

ASPERGER'S SYNDROME, NONVERBAL LEARNING DISORDER AND OTHER NEUROCOGNITIVE DISORDERS

**APPROPRIATE PROGRAM DEVELOPMENT
Orion Academy**

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What is a Neurocognitive Disorder?

Not in DSM...

Includes disorders of information processing, particularly those that effect *Executive Function*,

- *Asperger's Syndrome*
- *Nonverbal Learning Disorder*
- *Related issues and conditions - "XYZ"*
- *Also effect other disorders with executive function deficits*
 - *Tourette's Syndrome and ADHD*
- *A word about Anxiety Disorders - OCD, GAD, Social Phobia*

Asperger's Syndrome

DSM-IV

- **A) Qualitative impairment in social interaction, as manifested by at least two of the following:**
 - 1) marked impairment in use of multiple nonverbal behaviors
 - 2) failure to develop peer relationships appropriate to developmental level
 - 3) lack spontaneous seeking to share enjoyment, interests or achievements with others
 - 4) lack of social or emotional reciprocity

Asperger's Syndrome Continued

B) Restricted repetitive and stereotyped patterns of behavior, with at least one of the following

- 1) Encompassing preoccupations/restricted interests
- 2) Inflexible adherence to routine or rituals
- 3) Stereotyped/repetitive motor mannerisms
- 4) Preoccupation with parts of things

Asperger's Syndrome

Continued

- The disturbance causes clinically significant impairment in the areas of functioning
- There is NO clinically significant general language delay (by age 3-4)

Neurocognitive Disorders are invisible disorders.



Historical Perspective

- First described as ***Social/Emotional Learning Disorder*** and was characterized by high reading, poor math scores.
- In the early 1970's described as the *opposite* of the typical learning disabled child.
- Struggle with the ***pragmatic use*** of language, visual-spatial and gross motor skills.

Early Ideas on NLD

- Visual-spatial processing problems noticed as central to the disorder
- *Social Pragmatic* problems noticed in all children and teens with NLD

Frequency of NLD

- Seen less frequently than language based disorders
- Predicted to be **about 1% of the general population** and unlike language based disorders **appears equally distributed between males and females**

Current Thought

- **NLD is part of a spectrum of related Neuro-cognitive disorders that overlaps with Aspergers Syndrome, and may co-exist in some individuals with Anxiety Disorders or Tourettes Syndrome.**

NLD - An Information Processing Disorder

- NLD is best viewed as an **INFORMATION PROCESSING DISORDER**
- Turner's Syndrome, Marfan's and 18P- patients seem to be likely to have NLD as a form of learning disorder

Core Deficit in NLD

INFORMATION PROCESSING

The
Information Processing deficit effects
the three **KEY AREAS** of dysfunction in NLD.

These areas are interconnected and combine to create the
disorder that is the NLD child

Three Areas that are Effected

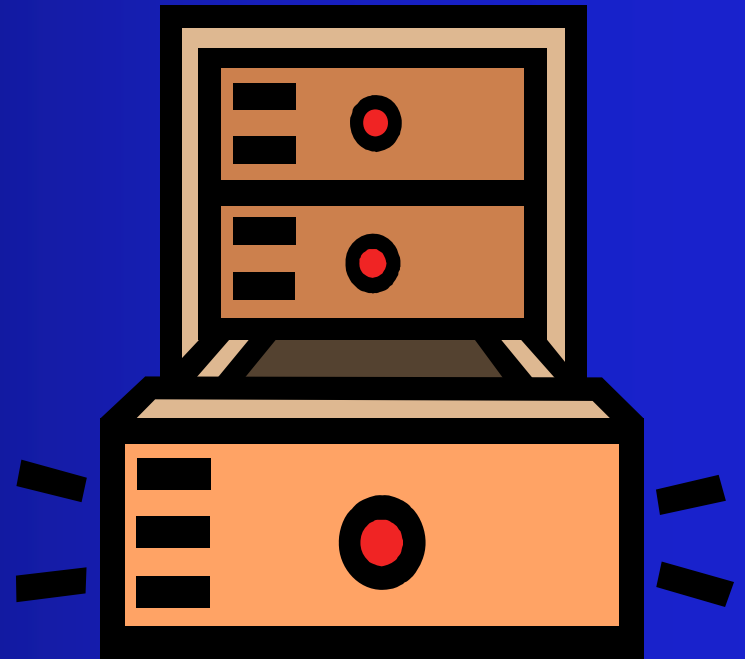
- I. Organizational Skills and Executive Function
- II. Sensory Integration and Visual-Spatial Processing
- III. Social Competency, and Pragmatic Language

Deficits in Organizational Skills and Executive Function (EF)

- Effect THREE main areas:
 - Organization of information into memory
 - Integration of information from different areas of thinking/learning
 - Production of work

Organization of information – the way information is stored

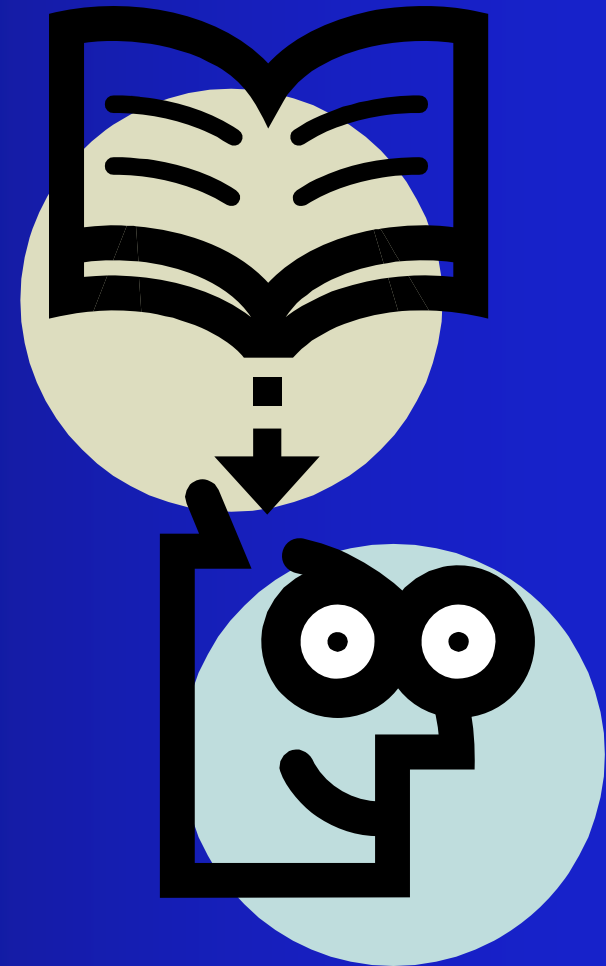
- Results in problems with
 - Novel situations
 - Processing speed
 - Rigidity of thinking
 - Concrete interpretation
 - Perfectionism
 - Inconsistent storage into working memory



Integration of Information – the connections linking information bits

Effects the ability to

- Read between the lines
- Create written documents
- Understand main idea, metaphor and analogy
- Focus on the correct detail
- Increases reliance on pattern learning



Production of work – using the information to create or respond



Often experience problems with

- Frustrating tolerance
- Processing speed - again...
- Lose track of the total (the “gestalt” and the end product)
- Perfectionism

and thus often rely on a
Sequential learning mode:
which adds to the loss the gestalt

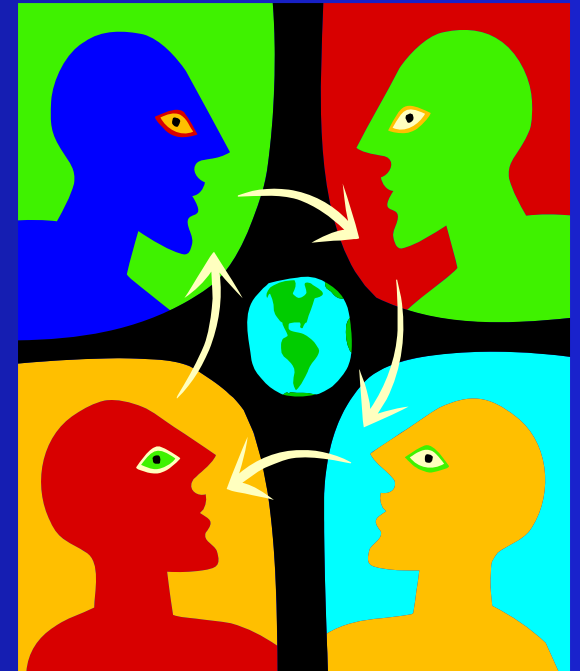
II. Visual-Spatial & Sensory-Motor Integration Deficit

Result in or have an effect on –

- Processing of visual information
- Body posture
- Tactile and auditory sensitivity
- Dysgraphia
- Directional confusion
- Arousal state maintenance
- Physical exploration of the world as young child

III. Social Skills and Perspective Taking

- Difficulty with social interactions
- Ability to acknowledge and adopt the perspective of another



Social Skills – Interactions with Others

- Remember: Language level is NOT communication level
- Anxiety Disorder overlap may play a large role in social difficulties
- Interaction difficulties result from information processing deficits may include;
 - entry and exit from conversation
 - integration of multi-levels of information
 - Understanding and reading the “give” and “take” of social situations
 - time and time reference

Social Skills Concerns –

continued

- Cognitive and behavioral rigidity lessens social flexibility
 1. Topics of interest are limited
 2. Difficulty switching topics or reading others interest
 3. Reluctant to try NEW things
- Difficulty predicting outcomes – making *all* situations novel and unpredictable

Problems with Perspective Taking

- Self focus – leads to failure to take “audience” into consideration
 - Not aware of how another person “thinks” as separate from self
 - Not aware of own or others “feelings”
 - Limited affect *range*
 - Poor or sporadic grooming reflects limited awareness of impact on others
 - Often, not aware that they have done something socially “wrong”

Overlap Criteria

- NLD may be the “learning disability” seen in Asperger’s
- “All children with Asperger’s have NLD, but not all NLD children are Asperger’s”.

Overlap NLD and Asperger's Syndrome

Using Byron Rourke's description of NLD – the authors found 6 areas of symptoms that were seen in BOTH NLD and Asperger's Syndrome

- Deficits in fine motor skills
- Deficits in gross motor skills
- Visual-motor integration deficits
- Visual-spatial perception deficits
- Non-verbal concept formation problems
- Visual memory deficits

Overlap between NLD and AS

5 areas of deficits that were NOT seen in BOTH Asperger's Syndrome and NLD

- Articulation
- Verbal Output
- Auditory Perception
- Vocabulary
- Verbal Memory

Interventions

- Family
- School
- Adjunct



School Interventions

The Classroom Wish List

Excerpt from *Helping a Child With NLD or Asperger's Syndrome*, Stewart, K.

The Teacher

Open mind and a sense of humor

Predictable and organized

Calm and even tempered

The Classroom

Schedules that are posted and adhered to

Rules clear and consistent

Consequences that are predictable

A room that is neat, quiet and uncluttered

Wish List Continued

Program Guidelines

Use of Projects that teach the PROCESS of learning

Headphone available to listen to music as needed

Permission to get up and move around (get water) as a means of focusing and managing alertness.

A second set of books at home

Technology to limit handwriting and multi-tasking activities

Limit homework to completing work that started in class or practice a learned skill

What's Next?

- Research needs to include actual real treatment situations
 - Who ARE these kids?
 - What is impact of the pragmatic language deficit and are we effective in intervening?
 - What about the anxiety component?