

Module 3.3 Supporting Visual-Spatial Problems in the Classroom

Visual-Spatial Processes Key Concepts

- All learning involves a complex set of neurocognitive processes that needs the successful integration of several brain functions
- In the BBBD model, visual-spatial processes are the foundation for visual perception, visual-motor integration, orientation, location, visual attention to details, spatial awareness, visualization, and social perception
- While several regions of the brain are active during visual-spatial processing, the parietal and occipital lobes are especially active
- Visual-spatial brain functions are also related to reading, math, and writing. Visual spatial deficits may have “broad” implications across most skill areas
- Related to Nonverbal Learning Disability (NVLD)
- May have broad and indirect factors that impact school/life
 - Handwriting
 - Note-taking
 - Writing assignments
 - Social competency
 - Navigating environment
 - Impact on safety

Expert Guidance

- Degree of V-S deficits may impact degree of academic and social progress
- As with S-M issues, always consult with OT/PT
- May have to place emphasis on accommodations
- Support staff focus on academic impact but `be attuned to social impacts. Staff may need to provide direct, in the moment social feedback
- Know interventions that are effective for autism and NVLD
- Direct and explicit instruction is a highly effective research strategy
 - Explicit instruction provides a series of engaging instructional supports or scaffolds- first through the logical selection and sequencing of content, and then by breaking down that content into manageable instructional units based on students’ cognitive capabilities
 - Core Elements
 - ❖ Identify a clear, specific objective
 - ❖ Break the information into chunks
 - ❖ Model with clear explanations
 - ❖ Verbalize the thinking process
 - ❖ Provide opportunities to practice
 - ❖ Give positive and instructive feedback
- Be critical of commercial programs- no one-size-fits all programs

Intervention: Focus on Academic Deficits Caused by Visual-Spatial Deficits

- Co-occurring with reading disabilities and ADHD
- Since Visual-Spatial deficits are implicated in several academic skill deficits, overview of reading, math, and writing interventions

Interventions: Reading

- Learning to read vs. reading to learn
- Direct explicit instruction -small group, frequent supports
- Phonological interventions are effective for all readers
- Paired guided reading
- Increase language comprehension and verbal reasoning
- Consult with SLP

Interventions: Math

- Direct explicit instructional methods
- Use exemplars, visuals, and manipulatives
- Show magnitude between quantitative groups
- “Teach me” opportunities
- Reduce memory demands (visuals)

Interventions: Writing

- Mechanics of handwriting (consult OT/PT)
 - Graph paper to help with handwriting
- Teach cognitive organization (EF)
 - Graphic organizer
 - Verbal reasoning (vocabulary)
 - “Tell me in your own words, then write”
 - Teach key word note-taking
- Set time to write daily
- Explicitly teach the writing process
- Teach to write for a variety of purposes/audiences
- Teach students to be fluent with handwriting, spelling, word processing, sentence construction
- Create an engaged community of writers

Accommodations

- Provide full notes and allow for notes and devices on tests
- Speech-to-text
- Limit visual information teaching new concepts

- Allow for manipulatives and visual when describing new concepts and/or testing
- Encourage student self-advocacy- actively seek help when they don't understand
- Actively check for understanding
- Allow for alternative ways to express knowledge