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Lecture Overview

- Explain the contents of Specific Learning Difficulty Assessments
- Try for a (simpler) explanation.
- Brief description of what the various subtests represent in terms of the skills used in the classroom
- Consider how a SLD can impact on test performance and overall scores.

LEFT/RIGHT BRAIN

- LEFT BRAIN: Language (Learning, Thinking and Reasoning), Word Attack Word Analysis (Literacy).
- RIGHT BRAIN: Kinesthetic Learning, Non Verbal Problem Solving, Creativity.
- LEFT and RIGHT connect via the corpus callosum
- Most Curriculum content teaches to the LEFT side.
- Technical Trade subjects and Science (practical Science only) teach to both.
- Math: Pattern identification RIGHT brained. All other is LEFT.

Different Methods of Assessment for SLD

- Cheesecake recipe: Different Recipes, similar ingredients: Same end result.
(Some are prettier than others though).
- Educational Psychologist Assessment - with the extra training. (Tests some LEFT, Some RIGHT)
- SPELD – Utilizes some Educational Psychological Assessments and some Language Based assessments
- Learning Profile – Language Based + Neuropsychological Approach. (LEFT)
- Each are valid assessments, utilizing different tools to assess the same type of skills required for functioning in the classroom.

How Specific learning Disorders are identified

- WISC V – Identified by discrepancies between skills across a broad range of tasks. These discrepancies show the presence of a specific learning difficulty but they also reduce overall scores, AND Full Scale Intelligent Quotient is no longer applicable (GAI General Ability Index is then used as a general predictor – but not specific). 6 – 16;11yr
- LANGUAGE + Neuropsychological: Identified by the learning profile where there is 1) Low Verbal Working Memory 2) Processes in writing, and 3) Rapid and Automatic Naming errors. 5 – 21yr

Why Use Them?

- WISC V: For Non SLI children, this is considered one of the Gold Standards of predicting children's abilities for learning, and life outcomes...
- CELF 4 (New CELF 5 out just this month). For children with any type of learning difficulty (or not), it outlines which parts of learning in the classroom is going to be tricky. It shows both strengths and weaknesses for thinking, learning and reasoning with language centers (for learning and literacy). Language drives learning.

GENERAL WISC 5 EXPLAINED

- FULL SCALE INDEX (SCORES) – Generally shows IQ but not for children with SLI. Without SLI, the FULL SCALE IQ usually shows global intellectual functioning. Language delay impacts significantly on these scores too.
- PRIMARY INDEX SCALES – Generally show a comprehensive description of intellectual ability – IT IS THE DISCREPANCIES IN THESE SCORES THAT INDICATE AN SLI.
- ANCILLARY INDEX SCORES – Derived from a combination of subtest scores and show general cognitive ability – but also show how the child went in the WISC performance. This is used to look at the SPECIFIC NATURE OF LEARNING DIFFICULTY.
- COMPLIMENTARY – Designed to more specifically assess children with learning difficulties BUT NOT ROUTINELY USED. Ed Psych may assess using other methods: Cheesecake....

Students receive scores that inform on a level of difficulty with that task/Index.

Standard Score:	Ability for test
• 130 +	Extremely High
• 120 – 129	Very High
• 110 – 119	High Average
• 90 – 109	Average
• 80 – 89	Low Average
• 70 – 79	Very Low
• 69 and Below	Extremely Low

WISC 5 Continued

WORK BACKWARDS TO UNDERSTAND: What skill is assessed , (what it is responsible for), and what can impact on the score.

- ANCILLARY INDEX SCORES: made up of:
- Quantitative Reasoning: (Math ability). Figure Weights and **arithmetic**
- Auditory Working Memory: (Holding and manipulating verbal information). ***Digit Span and Letter – Number Sequencing***
- Non Verbal: (Holding and manipulating information using both verbal and visual systems for math and writing). **Block Design, Visual Puzzles**, Matrix Reasoning, Figure Weights, Picture Span, **Coding**
- General Ability: (General intellectual ability without working memory components): Similarities, Vocabulary, **Block Design**, Matrix Reasoning, Figure Weights
- Cognitive Proficiency: (Problem Solving – Applying information to a solution) ***Digit Span, Picture Span, Coding, Symbol Search***
- The above tasks are affected by the following:
 - **Dyscalculia**
 - **Dyslexia** **Left/Right Discrepancy** All verbal tasks impacted by language delay.

PRIMARY INDEX SCORES: Made up of 10 different ancillary subtests.

What is shown, (What it means for the classroom), and what impacts on its scores.

KEY: **DYSCALCULIA**: **DYSLEXIA** **DYSGRAPHIA** *Left/Right*

- VERBAL COMPREHENSION: (Listening, understanding and speaking) Measure of crystallized intelligence. Language learned through life experience. Word Knowledge, **Information Retrieval**, reasoning and **solving verbal problems**, Communication of knowledge.
- VISUAL SPATIAL: (Math problems and Writing tasks) Understand visual spatial details/**reasoning and geometric design patterns**. **Understanding parts of a whole**. Attention to visual detail. **Visual motor integration**.
- FLUID REASONING: (detecting underlying relationships between visual objects). **Visual Reasoning**, **Visual intelligence**, **Simultaneous Processing**, Abstract Thinking.

PRIMARY INDEX SCORES cont'd

KEY: **DYSCALCULIA:** **DYSLEXIA** **DYSGRAPHIA** *Left/Right*

- WORKING MEMORY: (Attention, topic maintenance, mental manipulation – both **auditory** and visual). Attention, Concentration, Mental Control, **Visual** and **Auditory**.
- PROCESSING SPEED: (***The ability to quickly and correctly scan and discriminate between simple visual information***). Short term visual, **Visual Motor**, **Visual Discrimination**, **Visual Scanning**, Concentration, **Cognitive Flexibility**, Rate of Test Taking.

FULL SCALE IQ: Made up of 7 Ancillary Subtest Scores – Not Relevant for Children with SLD

KEY: **DYSCALCULIA:** **DYSLEXIA** **DYSGRAPHIA** *Left/Right*

- Verbal Comprehension: Similarities and Vocabulary
 - Visual Spatial: **Block Design**
 - Fluid Reasoning: Matric Reasoning, Figure Weights
 - Working Memory: ***Digit Span***
 - Processing Speed: **Coding**
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- WISC 5 Results for a child with Dyslexia, Dyscalculia, Dysgraphia really shows level of difficulty performing these tasks. It can be quite confronting. Keep in mind that most tasks are impacted on to varying levels by a SLD.
 - Individual subtest results require interpretation to identify the complexity and severity of a Dyslexia.

LANGUAGE CELF 4 + NEUROPSYCH APPROACH (Language and Literacy Assessment)

The prettier cheesecake for me due to work history.

Shows a simple versus complex Dyslexia. Shows strengths and weaknesses in curriculum learning.

(LEFT BRAIN) Assesses language and literacy centers:

Shows what type of learning in the classroom will be challenging.

Shows the presence of language strengths and weaknesses.

Predicts academic ability

Identifies long term language delays/difficulties that impact on all learning, thinking and reasoning.

CELF 4 + Neuropsychological Approach. Language and Literacy Assessment

- CORE LANGUAGE: Made up of four subtest. Shows “general” language comprehension skills for learning in an academic environment. 16th – 84th percentile is Within Normal Limits. Quick snapshot of how well they can learn in the classroom compared to peers.
- RECEPTIVE LANGUAGE: How well students are able to process and understand the verbal instruction and content that they listen to in the classroom. (All teacher talk)
- EXPRESSIVE LANGUAGE: How well students are able to use language to explain their understanding of classroom content. Required for all writing tasks – syntax (sentence structure etc.).
- LANGUAGE CONTENT: Similar to crystallized intelligence. Informs on the breadth and depth of vocabulary. Understanding of the world around them. Life Experience etc.
- LANGUAGE STRUCTURE: (5 to 8 years) Word Grammar. How well a child is able to change their words to indicate context (run, running, ran, mouse, mice). Impacts on verbal explanation as well as word attack and word analysis skills in writing.
- LANGUAGE MEMORY: (9 years and over). The ability to store and retrieve vocabulary. Learn and apply new an abstract vocabulary. Essential for all abstract learning, academic writing. Higher Order thinking and discussion. Successful inferencing.
- VERBAL WORKING MEMORY: Mental Jotting Pad for gathering all literacy information. Responsible for manipulating and storing new information. Word retrieval (Word Finding Difficulties). Essential to topic maintenance. Necessary for organizing and planning work in school. Responsible for Comprehending text.

Cont'd.

- Rapid and Automatic Naming: Higher Order. Letters and Numbers. This is the ability to share accurate information rapidly and automatically when scanning (for reading), and coding (writing).
- All Dyslexics have errors with RAN. Base level only tested. Relies on VWM.
- Phonological and Phonemic Awareness abilities - both spoken and in writing. Number of skills required for Word Attack and Word Analysis (both reading and writing).
- Dyslexics usually bypass this system for reading, but utilize this system for writing. Why they are often able to read well, but not write. (Utilizes both RAN and VWM)

Cont'd

- Criteria for SLD Language and Literacy (Neuropsychological Approach)
 - 1) Low Working Memory:
 - 2) RAN errors: Higher or Lower order. Letters (and Numbers)
 - 3) Processes in Writing:
- Language comprehension informs on how well we can compensate for the SLD in the classroom, and/or other curriculum learning that will be affected.
- Shows the complexity and level of severity without having to interpret scores.
- Clinician Observation: The presence or absence of other aspects that can impact on learning. Attention, Movement, Tone, Time.

Is one better than the other?

- As long as the Assessments and Reports are recognized by the state, then it doesn't matter.
- Each specialist prefers their own cheesecake.
- Some reports are easier to interpret (digest) than others – individual to you, and depends largely on the clinician's experience and knowledge base (preference).
- It's important to go to a specialist trained in utilizing all subtests and trained in interpreting the scores. Generalists can't explain the discrepancy of scores and abilities.

Questions?

References:

- Pearson Psychorp Industries. Web Content.
- Advanced Interpretation of the WISC – V
- Maccow, G. Advanced WISC – V Interpretation.
- Clinical Evaluation of Language Fundamentals 4.
- Clinical Knowledge and Reasoning.