Patterns of Strengths and Weaknesses in L.D. Identification

October 3, 2013
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Definitions of SLD
Federal and State

• “A disorder in one or more basic psychological processes involved in understanding and using language spoken or written, which may manifest itself as the imperfect ability to listen, think, speak, read, write, or do math calculations.”

• “A disorder in one or more of the basic psychological processes involved in understanding or in using language, spoken or written, which may manifest itself in an imperfect ability to listen, think, speak, read, write, spell or do mathematical calculations. Specific learning disability includes conditions such as perceptual disabilities, brain injury, dyslexia, minimal brain dysfunction, and developmental aphasia. The term does not include learning problems that are primarily the result of visual, hearing, or motor disabilities, mental retardation, emotional disturbance, or environmental, cultural, or economic disadvantage.”
In Oregon...

• Districts may use two models for identifying students with SLD but the Department of Education does not give much specific guidance beyond that.
  1) Response to Intervention
  2) Patterns of Strengths and Weaknesses

What is a SLD?
A measureable skill deficit that:

• Is inherent to the individual
• Is of neurological origin
• Impacts specific cognitive skills whereby students have generally average or better overall cognitive ability
• Is unexpected or not readily explained
• Results in poor learning skill acquisition
• Results in an uneven pattern of learning
Basic Underlying Premises for SLD Identification

• 1) Good core instruction with universal screening
• 2) Additional interventions for those identified as being at-risk for academic failure; more frequent progress monitoring for these students
• 3) A comprehensive evaluation occurs if the student does not respond at step 2

Assessments Required for SLD

• An assessment of the child’s academic achievement toward Oregon grade-level standards
• A review of cumulative records, previous IEPs or IFSPs and teacher collected work samples
• Observation. An observation of the child in the child’s learning environment (including the regular classroom setting) to document the child’s academic performance and behavior in the areas of difficulty, which must consist of:
  (A) Information from an observation by a qualified professional in routine classroom instruction and monitoring of the child’s performance before the child was referred for an evaluation; or
  (B) An observation conducted by a qualified professional (who is a member of the evaluation team) of the child’s academic performance in a regular classroom after the child has been referred for an evaluation and parent consent obtained; or
  (C) For a child who is less than school age or out of school, an observation in an age-appropriate environment
• Progress monitoring data, including:
  (A) Data that demonstrate that before, or as part of, the referral process, the child was provided appropriate instruction in regular education settings, delivered by qualified personnel; and
  (B) Data-based documentation of repeated assessments of achievement at reasonable intervals, reflecting formal assessment of student progress that is directly linked to instruction
Regulations Specific to PSW

- For a student evaluated using a model that is based on the student’s strengths and weaknesses, the evaluation must include an assessment of the student’s strengths and weaknesses in classroom performance and academic achievement, relative to age, Oregon grade-level standards, or intellectual development
- If needed, a developmental history
- If needed, an assessment of cognition, fine motor, perceptual motor, communication, social or emotional, and perception or memory if the child exhibits impairment in one or more these areas
- If needed, a medical statement or health assessment indicating whether there are any physical factors that may be affecting the child’s educational performance, and
- Any other assessments required to determine the impact of the suspected disability on the child’s educational performance for a school-age child or on the child’s developmental progress for a preschool child

The PSW Model

- A brain based model with ties to neuroscience
- Grounded in Cattell-Horn-Carroll (CHC) theory/research
- An attempt to identify strengths and weaknesses, both academic and cognitive, wherein these strengths/weaknesses are “associated”
- Identification of a convergence of data points among measures
- The application is known as “cross battery assessment” or XBA approach

- General Principles:
  1) The full scale I.Q. score is largely irrelevant
  2) Most academic skills and cognitive abilities are in the average range with isolated weaknesses in academic and cognitive functioning
  3) There is a match between a specific cognitive weakness to the specific area of academic concern
  4) Most cognitive abilities that do not relate to the academic concern are average or above
Psychological Processes

• Brain processes, operations, or functions where information is perceived, transformed, manipulated, stored, retrieved, and expressed
• Provides the basis for learning
• Deficits in one or more of these processes create roadblocks to learning
• Interventions may fail because the processing deficit is not understood or addressed

Nine Psychological Processes

• Memory- short term, long term, working memory, retrieval fluency; includes both visual and auditory memory
• Attention- selective attention, sustained attention, attention shifting, response inhibition
• Processing- processing speed, automaticity, rapid decision making
• Language Use- expressive and receptive language, listening comprehension, vocabulary development, general knowledge
• Mental Control- executive functioning including planning, organizing, monitoring, also self-regulation skills
• Problem solving/Judgment- reasoning, decision-making, social awareness
• Motor- visual motor integration, motor speed, fine and gross motor skills
• Visual Processing- spatial awareness, visual perception, perceptual organization
• Auditory Processing- phonemic awareness, auditory perception, sound discrimination
Cognitive Processes Associated with Areas of Identification under SLD

- Basic Reading Skills- memory, processing (speed), auditory processing, language use
- Reading Fluency- memory, processing (speed), mental control, attention
- Reading Comprehension- memory, auditory processing, mental control, problem solving, language use
- Math Calculation- memory, processing (speed), problem solving, visual processing, attention
- Math Problem Solving- memory, processing (speed), mental control, problem solving, language use, visual processing
- Written Expression- memory, processing (speed), auditory processing, mental control, problem solving, language use, motor
- Oral Expression- language use
- Listening Comprehension- language use

Broad and Narrow CHC Ability Representation in Intelligence Testing

- Gf- Fluid Intelligence: Wechsler scales, Woodcock-Johnson III Cognitive, Stanford Binet-5, DAS-II, KABC-II
- Gc- Crystallized Intelligence: Wechsler scales, Woodcock-Johnson III Cognitive, Stanford Binet-5, DAS-II, KABC-II
- Gsm- Short Term Memory: Wechsler scales (except WPPSI-IV), Woodcock-Johnson III Cognitive, Stanford Binet-5, DAS-II, KABC-II
- Glr- Long Term Retrieval: Woodcock-Johnson III Cognitive, DAS-II, KABC-II
- Ga- Auditory Processing: Woodcock-Johnson III Cognitive, DAS-II
- Gs- Processing Speed: Wechsler Scales, Woodcock-Johnson III Cognitive, DAS-II
Cognitive Abilities Important for Achievement in Reading

- Reading Achievement is tied to:
  - Gc - crystallized intelligence
  - Ga - auditory processing
  - Glr - long term retrieval
  - Gsm - short term memory
  - Gs - processing speed
- To a lesser extent:
  - Gf - fluid intelligence
  - Gv - visual processing
- Also neuropsychological processes including attention and executive function

Cognitive Abilities Important for Achievement in Math

- Math Achievement is tied to:
  - Gf - fluid reasoning
  - Gv - visual processing
  - Gc - crystallized intelligence
  - Gsm - short term memory
  - Glr - long term retrieval
  - Gs - processing speed
- Also neuropsychological processes including attention and executive function
Cognitive Abilities Important for Achievement in Writing

• Writing Achievement is tied to:
  Gc- crystallized intelligence
  Ga- auditory processing
  Gsm- short term memory
  Gs- processing speed
• Also orthographic processing, visual-motor integration, attention, and executive functions

Data Points to Consider

• File review with history of concern and attendance
• Observation- on/off task, organizational skills, need for additional directions, work completion rates
• Progress monitoring- starting point and rate of progress compared to peers (DIBELS)
• District assessments- writing samples, math problem solving, STAR, etc.
• State assessments- OAKS
• Classroom performance- grades and where the student is relative to peers in curriculum assessments
• Hearing and vision screenings
• Parent input
• Norm based assessments including cognitive, academic, language and/or rating scales
Evaluation Planning in PSW

- Is Hypothesis Driven: What is the academic weakness and what underlying cognitive process may be an associated weakness?
- Assessment is not generated from one convenient test battery (unfortunately)
- An entire test is not necessarily given; the team can choose what is needed from the subtests to target the skills
- Cross battery/multi-method
- Formal and informal
- Multiple data points

Examples of Measures for Assessment of Psychological Processes

- **Memory**: WISC-IV Working Memory; WJ-III Working Memory; CELF-4 Language Memory; WRAAML-2; BRIEF (Working Memory Scale); DAS-II selected scales
- **Attention**: WJ-III Broad Attention; BRIEF (Inhibit Scale); BASC-2 (Attention Problems Scale); Conners Rating Scale (selected scales)
- **Processing** (Speed): WISC-IV Processing Speed; WJ-III Cognitive Efficiency, Cognitive Fluency, Processing Speed; DAS-II selected scales
- **Language Use**: WISC-IV Verbal Comprehension; WJ-III Verbal Ability; CELF-4 Receptive/Expressive Language Index Scores; BASC-2 (Functional Communication Scale); DAS-II selected scales
- **Mental Control**: WJ-III Executive Processing; BRIEF (selected scales)
- **Problem Solving**: WISC-IV Perceptual Reasoning; WJ-III Fluid Reasoning; BRIEF (Monitor or Emotional Control Scales); DAS-II selected scales
- **Motor**: WJ-III Handwriting; Bender Gestalt II; Beery VMI
- **Auditory Processing**: CTOPP Phonological Awareness Quotient; CELF-4 Phonological Awareness Subtest; WJ-III Phonemic Awareness, Auditory Processing; DAS-II selected scales
- **Visual Processing**: WISC-IV Perceptual Reasoning; WJ-III Visual-Spatial Thinking; BRIEF (Organization of Materials Scale); Bender and Beery; DAS-II selected scales
Normative Academic Assessment Skill Areas Under SLD: WJ-III and WIAT-III

Basic Reading Skills- WJ-III: Letter Word Identification, Word Attack; WIAT-III: Word Reading, Pseudo word Decoding
Reading Fluency- WJ-III: Reading Fluency; WIAT-III: Oral Reading Fluency
Reading Comprehension- WJ-III: Passage Comprehension, Reading Vocabulary; WIAT-III: Reading Comprehension
Math Calculation- WJ-III: Math Calculation; WIAT-III: Numerical Operations; (May want to consider Math Fluency measures as well)
Written Expression-WJ-III: Writing Samples, Writing Fluency; WIAT-III: Sentence Composition, Spelling, Alphabet Writing Fluency (grades K-2), Essay Composition (grades 3-12)
Oral Expression-WJ-III: Story Recall, Picture Vocabulary; WIAT-III: Oral Expression
Listening Comprehension- WJ-III: Understanding Directions, Oral Comprehension; WIAT-III: Listening Comprehension

Steps in Evaluation Planning

• Discuss referral concerns. Specifically consider academic weaknesses under the 7 qualifying areas of Learning Disabilities:
  – Basic Reading Skills
  – Reading Fluency
  – Reading Comprehension
  – Math Calculation
  – Math Reasoning
  – Written Expression
  – Oral Expression
  – Listening Comprehension

• Develop a processing deficit hypothesis: Consider what underlying cognitive processes may be associated with the above academic weakness(es). Reference “Nine Psychological Processes” and “Cognitive Processes Associated with Areas of Identification under SLD.”

• Determine what assessments to conduct:
  – For Cognitive/Psychological Processes: Reference “Examples of Measures for Assessment of Psychological Processes.”
  – For Academic: Reference the “Normative Assessment of Skill Areas Under SLD: WJ-III and WIAT-III.”
  – Include other informal measures in the assessment process including DIBELS, OAKS/TESA, grades, STAR, Chapter tests, etc.: Reference “Data Points to Consider.”
Sample PSW Eligibility Worksheet

- Student Name: ___________________ Meeting Date: _______

- Circle Two Cognitive Strengths (SS-90 or above): Memory; Attention; Processing (Speed); Language Use; Mental Control; Problem Solving/Judgment; Motor; Visual Processing; Auditory Processing

- Circle Cognitive Weakness or Weaknesses (SS-80 or below): Memory; Attention; Processing (Speed); Language Use; Mental Control; Problem Solving/Judgment; Motor; Visual Processing; Auditory Processing

- Circle Academic Weakness or Weaknesses (SS-80 or below): Basic Reading Skills, Reading Fluency, Reading Comprehension, Math Calculation, Math Reasoning; Written Expression; Oral Expression, Listening Comprehension

- Is there an association between the cognitive weakness and academic weakness? Yes or No

- Are there exclusionary factors? Yes or No

- Additional supporting data points:

- If yes to association with supporting data, and no exclusionary factors, then eligible. Area of identification under SLD:

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Exclusionary and Other Factors

- To be eligible as SLD, the team must conclude that the student’s “rate of progress... or pattern of strengths and weaknesses... is not primarily the result of:
  a) A visual, hearing, or motor impairment; mental retardation or emotional disturbance
  b) Cultural factors
  c) Environmental or economic disadvantage
  d) Limited English proficiency

- In addition, the primary basis for the suspected disability cannot be due to a lack of appropriate instruction in reading (including the essential components of reading), or math, or due to Limited English proficiency

- The eligibility team must also determine that:
  a) The child's disability has an adverse impact on the child's educational performance
  b) The child needs special education services as a result of the disability
Suggested Practices

- PSW requires identifying what array of strengths and weaknesses are relevant to the identification of SLD
- PSW requires decision points for identification of what constitutes a strength and a weakness
- Decision points provide guidance to the team with the intent of creating some consistency across schools in a district
- Decision points should not be applied in a rigid manner
- Districts need to monitor the impact of the decision points and consider adjusting decision points up or down as needed based on identification rates

Examples of PSW Models in Oregon

- At least one academic weakness (Standard Score of 90 or below) with one associated cognitive weakness (SS 90 or below) AND 3 cognitive strengths (SS 92 or above, at least 8 points higher than the lowest weakness)
- At least one area of academic weakness (SS 84 and below) with one associated cognitive weakness (SS 84 and below) AND 4 cognitive strengths (SS 90 and above)
- At least one area of academic weakness (SS 84 and below) with one associated cognitive weakness (SS 84 and below) that is significantly different from other cognitive areas AND at least one area of cognitive strength (SS 85 or above)
- At least one area of academic weakness (SS 81 and below) with one associated cognitive weakness (SS 81 and below) AND at least 2 areas of cognitive strength (SS 90 or above)
- A measured weakness in one or more of the psychological processes related to the specific performance/achievement weakness; and a measured/observed strength in one or more of the unrelated or minimally related processes (strength=SS 90 or above; weakness= SS 80 or below); Three points of evidence of specific performance/achievement strengths; Three points of evidence of specific performance/achievement weaknesses
Statistical Considerations

- Conversions: between Scaled Scores, Standard Scores, T-scores may be necessary (tables available)
- Many Rating Scale results will need to be considered inversely, since higher scores typically represent a weakness or concern versus a strength
- While it is not necessary to give a complete battery, a single subtest score should not be used (a minimum of two subtest scores averaged is considered acceptable)
- Pay attention to “construct irrelevant variance” wherein a composite represents two or more distinct constructs (example is the PRI on the WISC-IV)
- +One standard deviation within the normative mean is considered to be “within normal limits” (85-115). Almost 70% of the population falls within this range on standardized measures
- A weakness with a decision point set at a standard score of 80 falls at the 10th percentile
- A strength with a decision point set at a standard score of 90=25th percentile in the Average range
- Decision points for DIBELS for some districts are set at the 30th or above percentile for a strength; the 20th or below percentile for a weakness
- For OAKS, a strength is considered meeting or exceeding; a weakness is “does not meet”

PSW Assessment is Linked to Instruction

The team can use PSW to guide Tier Three interventions such that interventions are more targeted to the student’s neurological functioning/cognitive processing.

Examples:
- **Working memory problems**- use multi-sensory instruction
- **Phonological deficits**- teach phonemic awareness
- **Language difficulties**- teach vocabulary and verbal reasoning
- **Reasoning problems**- instruct in problem solving approaches
- **Processing speed deficits**- teach fluency
Strengths of the Model

• Strengths
  1) XBA is founded on “the most empirically supported and well validated theory of the structure of cognitive abilities, namely CHC theory
  2) Has improved communication among professionals by providing standard nomenclature
  3) Enhanced evaluation practices for culturally and linguistically diverse students
  4) Provides flexibility in the assessment process in terms of being able to respond to referral concerns

Weaknesses of the Model

• Weaknesses
  1) Complexity- the model does require a “high degree of theoretical and psychometric rigor” in comparison to traditional methods
  2) The application of the model is time consuming
  3) While it is now generally agreed that it seems logical to directly assess psychological processes and that certain cognitive processes do underlie academic skills, the question remains, is SLD actually qualitatively different from low achievement? Some studies suggest that the answer is no.
Final Considerations

- PSW is a comprehensive but somewhat complicated model for SLD identification
- Going back to the federal definition of SLD, for years the argument was that there were no reliable ways to measure psychological processes
- Processing was all but ignored and the default was to go to something easily measured, discrepancy between ability and achievement
- Advancements in neuroscience have challenged this notion and it is now believed that in fact we can identify and measure these cognitive processes

References

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