Academics for Students with Extensive Support Needs

2023 OSEP LEADERSHIP AND PROJECT DIRECTORS' CONFERENCE

Introductions and Context for Work in the Collaboration

2023 OSEP LEADERSHIP AND PROJECT DIRECTORS' CONFERENCE

Introductions

- ATLAS
  - Russell Swinburne Romine
  - Meagan Karvonen
- National Center on Deaf-Blindness (NCDB)
  - Julie Durando

NCDB Goals for the Collaboration

- Improved Identification: Increase timely identification of children who are deaf-blind
- Promote access to, and progress in, the general education curriculum and grade-level academic content standards through the use of high-quality practices.

About the Collaboration (Slide 1 of 2)

- Increased understanding of students with dual sensory loss and extensive support needs
  - Improved Identification: Increase timely identification of children who are deaf-blind
  - Demonstrating that a problem exists and showing it matters to stakeholders
  - Multiple barriers (e.g. knowledge, regulatory, data)
- Extensive technical report on student characteristics (*Students with Significant Cognitive Disabilities and Dual Sensory Loss*)
- Project briefs on the NCDB website

About the Collaboration (Slide 2 of 2)

- Developing new ways of thinking about conceptually-rich, instruction for these students to provide access to the General Education Curriculum (GEC)
  - Learning maps and tools to support planning and instruction

Step 1: Identify the Students

Significant Cognitive Disability

- Not an IDEA disability category
- No federal definition; states define the population
- Common characteristics in states' definitions (Thurlow et al., 2019)
  - Significant cognitive deficits
  - Poor adaptive skills
  - Pervasive needs across setting or time
  - Based on holistic criteria, not just an IQ score
  - Receiving extensive, individualized direct instruction

IDEA Regulations

Team Identifies	Primary Disability Classification
Deaf-blindness ONLY	Deaf-blind
Deaf-blindness + another disability	Multiple disabilities

What if the team did not recognize vision or hearing loss, or both?

How many students have a significant cognitive disability and dual sensory loss?

First Contact Data: Identifying Known and Suspected Dual Sensory Loss

Hearing	No vision loss suspected	Normal vision with correction	Blind or low vision	Questionable vision	Total
No known hearing loss	63,098	23,196	3,817	2,325	92,436
Deaf or hard of hearing	1,341	1,341	649	170	3,501
Questionable hearing but inconclusive testing	605	523	280	420	1,828
Total	65,044	25,060	4,746	2,915	97,765

Known Dual Sensory Loss

Hearing	No vision loss suspected	Normal vision with correction	Blind or low vision	Questionable vision
No known hearing loss	63,098	23,196	3,817	2,325
Deaf or hard of hearing	1,341	1,341	**649**	170
Questionable hearing but inconclusive testing	605	523	280	420

649 students with known dual sensory loss

Suspected Dual Sensory Loss

Hearing	No vision loss suspected	Normal vision with correction	Blind or low vision	Questionable Vision
No known hearing loss	63,098	23,196	3,817	2,325
Deaf or hard of hearing	1,341	1,341	649	**170**
Questionable hearing but inconclusive testing	605	523	**280**	**420**

870 students with suspected dual sensory loss

Prevalence Per State Among Students with Significant Cognitive Disabilities

Students with SCD and…	Minimum	Maximum
Deaf-blind IDEA classification	0.00	3.45*
Known dual sensory loss	4.09	11.28*
Suspected dual sensory loss	2.62	13.93

*Excludes one extreme outlier state: 13.98 DB classification, 21.74 known

- Higher prevalence of known dual sensory loss was associated with higher prevalence of suspected dual sensory loss
- Deaf-blind prevalence was not associated with known or suspected prevalence

Why does identification matter?

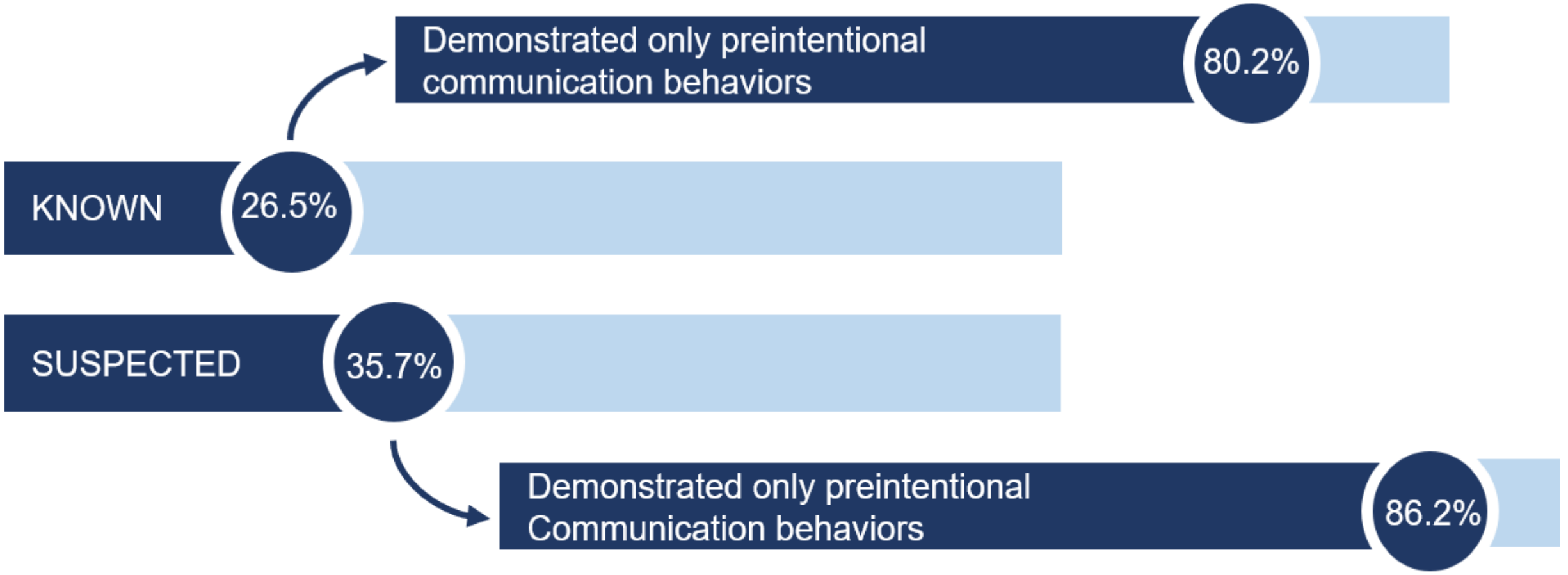
Instruction

	Known Dual Sensory Loss	Suspected Dual Sensory Loss
Uses at least one type of assistive technology (AT)	92%	78%
Accesses a computer independently or with AT	13%	7%
Generally sustains attention to computer-directed instruction	22%	14%
Generally sustains attention to teacher-directed instruction	17%	8%

Expressive Communication Modality

	Known Dual Sensory Loss	Suspected Dual Sensory Loss
Uses speech	34%	26%
Uses sign	21%	16%
Uses AAC	39%	40%

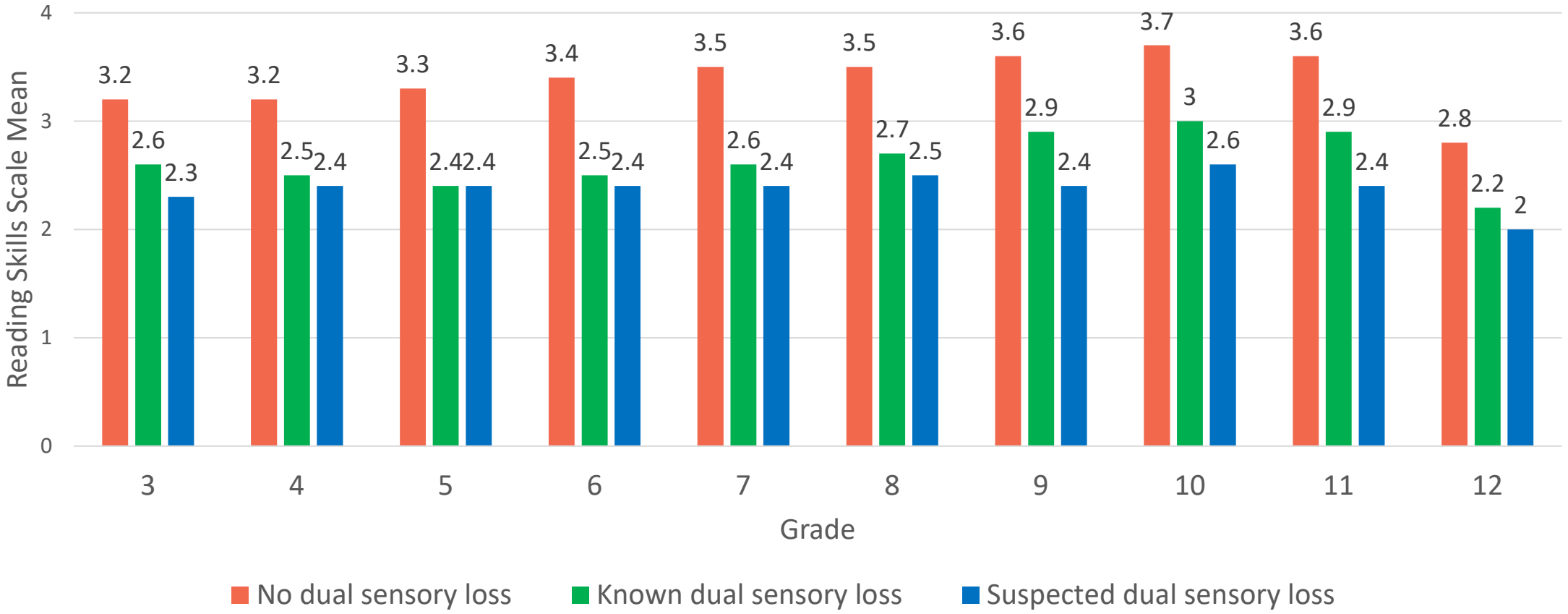
Do not communicate using speech, sign, or AAC



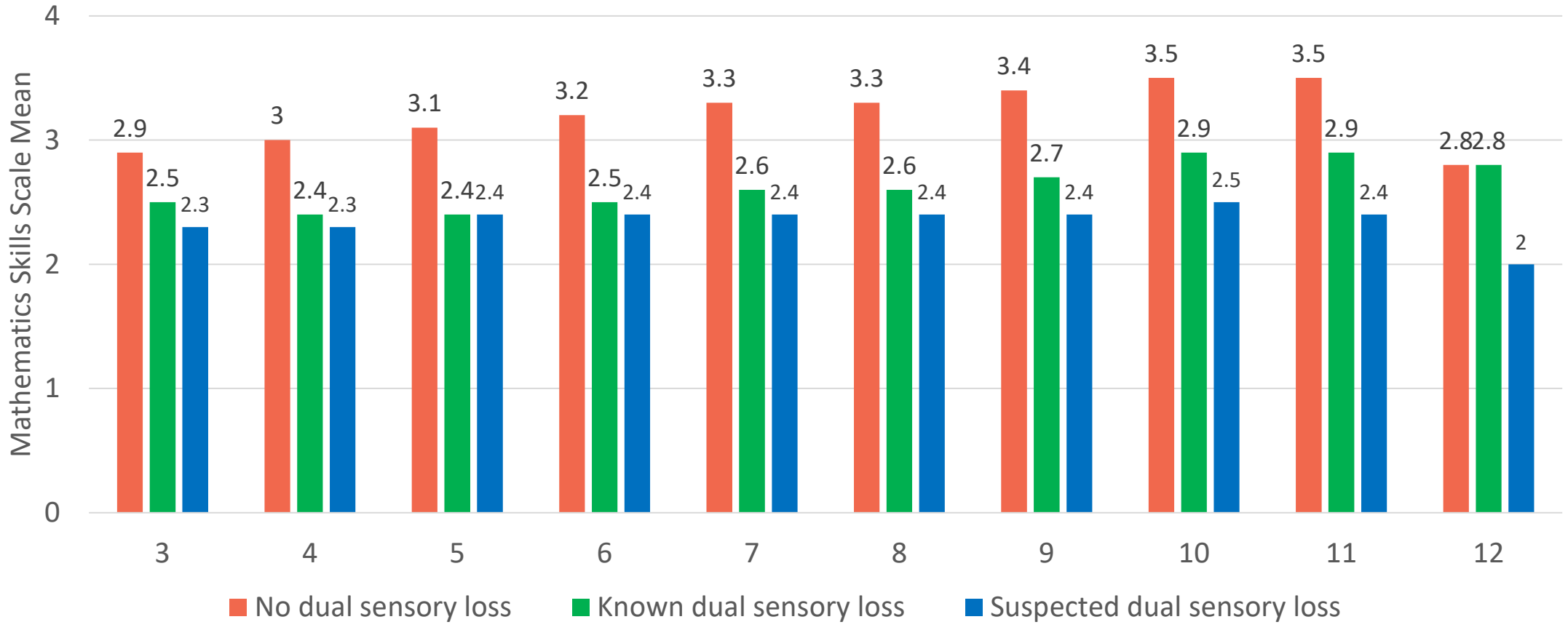
Patterns in Teacher Ratings of Academic Skills

- Students with known dual sensory loss have more consistent skills on average than those with suspected dual sensory loss
- The gap increases in higher grades
- Both groups have lower academic skills than their peers without dual sensory loss

Teacher Ratings of Reading Skills



Teacher Ratings of Mathematics Skills

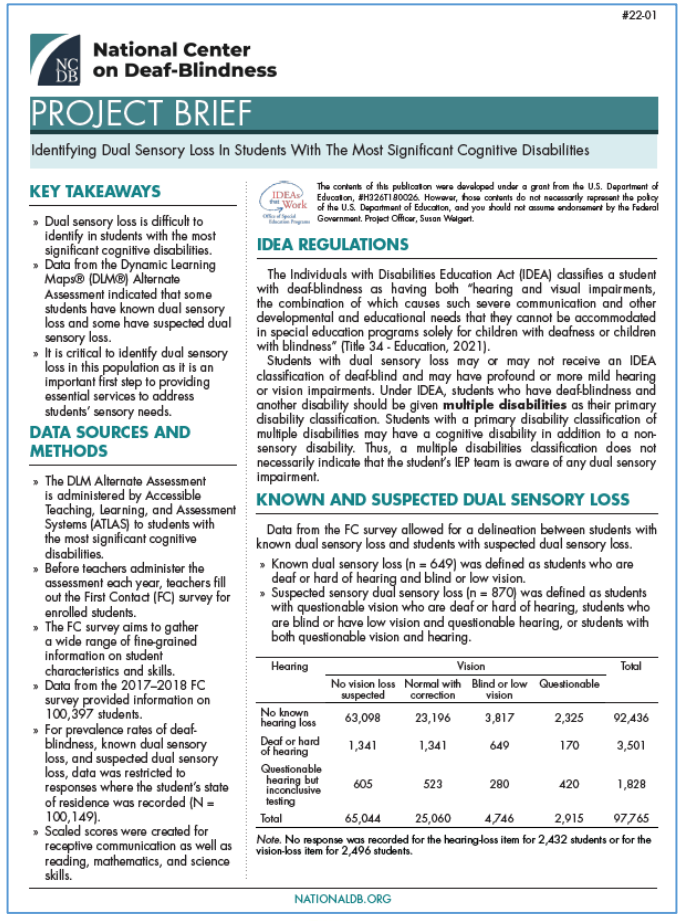


What else did we learn?

Students with different visual impairments

- Compared students with significant cognitive disabilities and cortical visual impairment (CVI; n = 1,510) versus other visual impairments (n = 2,846)
- Students with CVI:
  - Had more limited communication skills
  - Demonstrated less consistent academic skills across reading, mathematics, and science

To Learn More



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National Center on Deaf-Blindness

PROJECT BRIEF

Identifying Dual Sensory Loss In Students With The Most Significant Cognitive Disabilities

The contents of this publication were developed under a grant from the U.S. Department of Education, #H326T180026. However, those contents do not necessarily represent the policy of the U.S. Department of Education, and you should not assume endorsement by the Federal Government. Project Officer, Susan Weigert.

KEY TAKEAWAYS

- Dual sensory loss is difficult to identify in students with the most significant cognitive disabilities.
- Data from the Dynamic Learning Maps® (DLM®) Alternate Assessment indicated that some students have known dual sensory loss and some have suspected dual sensory loss.
- It is critical to identify dual sensory loss in this population as it is an important first step to providing essential services to address students' sensory needs.

DATA SOURCES AND METHODS

- The DLM Alternate Assessment is administered by Accessible Teaching, Learning, and Assessment Systems (ATLAS) to students with the most significant cognitive disabilities.
- Before teachers administer the assessment each year, teachers fill out the First Contact (FC) survey for enrolled students.
- The FC survey aims to gather a wide range of fine-grained information on student characteristics and skills.
- Data from the 2017–2018 FC survey provided information on 100,397 students.
- For prevalence rates of deaf-blindness, known dual sensory loss, and suspected dual sensory loss, data was restricted to responses where the student's state of residence was recorded (N = 100,149).
- Scaled scores were created for receptive communication as well as reading, mathematics, and science skills.

IDEA REGULATIONS

The Individuals with Disabilities Education Act (IDEA) classifies a student with deaf-blindness as having both "hearing and visual impairments, the combination of which causes such severe communication and other developmental and educational needs that they cannot be accommodated in special education programs solely for children with deafness or children with blindness" (Title 34 - Education, 2021).

Students with dual sensory loss may or may not receive an IDEA classification of deaf-blind and may have profound or more mild hearing or vision impairments. Under IDEA, students who have deaf-blindness and another disability should be given **multiple disabilities** as their primary disability classification. Students with a primary disability classification of multiple disabilities may have a cognitive disability in addition to a non-sensory disability. Thus, a multiple disabilities classification does not necessarily indicate that the student's IEP team is aware of any dual sensory impairment.

KNOWN AND SUSPECTED DUAL SENSORY LOSS

Data from the FC survey allowed for a delineation between students with known dual sensory loss and students with suspected dual sensory loss.

- Known dual sensory loss (n = 649) was defined as students who are deaf or hard of hearing and blind or low vision.
- Suspected sensory dual sensory loss (n = 870) was defined as students with questionable vision who are deaf or hard of hearing, students who are blind or have low vision and questionable hearing, or students with both questionable vision and hearing.

Hearing	Vision				Total
	No vision loss suspected	Normal with correction	Blind or low vision	Questionable	
No known hearing loss	63,098	23,196	3,817	2,325	92,436
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Total	65,044	25,060	4,746	2,915	97,765

Note. No response was recorded for the hearing-loss item for 2,432 students or for the vision-loss item for 2,496 students.

NATIONALDB.ORG

Full report and briefs available at

https://tinyurl.com/atlas-ncdb

Step 2: Learning Maps as Tools to Support Instruction

Challenges in Addressing Access to the GEC

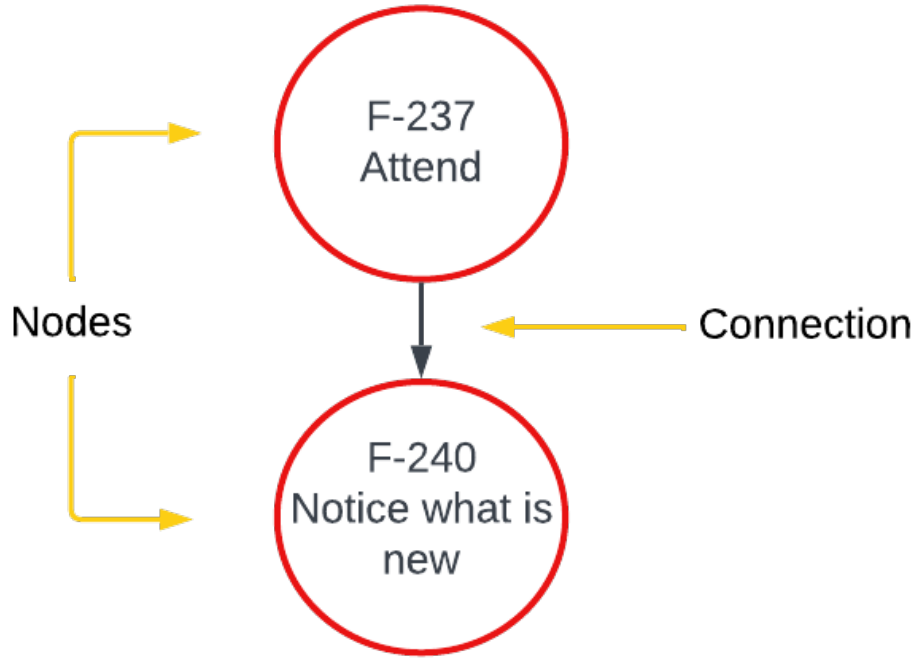
- A need to learn more about what and how students are learning
- Develop ways to plan for and support instruction in the GEC-
  - accommodations for sensory loss are critical but not sufficient
  - How can we support teaching the academic content?
- The state deaf-blind projects have a range of knowledge in this area and we want to support them

Why Learning Maps?

- Learning maps provide an evidence-based model for how conceptual understanding develops over time
- Learning maps can show multiple ways that early, pre-academic skills flow into academic content
- Learning maps can be a tool for thinking about “next steps” in instruction

What are Learning Maps?

- Large scale cognitive models that represent knowledge, skills, and understandings (KSUs)
- Nodes represent knowledge, skills, and understandings and foundational skills
- Connections show the order of acquisition

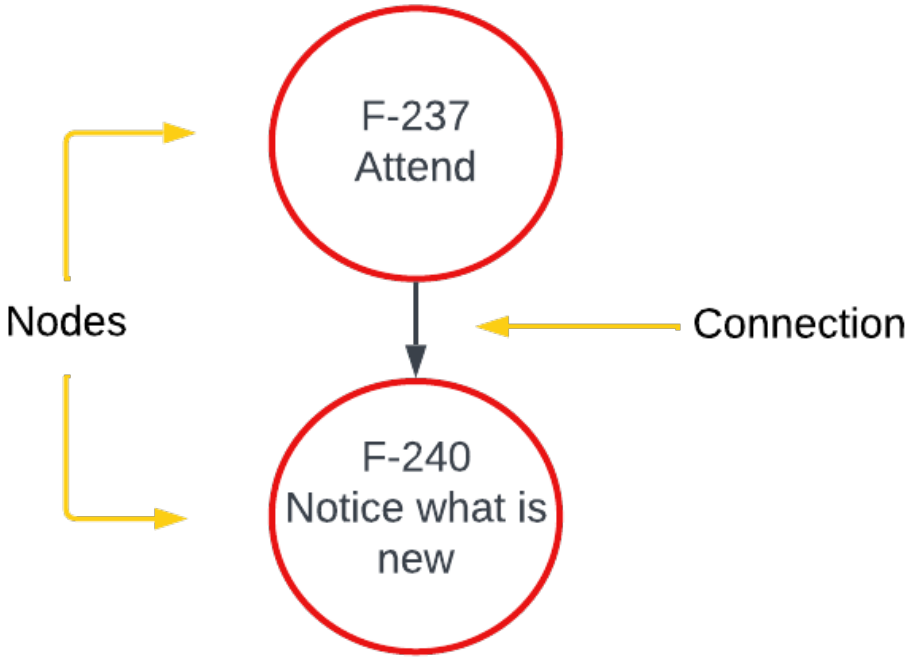


Learning Map Structure

- The map represents:
  - The content
  - How the content is learned
- Nodes (circles) represent knowledge, skills and understandings (KSUs)
- Connections are shown as arrows that indicate the order of acquisition between KSUs
  - Connections are not pre-requisites
  - Connections show multiple pathways
- Nodes can have one or multiple precursors and multiple successor skills.

Reading Learning Maps

- Complexity increases as you follow the arrows downward through the map
- Mastery of a more complex skill implies mastery of the less complex skills above it.
- Maps represent many different interrelated concepts and pathways that represent how people learn.
- The map model does **not** assume that students must master every node.
- Maps are **not**:
  - checklists of skills to be learned in a sequential order
  - curriculum
  - assessments
  - scope and sequence Documents

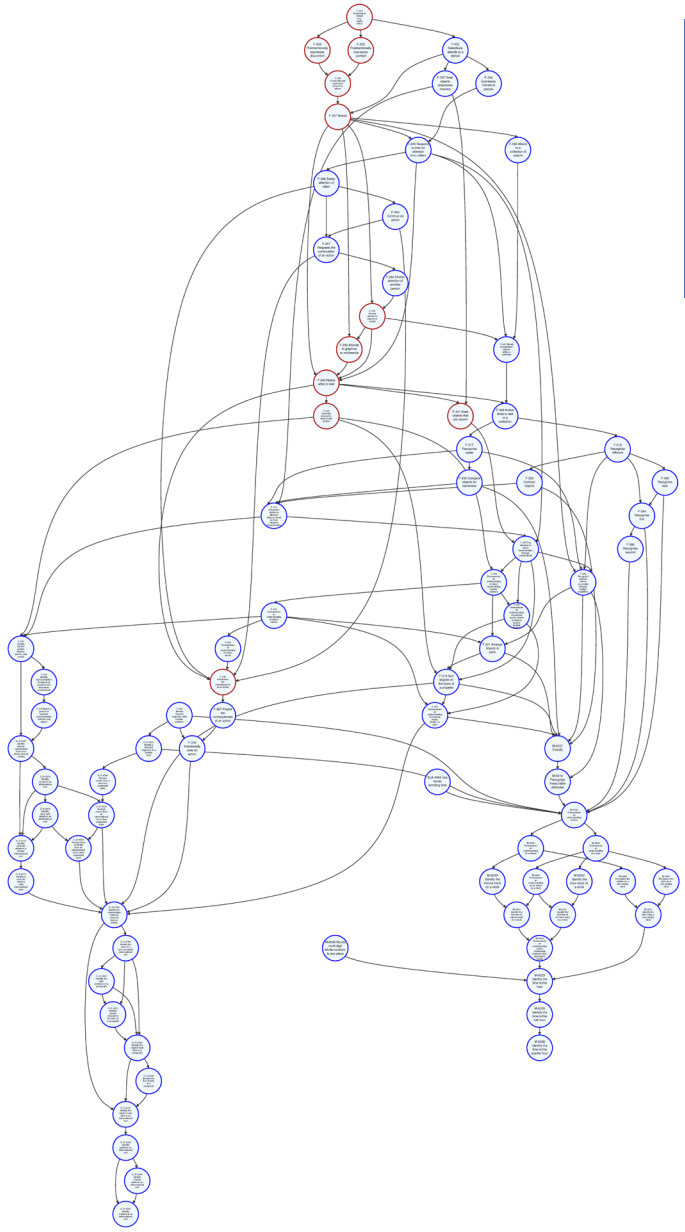


NCDB/ATLAS Maps Project

- Start with existing learning map work developed for the DLM "foundational area"
  - Pre-academic skills
    - Attention
    - Perception
    - Communication
- Combine nodes and connections from the foundation area with early academic skills in "conceptual neighborhoods."

Conceptual Map Neighborhoods

- Attention and Mental Representation
- Intentional Communication
- Attend to Words
- Use Words to Classify
- Flexibility in Representations
- Social Routines
- Questions
- Understanding Events
- Action Words
- Writing Production



Attention and Mental Representation Conceptual Map

- Begins with KSUs like:
  - Selectively attends to stimuli
  - Responds to bids for attention
  - Seeks attention of others
- Ends with KSUs like:
  - Arrange events from an information text in their sequential order
  - Identify the time to the hour

Charting a Course for Academic Instruction for Deaf-Blind Students

- Jointly hosted by NCDB and ATLAS in late March 2022
  - ATLAS Staff
  - NCDB Staff
  - Karen Erickson from the Center for Literacy and Disability Studies at UNC Chapel Hill
  - Participants were state deaf-blind projects staff, teachers of students with dial sensory loss

Charting a Course Event - 2022

- Panelists reviewed maps and associated research briefs
- Panelists developed descriptions of KSUs as they might be demonstrated by deaf-blind students with significant cognitive disabilities
- Panelists co-designed models for instructional resources based on the learning map neighborhoods

Navigating the Course Event - 2023

- Jointly hosted by NCDB and ATLAS in March 2023
  - ATLAS Staff
  - NCDB Staff
  - Karen Erickson from the Center for Literacy and Disability Studies at UNC Chapel Hill
  - Participants were state project staff

Navigating the Course Event

- Panelists focused on "clusters" in the learning maps that showed a group of conceptually related skills in several of the neighborhood maps
- Products from the event:
  - Lists of "core features" for instruction on the cluster
  - Guides for planning lessons, instruction and reflection
  - Descriptions of how deafblind students might show understanding of the concepts in the map cluster to support teacher noticing

Lessons Learned

- Participants were ready to think deeply about how to connect early instruction in communication skills to academic contexts
  - Learning maps provided a structure to support this work

- Technical Assistance Providers will need support in working with teams to build bridges into academic content

- It takes time to think about a shift to conceptually-based instruction

Conclusions And Next Steps

Possible Barriers to Identification

- Health care providers and educators may not be familiar with:
  - Dual Sensory Loss /deaf-blindness
  - Subtle ways a child with extensive support needs may express themself
  - Strategies or test for evaluating children with extensive support needs

- Behaviors due to hearing or vision loss may instead be attributed intellectual disabilities, poor motor control, or medical fragility (Anthony, 2016; Erickson & Quick, 2017)

Recommendations

- Collaborate across programs and agencies to share information that contributes to identification processes.
- Train educators to recognize signs and risk factors of vision and hearing loss.
- Always evaluate children with a known loss in one area (vision or hearing) for a loss in the other.
- Repeat evaluations regularly to monitor for changes in hearing and vision.
- Utilize teachers of the visually impaired and teachers of the deaf/hard of hearing to conduct functional vision and hearing tests.

2023 OSEP Leadership and Project Directors' Conference

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