

READING DIFFICULTIES, DYSLEXIA AND ASSESSMENT FOR THE SCHOOL PSYCHOLOGIST

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THE NATIONAL READING PANEL WHAT SKILLS ARE NECESSARY TO BECOME A PROFICIENT READER?

The National Reading Panel (Kilpatrick, 2015; NICHD, 2000) - after a review of numerous studies that reduced the number of struggling readers- concluded the following: If children in kindergarten are provided with (a) direct and explicit phonological awareness training, (b) letter- sound instruction and (c) if they are taught the connection between those two, the number of struggling readers in first, second and third grade will be substantially reduced.

EXAMPLE

- Shapiro and Solity (2008) provided that instruction to low socioeconomic kindergarten students (SES) and compared their findings to a school matched for SES who were receiving “as usual “ kindergarten reading instruction.
- At the end of first grade, the number of struggling readers was 75% lower in the experimental condition compared to the comparison school.

WE NEED TO PROVIDE TARGETED INTERVENTION FOR
THE CHILDREN WHO ARE STILL STRUGGLING

Reading components The five “big ideas” of the reading process

(Grizzle & Simms, 2009)

- Phonemic Awareness: the ability to detect, manipulate, and process acoustical information in words. Phonological Awareness- noticing and manipulating the sound structure of spoken language (Kilpatrick, 2015).
- Alphabetic Principle: associating sounds with letters, and blending graphemes into words. Combines phonology and orthography; Phonics, Decoding
- Reading Fluency: the ability to automatically read words within text using minimal effort and with full comprehension (orthographic processing)
- Vocabulary: a working knowledge of word meanings also mapped to oral vocabulary
- Reading Comp: the ability to derive meaning from text.


Feifer (2013).

MORE READING COMPONENTS

- Orthography refers to the patterns and principles by which spoken language is represented in writing.
- “Orthographic mapping is the process that readers use to store written words for instant and effortless retrieval. It is the means by which readers turn unfamiliar written words into familiar and instantly recognizable sight words” (Kilpatrick, 2015)
- Morphology (semantic lexical knowledge)- morphological awareness refers to the ability to recognize the meaning of parts of words such as roots, prefixes, suffixes, and grammatical endings.

(Kilpatrick, 2015)

ORTHOGRAPHY, PHONOLOGY, SEMANTICS

- | | |
|---------------|---|
| • Orthography | CAT |
| • Phonology | KAT |
| • Semantics |  |

- (Flanagan, 2013)

INFORMING YOUR EVALUATION

- **Developmental History**
 - Refer to Red Flags Handout
- **Input from Teachers, Reading Specialist, etc.**
 - Refer to Red Flags Handout
- Observations of the Student During Reading Instruction and Tasks
- **Review of Intervention History**
- **Review of Assessment Data**
 - Any state and local assessment data
 - Informal classroom based assessments
 - Work sample
 - Response to intervention data

ANALYZE DATA THAT HAS BEEN GATHERED PRE-REFERRAL

- **Phonemic Awareness**
 - DIBELS Phoneme Segmentation Fluency
 - Phonological Awareness Profile
 - Yopp-Singer Test of Phoneme Segmentation
- **Alphabetic Principle**
 - DIBELS , LNF, LSF, NWF
 - CORE Phonics Survey
- **Fluency**
 - DIBELS Letter Naming Fluency
 - DIBELS ORF
 - AIMS Web R-CBM

ANALYZE DATA THAT HAS BEEN GATHERED PRE-REFERRAL

- **Vocabulary**

- Vocabulary Knowledge Scale
- Vocabulary Assessment Magazine
- Vocabulary Recognition Test

- **Comprehension**

- Curriculum Based Assessment
- Informal Reading Inventories
- Developmental Reading Assessment

SAMPLING OF PROCESSING ASSESSMENTS

Phonemic Awareness, Phonological Processing

- Process Assessment of the Learner II
- Comprehensive Test of Phonological Processing II
- WJ IV Cog Phonological Processing, Non-word Rep.
- Diagnostic Assessment of Reading Second Edition K-3 and higher
- Feifer Assessment of Reading (FAR), Phonological Index Subtests

SAMPLING OF PROCESSING ASSESSMENTS

Orthographic Processing:

- Process Assessment of the Learner II
- Comprehensive Test of Phonological Processing II
- Test of Orthographic Competence, Grapheme Matching,
- WJ IV Cog Letter Pattern Matching, Letter Choice
- WISC-V, Naming Speed Literacy
- Feifer Assessment of Reading, Orthographical Processing, RAN

SAMPLING OF PROCESSING ASSESSMENTS

Alphabetic Principle - associating sounds with letters, combines phonology with orthography. Phonics, decoding

- WIAT-III Pseudoword Decoding
- Test of Word Reading Efficiency 2 (TOWRE 2)
- Developmental Reading Assessment K-3 Second Edition
- Diagnostic Assessment of Reading Second Edition K-3 and higher
- Feifer Assessment of Reading, Isolated Word Reading, Nonsense Word

SAMPLING OF PROCESSING ASSESSMENTS

Reading Fluency

- WJ IV Ach Sentence Reading Fluency, Oral Reading,
- Gray Oral Reading Test- 5
- Kaufman Test of Educational Achievement
 - Decoding Fluency
 - Silent Reading Fluency
 - Word Reading Fluency
- Feifer Assessment of Reading, Fluency Index

SAMPLING OF PROCESSING ASSESSMENTS

Vocabulary/ Lexical Knowledge/Morphology:

- Peabody Picture Vocabulary Test
- Expressive One Word Picture Vocabulary Test
- Kaufman Survey of Early Academic and Language Skills
- Test of Integrated Language and Literacy
- Clinical Evaluation of Language Fundamentals – Fifth Edition (CELF-5)
- Feifer Assessment of Reading, Morphological Processing

SAMPLING OF PROCESSING ASSESSMENTS

Vocabulary/ Lexical Knowledge, Morphology

- *WIAT-III Word Reading
- WJ IV Ach Letter Word Identification
- WJ IV Cog Oral Vocabulary
- TOWRE 2
- Developmental Reading Assessment K-3 Second Edition

SAMPLING OF PROCESSING ASSESSMENTS

Reading Comprehension (Morphology is implicit in reading comp.)

Qualitative Reading Inventory - Fifth Edition (criterion referenced)

WIAT-III Reading Comprehension

WJIV Ach Passage Comprehension, Reading Recall

Gray Oral Reading Test- 5

Feifer Assessment of Reading (FAR)

Assessment of Executive Functions associated with Reading (McCloskey)

COMPREHENSION CAUTIONS AND CONSIDERATIONS

- Relationship Between Reading Comprehension and Language Skills
 - Listening comprehension should Be Assessed but these assessments vary.
 - Investigate the relationship between oral language skills and comprehension.
 - Weaknesses in LC or oral language should may indicate need for assessment by SLP.
- Relationship Between Decoding and Comprehension
 - Varying considerations for assessing comprehension in poor and strong decoders (Farrall)
- Comprehension Assessments Vary
 - Task Demands
 - Constructs Assessed

AN EXAMPLE

Test Name	Score	Percentile Rank
KTEA-II Reading Comp	77	6
WIAT-II Reading Comp	81	10
TORC-4 Passage Comp	11	63

Example from Farrall, 2015 presentation, PDE Special Education Conference

Comprehension measures need to be selected based on the specific types of difficulties the student is experiencing in the classroom / in the curriculum.

CASE STUDY MARY

Background

- Mary entered My school district from Other school district in fourth grade (2013-2014)
- Her triennial Re-Evaluation was due in the fall of 2015 when she entered 6th grade.
- The triennial RR was started at the elementary school in the spring of 2015.
- Mary was previously evaluated at Other School District, ER dated 11/23/ 2009. She was administered the WPPSI-III VIQ 88, PIQ 77, FSIQ 80 She was also evaluated with the WIAT-III and the BASC, and Bracken. At that time she was identified as a student with SLD in reading, writing and math.

MARY

- She was re –evaluated in Other School District in 2012. Academic functioning was updated via WJ III Tests of Ach. She continued to be identified as a student with SLD in reading, writing and math.
- Reading Intervention in My school district in 5th (2014-2015) included a combination of Wilson and Words Their Way and Read Naturally for repeated readings. **It was noted that Mary was able to comprehend text that is read aloud to her on her grade level.**

MARY

- QRI-5 in Fall 2014 Pre-Primer 2/3 Struggles with sight word and decoding. Reading slow but she tries to make meaning of the text.
- Spelling Fall 2014 is at the Letter Name stage. Has not mastered initial and final consonants or short vowels.
- PSSA Reading March 2014 Below Basic, Fall 2014 Benchmark –Below Basic
- Spelling, Spring 2015- was able to spell one more word correctly than she did in the fall.

MARY

Nurse Report for RR spring 2015

screening indicated failed Far Vision Screen – Left eye. Referred for Vision Assessment. Was prescribed bifocal glasses on 1/13/2015

Rarely wears her glasses, often misplaces them

Has a history of ADHD

Last year she fell asleep in class several times

During fifth grade –there were also several times that Mary fell asleep in class. She said that she wakes up and then has trouble sleeping.

MARY PSYCHOEDUCATIONAL ASSESSMENT

- WISC-V
- WIAT-III
- COMPREHENSIVE TEST OF PHONOLOGIAL PROCESSING 2 (CTOPP2)
- WIDE RANGE ASSESSMENT OF MEMORY AND LEARNING 2 (WRAML2)
- WJIV COG- Picture Recognition
- ACHENBACH SYSTEM OF EMPIRICALLY BASED ASSESSMENTS (ASEBA)
- CONNERS3
- INTERVIEW WITH MARY

TEST RESULTS

WISC-V- COGNITIVE PROCESSING ASSESSMENTS

COGNITIVE TESTING RESULTS WERE QUITE VARIABLE AND MUST BE DISCUSSED AT THE SUBTEST RATHER THAN COMPOSITE/INDEX LEVEL IN ORDER TO MEANINGFULLY UNDERSTAND MARY'S COGNITIVE STRENGTHS AND NEEDS.

- VCI 89 (Not interpretable) Similarities 10 Avg; Vocabulary 6 Below Avg
- FRI 88 (Not Interpretable) Matrix Reasoning 10 Avg; Figure Weights 6 Bel. Avg
- VSI Subtest Block Design 7 Low Avg
- PSI Subtest Coding 7 Low Avg; WM Subtest Digit Span 4 Very Low
- GAI 85 interpret with caution; FS IQ 79 Not interpretable
- **Strengths** at subtest level Verbal Concepts Formation; Fluid Reasoning using Inductive logic. **Weaknesses** at Subtest Level- Vocab sensitive to reading; Figure Weights- involve quantitative k; Digit Span

TEST RESULTS
CTOPP2 WRAML2
WJIV – MORE COG. PROCESSING ASSESSMENTS

CTOPP 2 -Phon. A. 88 (W); Elision 5 (W); Blending Words 12 (S); Phoneme Isolation 7(W) **Phon. Mem. 70 (W) ;** Mem for Digits 4; Non. Rep 6; **Rapid Nam 101 (S)** RD 11, RD 9

WRAML2 Verbal Mem Composite 77 (W); Story Mem 6; Story Mem. Delayed Recall 4, Story Mem. Rec. 7; Verbal Learning 6

WJ IV Picture Recognition 120 (S)

TEST RESULTS
WIAT –III

- Word Reading 58, Reading Comp 81; Pseudoword Decoding 82 (**Weakness**)
- Numerical Operations 69 (**Weakness**)
- **Listening Comprehension Composite 92 (Strength);** Receptive Vocabulary 102; Oral Discourse Comprehension 84
- **Sentence Composition Composite 71;** Sentence Combining 79; Sentence Building 65; Essay Word Count 78; Spelling 66 (**Weakness**)
- Expressive Vocabulary 93- (**Strength**)

BEHAVIOR RATING SCALES

- Conners 3 -
- 2 teachers-Significant (Very Elev and Elev) Scales- Inattention, peer relations;
1 teacher Very Elevated Scale- Learning problems/Exec. Funct. 1 teacher
High Avg Learning Problems/ Exec. Func.; 1 teacher Very Elev. Aggression
- ASEBA -
- Sped teacher Significant scales – Academic Functioning, Attention, Rule
Breaking, Somatic complaints

SUMMARY

- **Relative and Normative Cog. Processing Strengths** measures of verbal
concept formation, fluid reasoning using inductive logic, Picture Recognition
(visual meaningful memory), Rapid Naming measures, Blending Words
- **Relative and Normative Cog. Processing Weaknesses-** measures of verbal
comprehension- vocabulary, measures of fluid reasoning involving quantitative
k, auditory working memory for numbers, story memory, verbal learning ,
measures of phonological awareness, Phonological Memory measures

SUMMARY

- **Achievement Deficits - measures of** Word Reading, Reading Comprehension, Pseudoword Decoding, calculation, Measures of writing and sentence composition
- **Achievement Strengths-** Listening Comprehension, Receptive, Expressive Language
- **Behavioral Information** Previous Diagnosis of ADHD, observations by examiner, teachers and results from Behavior Rating Scales. Conners3 results- Inattention, LP and Executive Functioning; Other factors- requires glasses, attendance , sleeping in class, fatigue

CONCLUSIONS

- Mary's processing strengths- measures of verbal concept formation, fluid reasoning using inductive logic, Picture Recognition (visual meaningful memory), Rapid Naming measures, Blending Words.
- Mary demonstrates processing deficits on measures of phonological memory, phonological awareness, story memory, vocabulary, fluid reasoning involving quantitative concepts and auditory working memory and achievement deficits on measures of spelling, writing, word reading, decoding, reading comprehension and math calculation.

CONCLUSIONS

- Mary is presenting with phonological and orthographic weaknesses consistent with dyslexia and dysgraphia, as well as with a specific learning disability in reading comprehension and mathematics. Mary is below grade and age expectations in reading, writing and math. In addition, not wearing her glasses, fatigue, inattention and executive functioning difficulties further exacerbate Mary's learning disabilities and impede academic skill acquisition. She needs to wear her glasses in school.

IDENTIFICATION

Mary meets Exceptionality Criteria for-

- SLD reading, writing and math (all areas);
- OHI due to ADHD and executive functioning deficits.

CASE STUDY MATTHEW

- First Grade Student Struggling with Reading
- Developmental History
 - Tubes in ears around age one year.
 - Unclear speech.
 - Early Intervention services for speech. Dismissed before school aged.
 - Parent reports difficulty with reading and writing, Matthew needs a lot of cueing.

MATTHEW

- **Review of School Records**
 - **Report card in K: Learning to Read Independently, Partial Mastery**
 - Reads letters fluently
 - Blends to read short vowel words
 - Identifies beginning, middle and end of story
 - **ReFirst Grade Classroom Assessments and Universal Screener**
 - AIMS WEB, consistently below benchmark on NWF & R-CBM, declining PSF
 - Good comprehension
 - Struggling with phonemic awareness, phonics, word analysis

MATTHEW

- **Referred to CST in February of first grade**
 - **Goal: read list of cvc words with 75% accuracy and automaticity**
 - **Baseline data: Wonders Phonics Survey**
 - VC and CVC 1/10 read as whole words
 - , 9/10 segmenting into sounds
 - **Daily, small group direct instruction**
 - **Appropriate, targeted instruction for 8 weeks**
 - **Limited progress toward goal**

MATTHEW

- **Evaluated using the Cross Battery Assessment Model**
 - Utilized selected subtests of the WJ-Cog, WISC-V, WJ-OL, KABC-II, and the KTEA-III
 - Academic deficiencies in reading, both at the word level and comprehension and in writing, with encoding commensurate with decoding.
 - Average to High Average abilities in:
 - Crystallized Intelligence
 - Auditory Processing
 - Visual Processing

MATTHEW

- Demonstrated processing weaknesses associated with ability to develop automatic recognition of words in print and fluent automatic processing of information: Long-term Storage and Retrieval and Processing Speed
 - Long-term Storage and Retrieval
 - Analysis of performance indicates skills ranging from Borderline to Low Average
 - Rapid Naming skills, which are correlated with fluent, accurate reading, are Borderline
 - Processing Speed
 - Demonstrating consistently Low Average Performance

MATTHEW

- “A student with SLD possesses specific cognitive and academic weaknesses or deficits . When these deficits are related empirically or when there is an ecologically valid relationship between them, the relationship is referred to as a below-average cognitive aptitude-achievement consistency...” Flanagan, Ortiz, Alfonso, 2013.
- **Based on his cognitive abilities profile and academic skills set, Matthew is a child with a specific learning disability in the area of basic reading skills and written expression.**

MATTHEW

- **Referred to CST because of concerns about reading progress**
 - **Report card: Learning to Read Independently, Partial Mastery**
 - Reads letters fluently
 - Blends to read short vowel words
 - Reads sight words
 - Identifies beginning, middle and end of a story
 - Identifies facts in a story

IDENTIFICATION OF SLD

IDEA 2004

**Alignment of law with scientific research
pertaining to processing strengths and weaknesses
for the Identification of SLD**

IDENTIFICATION OF SLD ASSESSMENT OF PROCESSING STRENGTHS AND WEAKNESSES- THREE MODELS

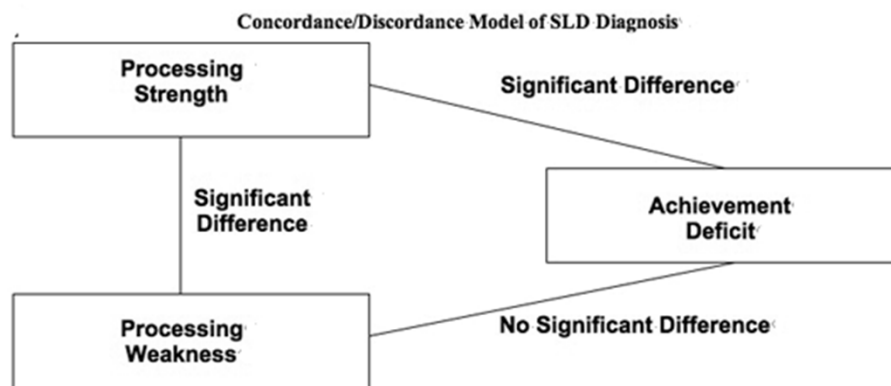
- Concordance-discordance method; CHT approach (Hale & Fiorello 2004), <http://www.wrightslaw.com/idea/art/rti.hale.htm>
- Cross-battery assessment approach (Flanagan, Ortiz & , 2013) training opportunities www.schoolneuropsych.com
- Integrated Model of School Neuropsychological Assessment (Miller, 2013) www.schoolneuropsych.com for training information

See References for more information

BRAD HALE'S MODEL COGNITIVE HYPOTHESIS TESTING (CHT) CONCORDANCE/DISCORDANCE MODEL

- Using this method, a child is identified as having cognitive strengths and cognitive weaknesses that are (statistically) different from one another (i.e., discordance). The cognitive strengths should also be (significantly) different from the academic deficit (i.e., discordance). Finally, the cognitive weakness (i.e., the deficit in the basic psychological processes) should not be different from the achievement deficit (i.e., concordance) as this should be the deficit that is causing the learning problem. (Hale and Fiorello, 2004)

BRAD HALE'S MODEL COGNITIVE HYPOTHESIS TESTING (CHT) CONCORDANCE/DISCORDANCE MODEL



Source: Hale, J. B., & Fiorello, C. A. (2004). *School Neuropsychology: A Practitioner's Handbook*. New York, NY: Guilford Press.

WHAT IS CROSS-BATTERY ASSESSMENT?

(FLANAGAN, 2012)

- An approach that neuropsychologists, and astute clinicians in other assessment-related fields, have always followed • Flanagan and colleagues transformed the practice of crossing batteries into a method that is both psychometrically and theoretically defensible –
- A systematic method of ensuring adequate construct representation across a wide range of cognitive abilities and processes –
- A systematic method of interpreting test data from more than one battery

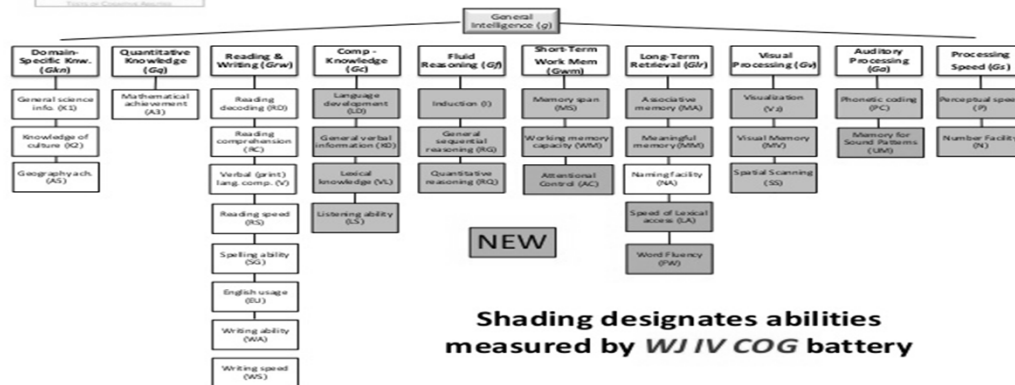
EXAMPLE: USING CROSS BATTERY ASSESSMENT MODEL

AND WJ IV COG

(MCGREW, 2014)



Contemporary CHC broad and narrow ability content coverage by WJ IV Cognitive (as per WJ IV authors)



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INTEGRATED MODEL OF SCHOOL NEUROPSYCHOLOGICAL ASSESSMENT

FROM AN INTERVIEW WITH DR. DAN MILLER

“School neuropsychological assessments are more thorough because a wider variety of constructs are included such as: sensorimotor functions, attentional processes, visual-spatial processes, language functions, learning and memory, executive functions, speed and efficiency of cognitive processing, academic achievement, and social-emotional functioning.” A “thorough assessment related to the referral questions will generally yield more targeted interventions.”

AN INTEGRATED MODEL OF SCHOOL NEUROPSYCHOLOGICAL ASSESSMENT

FROM AN INTERVIEW WITH DR. DAN MILLER

“ As an example, as school psychologists we are used to saying a child has a reading disability and often leave it up to the teachers to determine the appropriate intervention”.

School psychologists need to use reading research and advances in assessments to inform their evaluations so that they can, “...identify the subtype of reading disability based on assessment data which leads to more refined and ultimately more successful interventions”

SOME RESOURCES FOR UNDERSTANDING, IDENTIFYING AND TREATING TYPES OF DYSLEXIA

- Berninger, Virginia Wise., and Beverly J. Wolf. *Teaching Students with Dyslexia and Dysgraphia: Lessons from Teaching and Science*. Baltimore: Paul H. Brookes Pub., 2009. Print.
- Shaywitz, Sally, *Overcoming Dyslexia: A New and Complete Science-based Program for Reading Problems at Any Level*. New York: A.A. Knopf, 2003. Print.
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