Welcome to the Learning Disabilities Association of Iowa Webinar. It will start at 4:00.

Interventions, Accommodations and Modifications: Promoting Access and Opportunity for All

Part 3: "Interventions, Accommodations, and Modifications for Math and STEM"

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Honora Wall, Ed.D.

Honora Wall, Ed.D. has taught 2nd grade through Adult Education, with a focus on high school math and science courses. She developed the NBD Math program and the Certified Dyscalculia Specialist course. Her published works include *Teaching Students with Dyscalculia* and *Ah-Ha! Games for the Brain*. Dr. Wall's areas of expertise include dyscalculia, neurodivergence, and anxiety and depressive disorders.

She is the founder of the Dyscalculia Training & Research Institute, hosts the *What in the World is Dyscalculia* podcast, and is active in the Learning Disabilities Association of America (national board member, 2025-2028) and the Iowa LDA (board president, 2026-2028), Iowa Council for Exceptional Children, and the Association of Teacher Educators.

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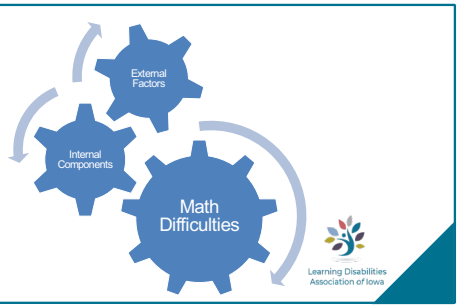

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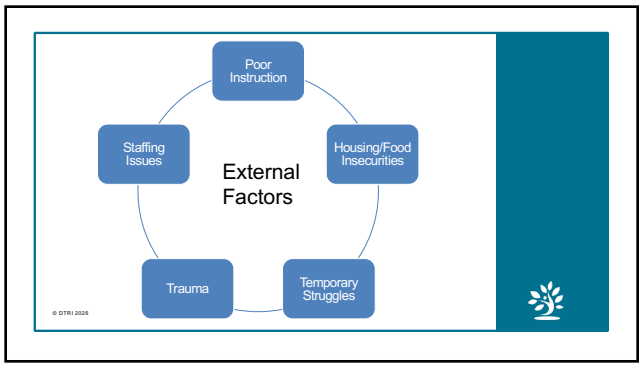
Poor Instruction
Staffing Issues
Housing/Food Insecurities
External Factors
Trauma
Temporary Struggles
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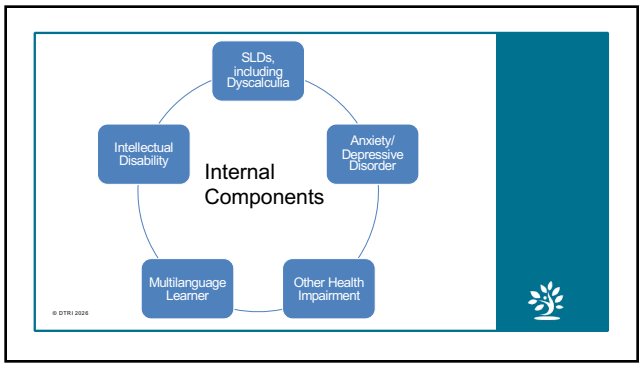
SLDs, including Dyscalculia
Intellectual Disability
Anxiety/ Depressive Disorder
Internal Components
Multilanguage Learner
Other Health Impairment
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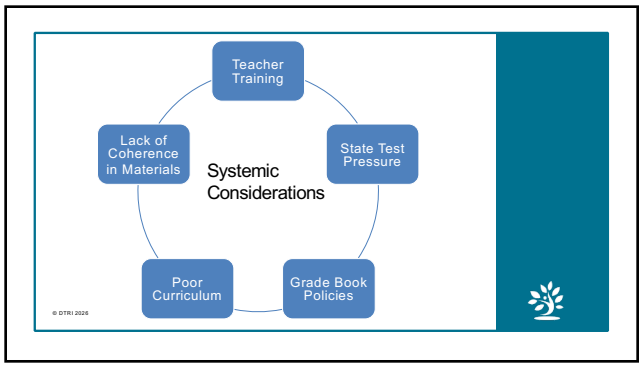
Teacher Training
Lack of Coherence in Materials
State Test Pressure
Systemic Considerations
Poor Curriculum
Grade Book Policies
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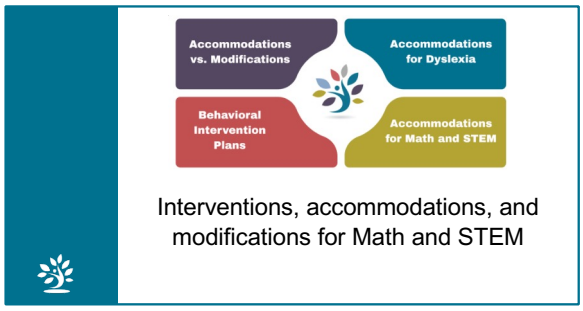
Accommodations vs. Modifications
Accommodations for Dyslexia
Behavioral Intervention Plans
Accommodations for Math and STEM
Interventions, accommodations, and modifications for Math and STEM

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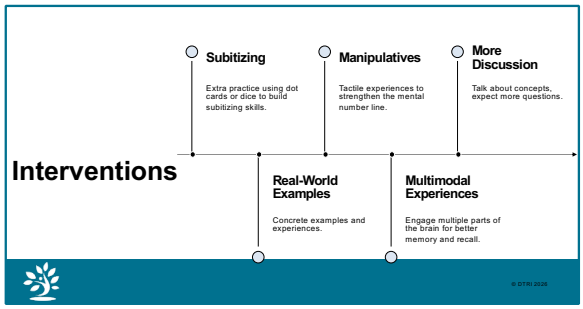
Interventions
Subitizing
Extra practice using dot cards or dice to build subitizing skills.
Manipulatives
Tactile experiences to strengthen the mental number line.
More Discussion
Talk about concepts, expect more questions.
Real-World Examples
Concrete examples and experiences.
Multimodal Experiences
Engage multiple parts of the brain for better memory and recall.
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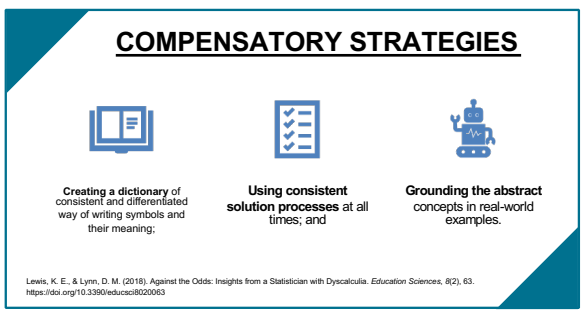
COMPENSATORY STRATEGIES
Creating a dictionary of consistent and differentiated way of writing symbols and their meaning;
Using consistent solution processes at all times; and
Grounding the abstract concepts in real-world examples.
Lewis, K. E., & Lynn, D. M. (2018). Against the Odds: Insights from a Statistician with Dyscalculia. Education Sciences, 8(2), 63. https://doi.org/10.3390/educsci8020063

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COMPENSATORY STRATEGIES

Colored pens, pencils, highlighters to color code notes and track symbols and elements;

Rewriting in words to translate symbols into words (e.g., 3 as "three").

Using a checklist or guided notes for steps and procedures.

Lewis, K. E., & Lynn, D. M. (2018). Against the Odds: Insights from a Statistician with Dyscalculia. *Education Sciences, 8*(2), 63. https://doi.org/10.3390/educsci8020063

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STEM INTERVENTIONS

- Extended time
- Use Manipulatives
- Annotate word problems
- 1 to 100 chart
- Vocabulary word bank
- Schema-based instruction
- Multiplication list or calculator

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STEM INTERVENTIONS

- Clear directions, no skipped steps
- Extra support for math-related problems
- Extra support for graphs, labels, and measurements
- Assume math knowledge doesn't exist or didn't transfer
- Give extra examples of applications
- Don't block the exciting stuff!

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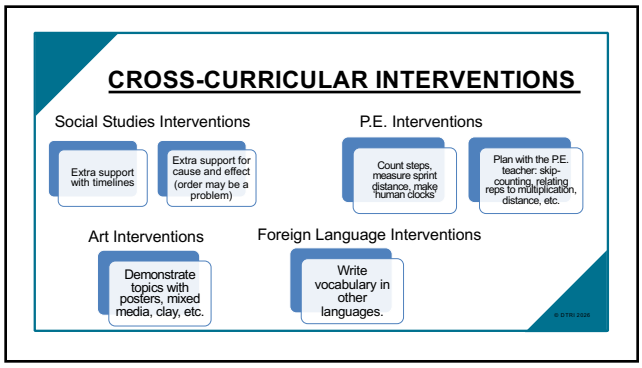
CROSS-CURRICULAR INTERVENTIONS
Social Studies Interventions
Extra support with timelines
Extra support for cause and effect (order may be a problem)
P.E. Interventions
Count steps, measure sprint distance, make 'human clocks'
Plan with the P.E. teacher: skip-counting, relating reps to multiplication, distance, etc.
Art Interventions
Demonstrate topics with posters, mixed media, clay, etc.
Foreign Language Interventions
Write vocabulary in other languages.

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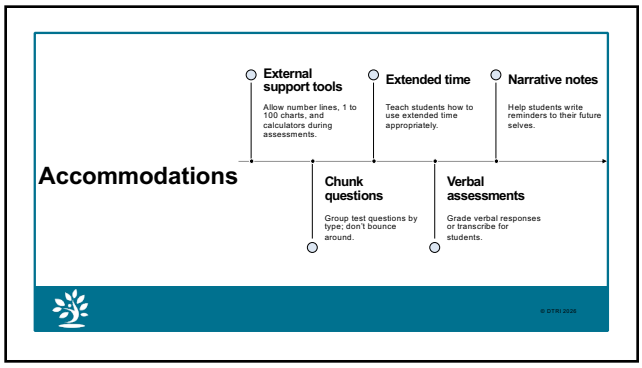
Accommodations
External support tools
Allow number lines, 1 to 100 charts, and calculators during assessments.
Extended time
Teach students how to use extended time appropriately.
Narrative notes
Help students write reminders to their future selves.
Chunk questions
Group test questions by type; don't bounce around.
Verbal assessments
Grade verbal responses or transcribe for students.

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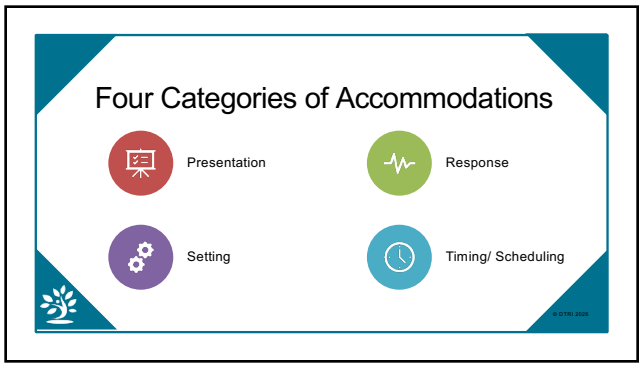
Four Categories of Accommodations
Presentation
Response
Setting
Timing/ Scheduling

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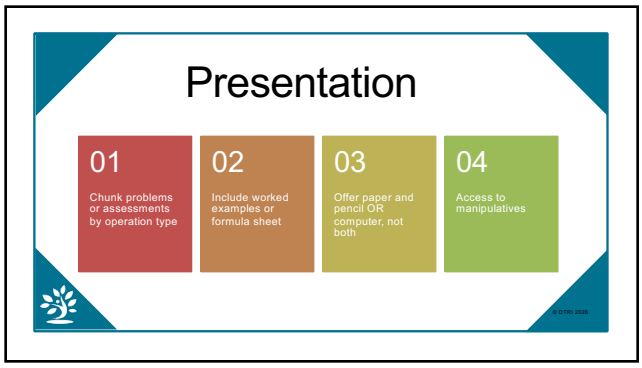
Presentation
01
Chunk problems or assessments by operation type
02
Include worked examples or formula sheet
03
Offer paper and pencil OR computer, not both
04
Access to manipulatives

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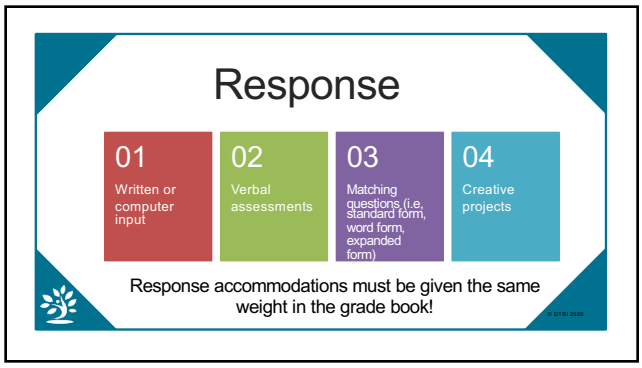
Response
01
Written or computer input
02
Verbal assessments
03
Matching questions (i.e. standard form, word form, expanded form)
04
Creative projects
Response accommodations must be given the same weight in the grade book!

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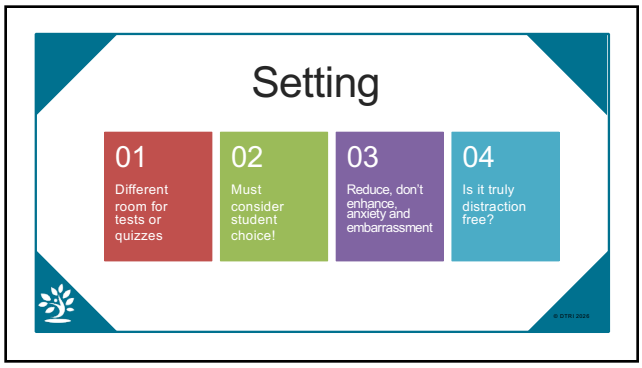
Setting
01
Different room for tests or quizzes
02
Must consider student choice!
03
Reduce, don't enhance, anxiety and embarrassment
04
Is it truly distraction free?

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Timing and Scheduling

01	02	03	04
Extended time, IF students know what to do with it	Fewer problems at a time	Spread tests out over multiple days	No pop quizzes or surprises

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Modifications

Fewer Questions
Student is expected to do less work than their peers.

Fewer Standards
Student meets fewer grade level standards than their peers and receives a special diploma.

Alternate, not Alternative, Assessments
"Alternative" means UDL. "Alternate" means less..

Exempt from Activities
Student may be exempt from an assignment or project.

Use Sparingly!
Modifications are meant for a small, specific subgroup of SPED students.

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Questions and Discussions

- What stood out for you?
- What made sense to you?
- What resonated with your experiences?
- What questions do you still have?
- Where do you see obstacles to implementation?

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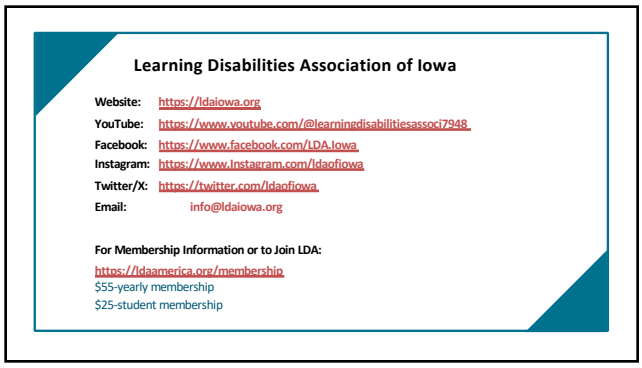
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