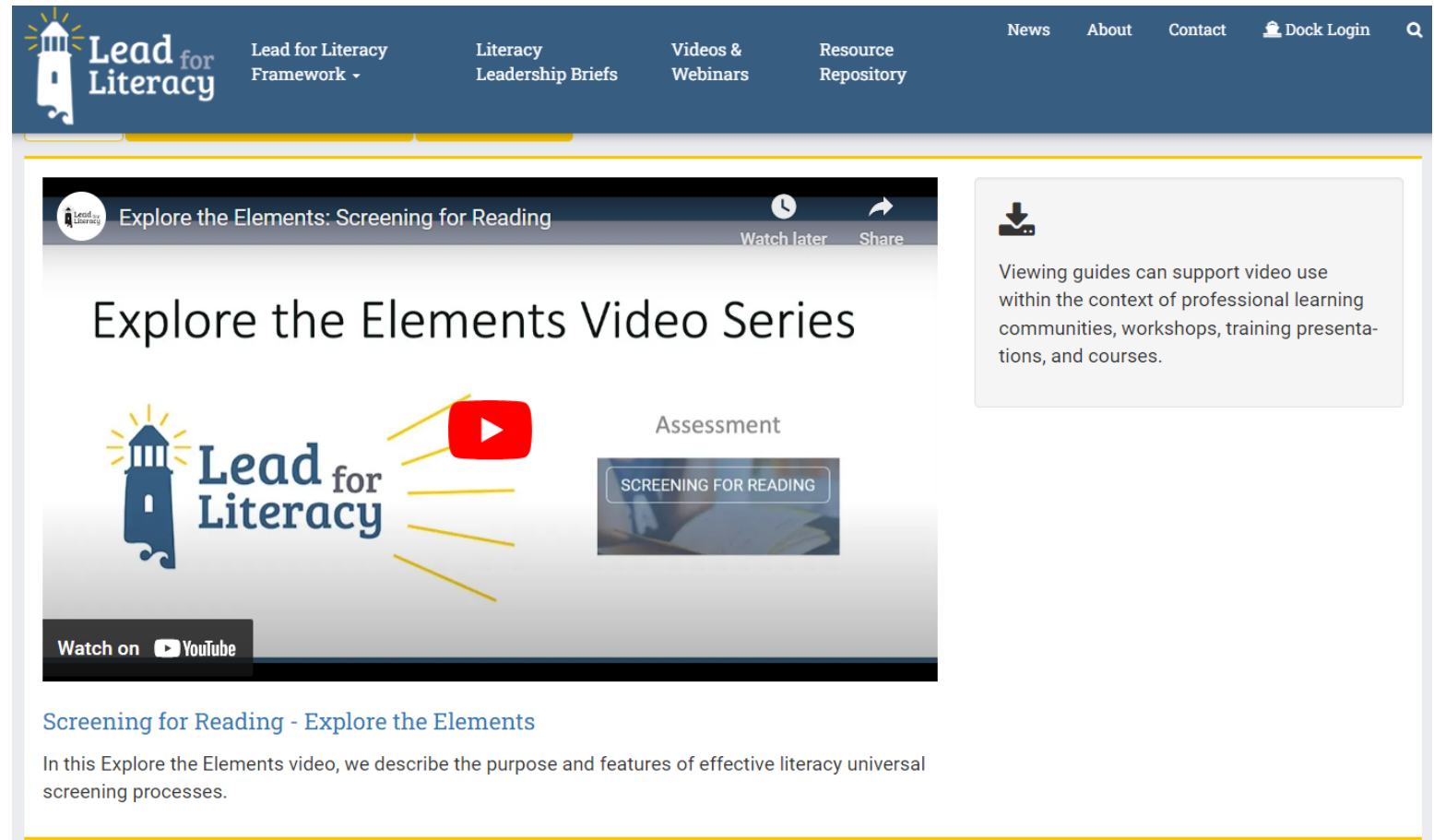- Literacy skills and concepts
- Leadership skills

Lead for Literacy Framework

Explore the Elements video series

Assessment videos:
- Screening for Reading
- Monitoring Reading Progress

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Resource Spotlight

Lead for Literacy (L4L) website

- Presents the L4L Framework with supporting videos, the L4L Framework Navigator, Literacy Leadership Briefs, and other great literacy resources.
- https://leadforliteracy.org
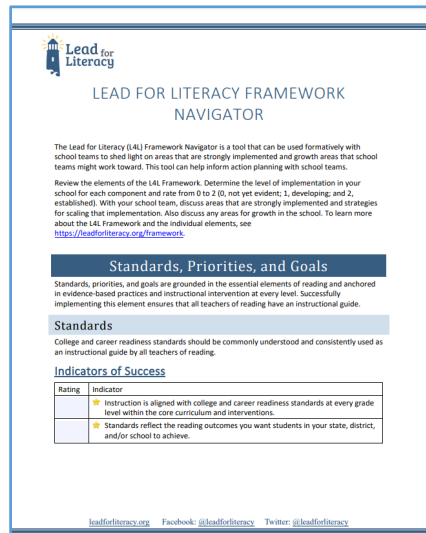
L4L Framework Navigator

The Lead for Literacy Framework Navigator is a tool that can be used formatively with school teams to shed light on areas that are strongly implemented and growth areas that school teams might work toward. This tool can help inform action planning with school teams.

https://leadforliteracy.org/framework-navigator

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Framework Navigator: Assessment

Please rate each of the following: 0 (not yet evident); 1 (developing); 2 (established)

RATING			INDICATOR OF SUCCESS
0	1	2	
Types of Assessments			
			Teachers in your school use a balanced combination of formative, summative, and diagnostic assessment tools.
			Assessment tools are valid and reliable.
Screening for Reading			
			Screening assessments are used to identify students at risk for poor reading.
			Reading screening assessments are administered two or three times per year to all students
			Families are involved in the screening process and understand how to interpret the data for their child.
Monitoring Reading Progress			
			Progress monitoring assessments are used to evaluate whether students are responding to instruction and intervention and to set learning goals and intervention accordingly.
			Progress monitoring assessments are administered to students receiving intervention at regular intervals (biweekly for Tier II; weekly for Tier III).

Framework Navigator: Systems Check
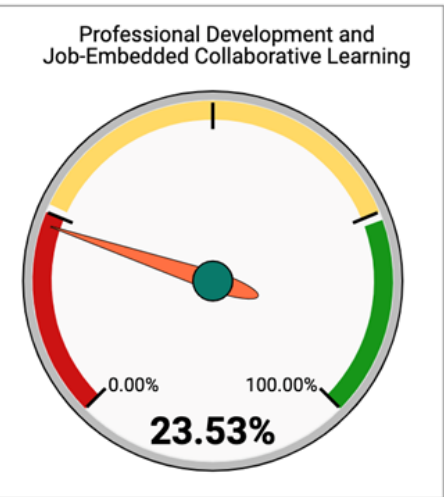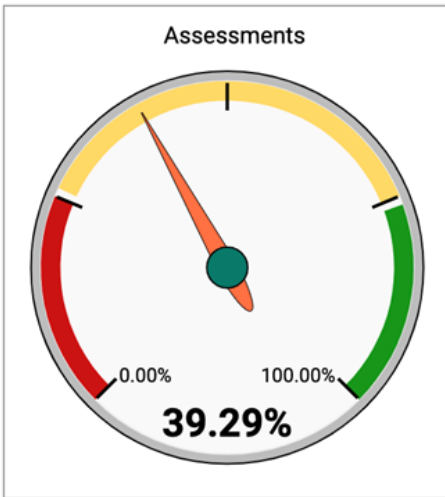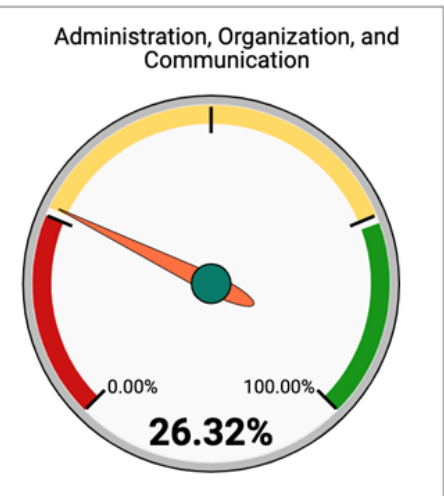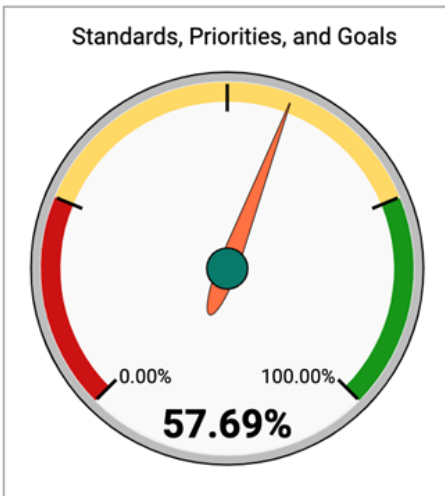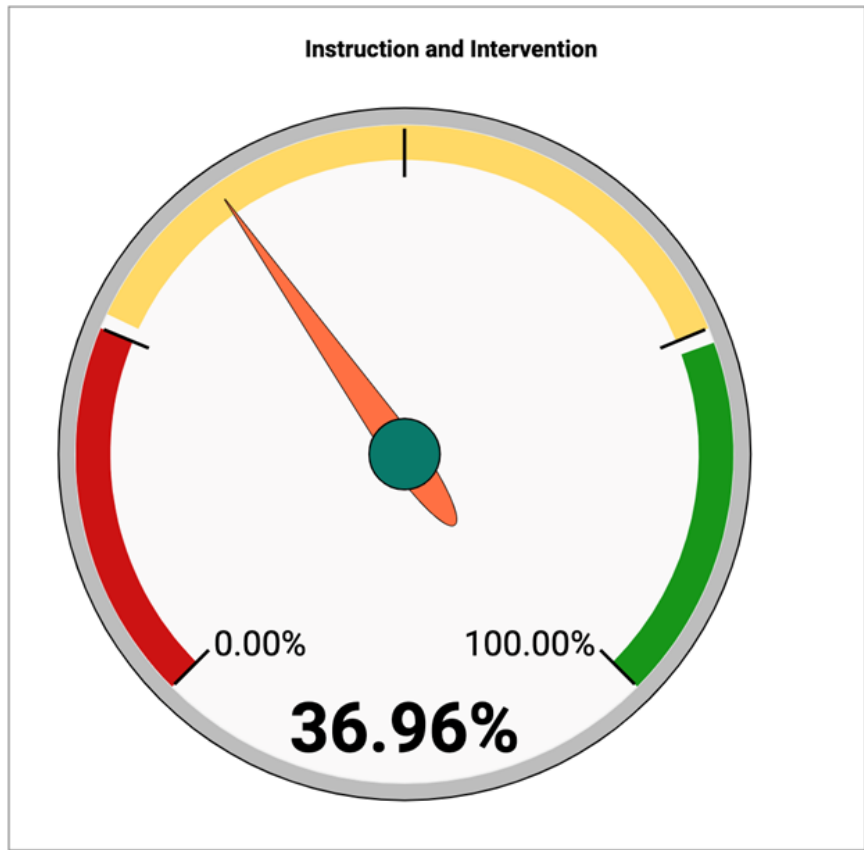
Standards, Priorities, and Goals	57.69%
Administration, Organization, and Communication	26.32%
Instruction and Intervention	36.96%
Assessments	39.29%
Professional Development and Job-Embedded Collaborative Learning	23.53%
Total Average	**36.76%**

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Resource Spotlight

- Individuals with Disabilities Education Act (IDEA) website
  - Brings together IDEA information and resources from the Department and its grantees.
  - https://sites.ed.gov/idea/
- IDEAS That Work
  - For information from research to practice initiatives funded by OSEP that address the provisions of IDEA and ESSA. This website includes resources, links, and other important information relevant to OSEP's research to practice efforts.
  - https://osepideasthatwork.org/

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