Learning Disabilities and Sensory Integration

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What is a Learning Disability?

- Ability to learn is in specific category is significantly below expected level
- Causes significant impairment in life
- Prevalent diagnosis in childhood and adolescence
- Largest category for school based services
- Sometimes comorbid
Prevalence of Learning Disabilities among Children Aged 3-17 Years with Emotional, Behavioral, or Developmental Conditions

- Developmental Delay: 82.9%
- Autism Spectrum Disorder: 76.0%
- ODD/Conduct Disorder: 48.1%
- ADD/ADHD: 47.6%
- Tourette Syndrome: 44.4%
- Anxiety: 42.1%
- Depression: 41.2%
Prevalence of Learning Disabilities Among Children Aged 3-17 Years with Emotional, Behavioral, or Developmental Conditions

- Does not have learning disabilities: 54.2%
- Has learning disabilities: 45.8%
American Psychological Association

• IQ Achievement discrepancy criteria questionable
  – Little difference in IQ between students with LD and low achieving students
  – Diagnosis does not enhance outcome
  – Social inequity
False Positive Causes

• Failing School
  – Lack of appropriate resources needed for students to be successful
• Inadequate teaching resources
  – Lack of teachers trained in needed areas
• Intellectual disability
  – Unidentified with unreasonable performance expectation
When Identified

- Currently
  - After sustained failure in an area in grades 1-3

- Should be
  - Throughout the academic career
DSM - 5

• Change from Disorder to Specific Learning Disability
• Subtype identification
Universal Screening Measures

• Measure foundation skills
• Teachers are not a reliable valid identification source for at risks students (Bahr & Fuchs, 1991; Marston, Mirkin, & Deno, 1984; Shinn, Tindall, & Spira, 1987)
Testing What when?

Elementary
- Math calculation
- Spelling
- Reading Comprehension
- Word Reading/reading accuracy
- Reading Fluency

Later school
- Written Expression
- Math Problem Solving
Types of Learning Disabilities

- Auditory Processing
- Dysgraphia
- Dyscalculia
- Dyslexia
- Non-Verbal
- Language Processing Disorder
- Visual Perceptual/Visual Motor Deficit
Central Auditory Processing

What you hear is NOT what you get
What CAPD looks like....

• Slow to respond to verbal interaction
• Misspells/pronounces similar words
• May appear to ignore people when focusing
• May use “what”, “huh” (small child “no”) to get people to repeat or pause to give time to process
• Misinterprets comments/information
• Does not get metaphors/jokes
Living with CAPD

- Eye contact with any verbal instruction
- Visual cues/signals
- Show me while telling me and show me again
- Simple directions....and write it down
- Repeat back
- Time to process
- Emphasize and give examples/explanations
- Pictures/drawings
Dysgraphia

- Poor coordination between brain and fine motor
  - Illegible handwriting
  - Poor spatial planning
  - Poor composition
  - Mixed bag of writing
  - Poor spelling
  - Poor copy work
  - Unusual hand grip
Because I am affleked whit Saver disgrafia, which as you may have sirmised—in no way a feats my intalekt, I will dye never having ben abow to rite an understandibow love &eter to my wife,
What to do for Dysgraphia

- Typing
- Oral exams
- Video presentations rather than papers
- Buddy note taker or record lectures
- Graph paper, wide rule
- Pencil grips to relieve hand cramps
Dyscalculia

- Numbers are a foreign language
- Word problems make no sense
- Struggles with any type of sequencing
- Poor pattern recognition
  - Days, months, weekends
  - Steps in solving a problem
  - Picturing fractions
  - Add vs subtract vs multiply
Making sense of numbers

- Pictures, diagrams, drawings
- Manipulatives
- Make a pictogram of word problems
- Music, poetry with motor memory
- Computer usage
What does dyscalculia look like?

• Child avoids playing games with counting or strategy, i.e. Trouble, CandyLand, Risk
• Skips numbers when counting
• Does not remember what symbols mean, i.e. +, =, >
• Struggles with left/right, physical directions
• Graphs make no sense
Dyslexia
(Language Based LD)

• Differs in expression
  – Reading fluency
  – Decoding
  – Comprehension
  – Recall
  – Writing
  – Spelling
What does Dyslexia look like?

- Slow painful reading
- Poor spelling
- May listen well but read poorly
- Struggles to write words
- Word substitution
- Poor handwriting may occur
- Difference between listening and reading comprehension
Dyslexia: There is so much beneath the surface that too often goes unnoticed and unaddressed.
Helping the Dyslexic

- Books on Tape
- Reading helper (hole in card)
- Computer for essays
- Multi modal teaching
- Video/recording reports instead of writing
- Don’t count spelling errors
- Buddy for notes or copy of lecture
Visual Perceptual

• Letters run into each other on paper/reverses b and d, p and q
• Loses place reading
• Closes one eye while working
• Turns head when reading
• Holds papers at an angle
• Does not recognize parts of pictures
• Complains eyes hurt
Visual Motor

- Struggles learning new paths/places
- Struggles using scissors
- Breaks pencils/crayons with grip
- Does not do well with fun houses, escalators and sometimes elevators
Trapped!
ICD 10 Codes

F82 Specific developmental disorder of motor function

F83 Mixed specific developmental disorder
What to do?

- Video/Record assignments
- Typing, computer
- Books on tape
- Avoid copying
- Pencil grips, writing instruments with different “feel”
- Textured paper
- Don’t grade handwriting
Non-Verbal LD

• Poor motor coordination
  – Clumsy, bumps into things
  – Poor writing
  – Trouble with fine skills – shoe tying, buttons

• Poor reading of social cues
  – Facial expression
  – Body language
  – Literal interpretation

• Poor Transition
  – Repetitive questions/interruptions
  – Fake it till you make it…or fall apart
Helping the non-Verbal LD

- Practice, practice, practice
- Minimize transition/change with multiple cues prior
- Watch for confusion, be ready to explain
- Preplan and review with before the event
- Simplify steps, instructions, metaphors
ICD 10 Codes

- F88 Other disorders of psychological development
- F89 Unspecified disorder of psychological development
Language Processing Disorder

- Poor reading comprehension
- Poor use of labels/names for objects
- Can describe, draw, find...anything but name
- Misses the puns/jokes/metaphor
- May pause mid sentence, hunt words, get frustrated
Helping Language Processing

- Simple sentences
- Video/tape presentations
- Written information/ideas
- Storyboards, cartooning to help with writing assignments
- Tutoring to do multiple reviews
F80 Specific developmental disorders of speech and language
  F80.0 Specific speech articulation disorder
  F80.1 Expressive language disorder
  F80.2 Receptive language disorder
  F80.3 Acquire aphasia with epilepsy [Landau-Kleffner syndrome]
  F80.8 Other developmental disorders of speech and language
  F80.9 Developmental disorder of speech and language, unspecified
F81 Specific developmental disorders of scholastic skills
  F81.0 Specific reading disorder
  F81.1 Specific spelling disorder
  F81.2 Specific disorder of arithmetical skills
  F81.3 Mixed disorder of scholastic skills
  F81.8 Other developmental disorders of scholastic skills
  F81.9 Developmental disorder of scholastic skills, unspecified
Intellectual Deficit
IQ Score Distribution

- 34% of the population scores between 85 and 115.
- 68% of the population scores between 55 and 145.
- 95% of the population scores between 55 and 145.
- 0.1% of the population scores below 55 or above 145.
- 2% of the population scores below 70 or above 130.
What curve shows

• Average IQ 85-115
• Borderline IQ 70-85
• Intellectual Deficit IQ Below <70
  – Mild 55-70
  – Moderate 40-55
  – Severe 20-40
  – Profound <20
Higher end of Bell Curve

- **Above Average** 115-130
- **Gifted** 130-145
- **Genius** 145 and up

- **What does this look like?**
  - Mean of college grads 112-115
  - Avg IQ MD/JD/PhD 125
  - Avg IQ top 12 Ivy League 141
F70-F79 Mental retardation

F70 Mild mental retardation

F71 Moderate mental retardation

F72 Severe mental retardation

F73 Profound mental retardation

F78 Other mental retardation

F79 Unspecified mental retardation
A fourth character may be used to specify the extent of associated impairment of behaviour:

F7x.0 No, or minimal, impairment of behaviour

F7x.1 Significant impairment of behaviour requiring attention or treatment

F7x.2 Other impairments of behaviour

F7x.3 Without mention of impairment of behaviour
Disability Rights

- **IDEA (2004)**
  - Individuals with Disabilities Education Improvement Act
  - Each state implements individually
  - Individual Educational Plan
    - Team evaluation and decision
  - Section 504 Plan
IEP

- Required for each child receiving Special Education services
- Addresses specific needs and goals
  - States present level of performance (LPOP)
  - States annual educational goals
  - List services/supports school will provide to help child reach goals
  - Lists modifications and accommodations to help your child
  - States how and when measurements of progress will be made
  - States transition planning
Rights under IEP

• Parents may ask for an Independent educational evaluation (IEE) by an outside expert....parent pays, school does not have to listen

• Team consists of:
  – Parents
  – At least 1 general education teacher of child
  – At least 1 Special education teacher
  – School psychologist or specialist who can interpret results
  – District representative with authority over special education services
More IEP information

- Notice must be given in writing prior to any change, any meeting, any evaluation
- Parent has right to keep services already in place when there is any dispute
- Consent to evaluate must be in writing
- Consent for services must be in writing
- Must be reviewed at least annually and need for service at least every 3 years
Section 504 Plan

• Section 504 of the Rehabilitation Act of 1973
  – Child has any learning or attention issues
  – Interferes with child’s ability to learn in a general education classroom
  – Child who does not qualify for IEP may qualify for 504P
Information on 504P

• Team consists of parent general and special education teachers, school principal
• Basic contents
  – Accommodations
  – Supports
  – Services
• Must notify parents of any significant change
• Parent must consent for evaluation
• Reviewed usually yearly and service need every 3 years
OK Preschool Eligibility

- “A preschool child three to Kindergarten school age, …determined to be eligible as a child with a developmental delay requiring special education and related services if assessments have revealed the student is functioning one and a half standard deviations below the mean in two domains or two standard deviations below the mean in one domain”

OK KG-9yrs Eligibility

• “Kindergarten school age (turning five by September 2) to age nine, criteria for delay in developmental domains or indicators for specific disability categories may be used to determine eligibility through the comprehensive evaluation process for developmental delay. Criteria for specific disability categories (e.g., autism, speech language impairment, other health impairment) may be used to determine developmental delay eligibility for children in this age range.”

• http://ok.gov/sde/early-childhood-special-education
What can be done

• Speech therapy
• Language therapy
• Occupational therapy
• Physical therapy
• Hippotherapy (Therapeutic Horseback Riding)
• Animal therapy
• Social Skills therapy
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