

WHAT THE HECK IS GOING ON WITH THIS CHILD?

The Evaluation of the Child with Reading Problems

Eric Tridas, M.D.

Disclosures

- Dr. Tridas is Medical Director and Founding Partner of The Tridas Group

Objectives

1. Understand the components of an evaluation
 - ▣ Science behind it
 - ▣ Structure
 - ▣ Content
 - ▣ Purpose
2. Help interpret the findings to guide intervention

Where Do We Start?

Consider the “whole child”

Looking at The Whole Child

The Rule of Fours

CONTRIBUTING FACTORS

Developmental Profile
Behavioral Profile
Health
Environment

FUNCTIONAL IMPAIRMENT

Academic – Occupational
Behavioral – Emotional
Social Relationships
Health

INTERVENTION

Educational & Developmental
Behavioral & Cognitive
Medical
Environmental

Johnny: *The one who can't read*

Case Study

Johnny: Main Concerns

- Age: 7 years 4 months
- Grade: Entering 2nd grade
- Concerns
 - ▣ Difficulty acquiring basic reading and writing skills
 - ▣ Does not pay attention and is hyperactive
 - ▣ Has behavior problems at home

Next Steps: Rule of Fours

- What do we have to evaluate?
 - ▣ Development
 - ▣ Behavior
 - ▣ Health
 - ▣ Environment

Dyslexia and SLD with Impairment in Reading

What we look for

Dyslexia: IDA Definition

- One of several distinct learning disabilities
- Neurobiological in origin
- Symptoms
 - ▣ Poor decoding and spelling abilities
 - ▣ Problems with accurate and/or fluent word recognition
 - ▣ Inconsistent with age and/or cognitive ability

Dyslexia: IDA Definition

- Etiology
 - ▣ Deficits in phonological processing
- Unexpected
 - ▣ In spite of typical instruction/opportunity to learn
 - ▣ Adequate intelligence
- Secondary Consequences
 - ▣ Poor reading comprehension
 - ▣ Poor vocabulary and general knowledge development

DSM-5-TR: Types of Specific Learning Disorders

- With impairment in reading
 - ▣ Accuracy
 - ▣ Fluency
 - ▣ Comprehension
- With impairment in written expression
 - ▣ Spelling accuracy
 - ▣ Grammar and punctuation accuracy
 - ▣ Clarity or organization of written expression
- With impairment in mathematics
 - ▣ Number sense (numerosity)
 - ▣ Memorization of arithmetic facts
 - ▣ Accurate or fluent computation
 - ▣ Accurate math reasoning

DSM-5-TR: Types of Specific Learning Disorders

- With impairment in reading
 - Accuracy } Dyslexia
 - Fluency }
 - Comprehension
- With impairment in written expression
 - Spelling accuracy
 - Grammar and punctuation accuracy
 - Clarity or organization of written expression } Dysgraphia
- With impairment in mathematics
 - Number sense (numerosity) } Dyscalculia
 - Memorization of arithmetic facts }
 - Accurate or fluent computation }
 - Accurate math reasoning }

DSM-5-TR & ICD-11: Common Features

- SLDs are neurodevelopmental disorders
 - ▣ Specific **deficits** in **perception or processing information** for **learning academic skills** efficiently and accurately
- **Onset** in the **developmental years**
- **Manifests** during the **formal school years**
 - ▣ May not manifest until volume, complexity and/or efficiency demands increase
- **Persistent and Impairing difficulty learning academic skills** (≥ 6 months)
 - ▣ Academic performance is well below average for age (**Unexpected**)
 - ▣ Requires extraordinary effort and/or support to reach acceptable levels

DSM-5-TR & ICD-11: Common Features

- Vary in severity
- Often coexists with other conditions
- They are heritable disorders (**Run in families**)
- Exclusion Criteria
 - ▣ Disorder of intellectual development
 - ▣ Sensory impairment (vision or hearing)
 - ▣ Neurological or motor disorder
 - ▣ Lack of availability of education
 - ▣ Lack of proficiency in the language of academic instruction
 - ▣ Psychosocial adversity

What to Assess

What do we know about the science of reading & writing?

What are the four factors that contribute to the impairment?

The Rule of Fours – Looking at The Whole Child

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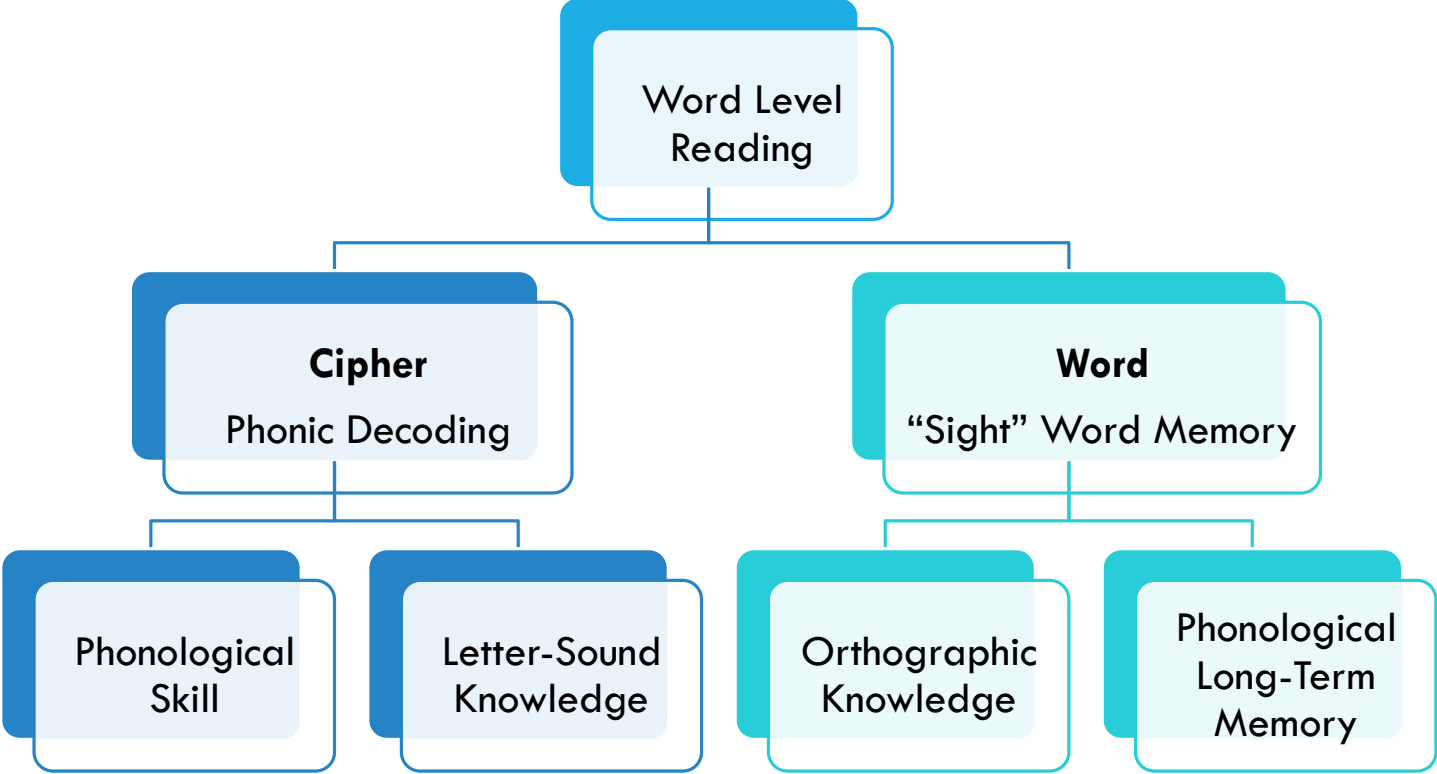
Reading Formula: What do we test?

$$D \times C = \text{Reading Comprehension}$$

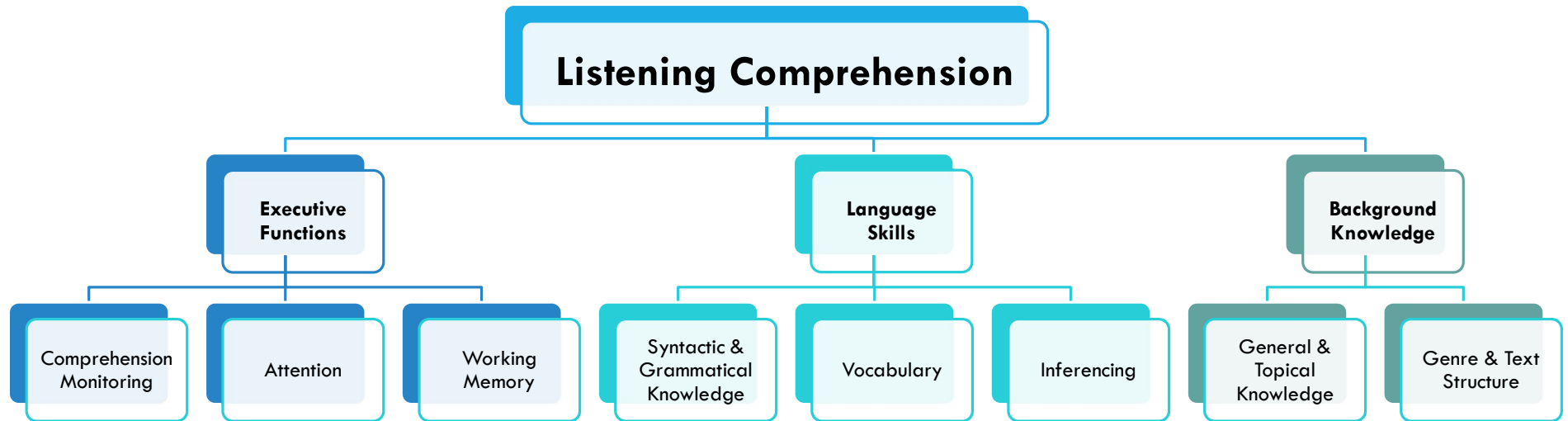
D = Decoding & fluency (word level reading): **Acquired skills**

C = Oral Comprehension: **Innate skills**

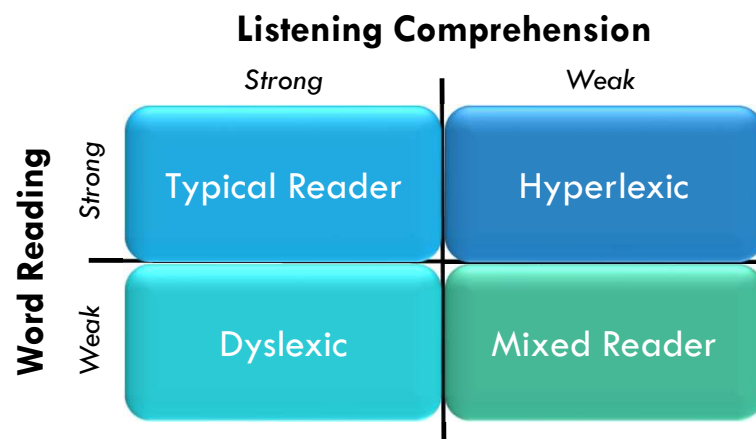
Word-Level Reading



Listening Comprehension



Types of Readers



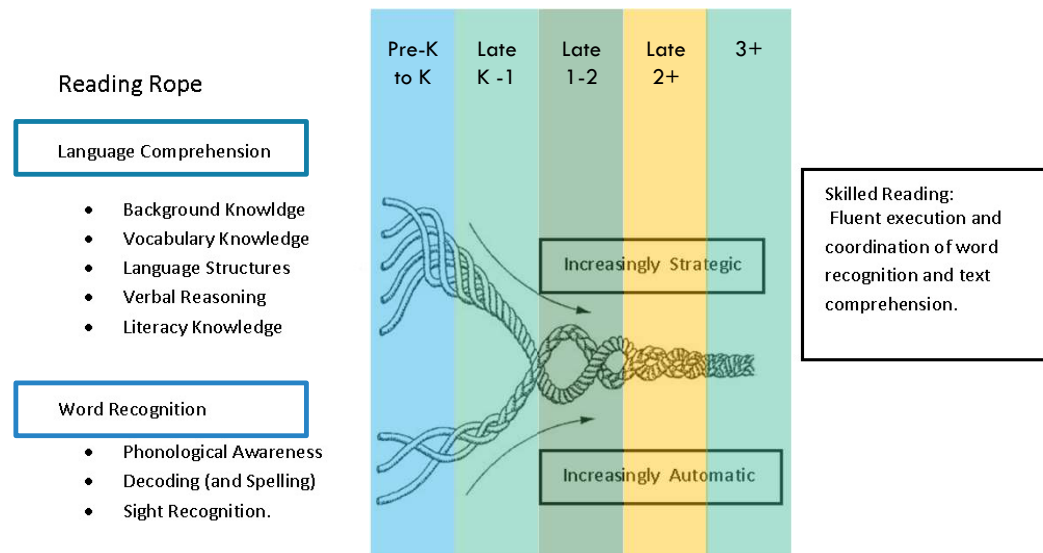
Typical Reader: Good word reading and listening comprehension

Dyslexic Reader: Poor word reading but good listening comprehension

Hyperlexic – Language Disorder Reader: Good word reading but poor listening comprehension

Mixed Reader: Poor word reading and poor listening comprehension

Reading Rope Model: When and What to Test



Reading is a multifaceted skill, gradually acquired over years of instruction and practice.

Ehri's Phases of Reading Development

Pre-alphabetic stage

Partial alphabetic stage

Full alphabetic stage

Consolidated alphabetic stage

Automatic stage

Scarborough (2001)

When to Assess for Risk

- Pre-alphabetic to Consolidated Alphabetic Stage (Pre-K to Early 1st grade)
 - Decoding
 - Rhyming
 - Word/syllable/sound deletion
 - Letter recognition
 - Phoneme segmentation
 - Phoneme substitution
 - Phoneme matching
 - Non-word reading
 - Partially fluent reader
 - Following multistep directions (language, working memory, attention)

When to Assess for Diagnosis

- Consolidated to Automatic Stage (**Late first to third grade**)
 - Read single words
 - Read nonsense words
 - Fluent reader
 - Spelling

What Else to Assess: The Rule of Fours

- Consider the *whole child*
 - Other contributing factors (coexisting conditions)
 - Behavior and Emotional
 - Health
 - Environment

How to Assess

The structure of the evaluation process

The How: The **LEFT** Model



Listen



Evaluate



Formulate



Teach and **T**reat

Listen

The History: *If you want to know what is wrong, just ask!*

Listen

Informants: *Who do you ask?*

- Parents
- Teachers
- Students

Methods: *How do you ask?*

- Direct interview
- Questionnaires

What You Want to Know

Main concerns

Educational & Developmental History

Typical School Day Routine

Peer Interactions

Discipline and behavior management

Health History

Family & Social History

Johnny's Main Concerns

- The Dragnet Approach: Just the facts
 - Descriptions of symptoms not impressions
 - What do you observe
 - Difficulty acquiring basic reading and writing skills
 - Does not pay attention, hyperactive/impulsive at home
 - Has behavior problems at home
- Current interventions
 - Tier 2 support services for reading and writing
 - 504 plan
 - Private tutoring
 - Stimulant medication (on school days)

Main Concern: The “My Opinion” Approach

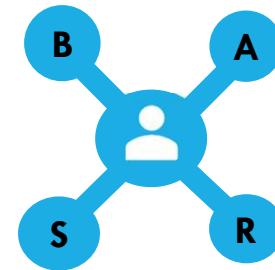
- “His teacher this year recommended I have him evaluated for a **processing disorder**, and has also recommended a **special school** next year for children with **learning disabilities** (although he has never been formally DX'd with a learning disability...) only ADHD for which he takes medicine and has a **504 plan**. Was denied testing because **current progress monitoring scores were not ‘low enough’**”

Educational History: *Let's go to the BARS!*



Monitor symptoms and impairment over time

- Establishes onset of symptoms
- Be aware of developmental expectations and educational demands



Ask about the type of problems

- Behavior
- Attention
- Readiness or the 3 Rs (reading, writing arithmetic)
- Social interaction

Johnny's Behavior & Attention

- Pre-k & K
 - Very disruptive, hyperactive, inattentive, non-compliant
 - A bit apprehensive
 - Trouble separating from mom in the morning
- 1st Grade
 - Compliance and hyperactivity improved after medication started
 - Still a somewhat inattentive
 - Still a bit apprehensive, seems to worry

Johnny's Early Developmental History (**R**eadiness)

- A little slow to talk
- Articulation difficulties
- Mixes similar sounds
- Trouble with rhyming

Johnny's Educational History (The 3 Rs)

- Pre-K & K
 - ▣ Trouble learning the names of letters and their sounds in
- 1st grade
 - ▣ Struggled to sound out unfamiliar words
 - ▣ Poor sight vocabulary
 - ▣ Difficulty spelling
 - ▣ Illegible handwriting
 - ▣ Can communicate well and understands instructions appropriately

Johnny's Social Skills

- Pre-K & K
 - Made friends easily
 - Overwhelmed friends easily
 - Problems playing and following game rules
- 1st
 - Better at keeping friends and following rules since medication started
 - Gets invited to parties

Johnny's Typical School Day

Morning Routine

- ▣ Waking *Takes a while*
- ▣ Dressing
 - ▣ Supervision *Constant!*
 - ▣ Buttoning, snapping, zipping, tying, etc. *Can't tie or button*
- ▣ Breakfast
 - ▣ Sitting *Up and down*
 - ▣ Silverware *Problematic*
 - ▣ Messiness *YES!*
- ▣ Brushing/combining *Hit and miss*
- ▣ Gathering materials *Needs constant reminders*
- ▣ Arriving to school
 - ▣ Separation *Needs reassurance*
 - ▣ Transitioning into classroom *Needs reminders*

Afternoon & Evening Routine

- ▣ Picking up from school
- ▣ Afternoon routine
 - ▣ Homework *Takes forever. A battle. Forgets materials*
 - ▣ Play *OK*
 - ▣ Extracurricular activities *Problems following instructions*
- ▣ Dinner
 - ▣ Sitting *Up and down*
 - ▣ Silverware *Problematic*
- ▣ Evening routine
- ▣ Bedtime routine
 - ▣ Getting to bed *Problematic. Talks about school problems*
 - ▣ Falling asleep *Varies*
 - ▣ Staying asleep *Varies*
 - ▣ Nightmares *No*

Johnny's Discipline

Behaviors

- Defiance or non-compliance ✓
- Aggression (verbal or physical) ✓
- Emotional regulation ✓

Technique

- Time out ✓
- Restriction of privileges ✓
- Other

Effectiveness

- Attained compliance **Variable**

Johnny's Medical History

Birth: **No complications**

- Pregnancy, labor and delivery
- Neonatal period

Developmental History: **Slight delays in speaking and articulation problems**

Health: **None**

- Persistent and or significant health problems
 - Ear infections, asthma, bed wetting, soiling of underwear, etc.
- Hospitalizations and surgeries
- Accidents with loss of consciousness/concussions

Allergies: **None**

Current medications: **Vyvanse 10 mg – on school days**

Johnny's Family and Social History

Parents

- Age: **38 y/o & 40 y/o**
- Level of education: **College (BA)**
- Occupation: **Bookkeeper/Entrepreneur**
- Health, learning, behavior/emotional problems: **Yes**

Siblings

- Age: **5 & 10 y/o**
- Health, learning, behavior, emotional problems: **One sibling has ADHD & LD**

Close Relatives

- Health, learning, behavior, emotional problems: **Yes**

Does your child remind you of anyone in the family? **MANY CLOSE RELATIVES**

Johnny's Family & Social History

- Environmental stress factors in the last 2 years: **None**
 - Marital difficulties
 - Financial difficulties
 - Change of job
 - Moving
 - Birth of a child
 - Death of a relative
 - Health problems

Evaluate: Testing

Assessment of the specific skills of reading and everything else!

Teacher Assessment

Documenting what you observe

Teacher Assessment

- Reading
 - Phonemic Decoding
 - Fluency
 - Oral Language Skills
- Writing
 - Spelling
 - Content
 - Handwriting

Teacher Assessment

- Overall coordination
- Attention
- Behavior
- Social interaction

Teacher Assessment: Reading

- Word attack skills
 - Phonemic decoding
 - e.g., Dibels, TOWRE, single word lists, progress monitoring
 - Reading fluency
 - **Single word** reading (TOWRE)
 - One minute **passage** reading (IRIS Center, Vanderbilt University)
 - Speed
 - Accuracy
 - Prosody
 - Use *Fluency Scale* provided by NAEP
(<https://nces.ed.gov/pubs95/web/95762.asp>)

Reading Fluency: NAEP Fluency Scale

National Assessment of Educational Progress Fluency Scale		
Fluent	Level 4	Reads primarily in larger, meaningful phrase groups. Although some regressions, repetitions, and deviations from text may be present, these do not appear to detract from the overall structure of the story. Preservation of the author's syntax is consistent. Some or most of the story is read with expressive interpretation.
Fluent	Level 3	Reads primarily in three- or four-word phrase groups. Some small groupings may be present. However, the majority of phrasing seems appropriate and preserves the syntax of the author. Little or no expressive interpretation is present.
Non-Fluent	Level 2	Reads primarily in two-word phrases with some three- or four-word groupings. Some word-by-word reading may be present. Word groupings may seem awkward and unrelated to larger context of sentence or passage.
Non-Fluent	Level 1	Reads primarily word-by-word. Occasional two-word or three-word phrases may occur but these are infrequent and/or they do not preserve meaningful syntax.

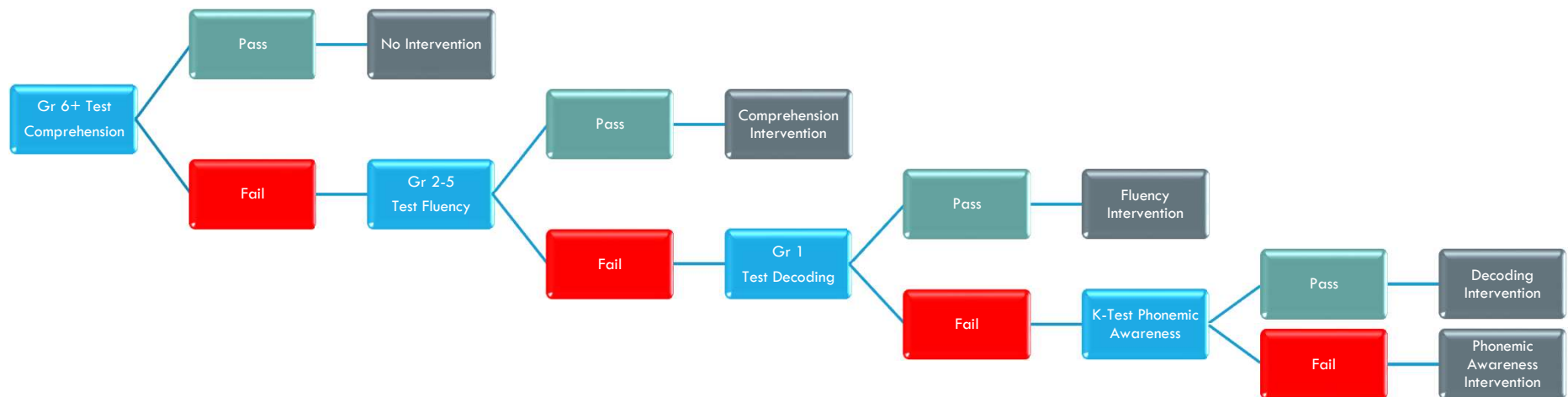
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Teacher Assessment: Oral Language

- Communicating ideas
- Answering questions in class
- Asking for clarification
- Articulation/speech

Progress Monitoring Assessment of Reading

□ University of Florida Lastinger Center for Learning Diagnostic Model



Teacher Assessment: Writing

- Spelling
 - ▣ Types of errors
- Content
 - ▣ Grammar and punctuation accuracy
 - ▣ Organization, clarity of expression
- Handwriting
 - ▣ Writing the alphabet
 - Pencil grip
 - Letter formation (motor sequential memory)
 - Sequential Memory

Comprehensive Assessment

Comprehensive Assessment Purpose: **Why Do We Test**

- Gather information to **inform decisions** (teaching & treating)
- Collecting normed-referenced data to compare performance with other students
- Evaluate findings to respond to questions and concerns
- Identifying needs/weaknesses and strengths
- Making meaningful recommendations
- Ascertain eligibility for services
- **Informs diagnosis, intervention and supports**

We Test to Teach

Components of a Comprehensive Assessment

- History (**Listen**)
- Testing with standardized instruments (**Evaluate**)
- Assessment/Summary of Findings (**Formulation**)
- Plan of intervention (**Teach and Treat**)

Types of Assessments

- Types
 - Psychoeducational Assessment – **Eligibility for services**
 - Psychological Assessment – **Diagnosis & treatment**
 - Neuropsychological Assessment – **Etiology, diagnosis & treatment**
 - Multidisciplinary – **Etiology, diagnosis, treatment, greater detail**
- All include
 - Interviews with the parent, child and teachers
 - Administration of standardized assessments and rating scales
 - Observations of the child

Commonly Used Standardized Tests

Type of Test

- IQ
- Process testing
- Achievement
- Adaptive
- Behavior Rating Scales

What they Measure

- Academic potential
- Developmental/Processing profile
- Academic Skills level
- Level of functioning
- Behavioral profile

Process Tests: Skills for Dyslexia Assessment

- Phonological/Phonemic Awareness
- Rapid Automated Naming
- Orthographic Coding
- Processing Speed
- Working Memory
- Language Skills

Achievement Tests

- Evaluate
 - Reading
 - Writing
 - Arithmetic
- Divided into 3 components
 - Basic skill
 - Fluency
 - Application
- Some of the newer versions add phonological processing, RAN and oral language

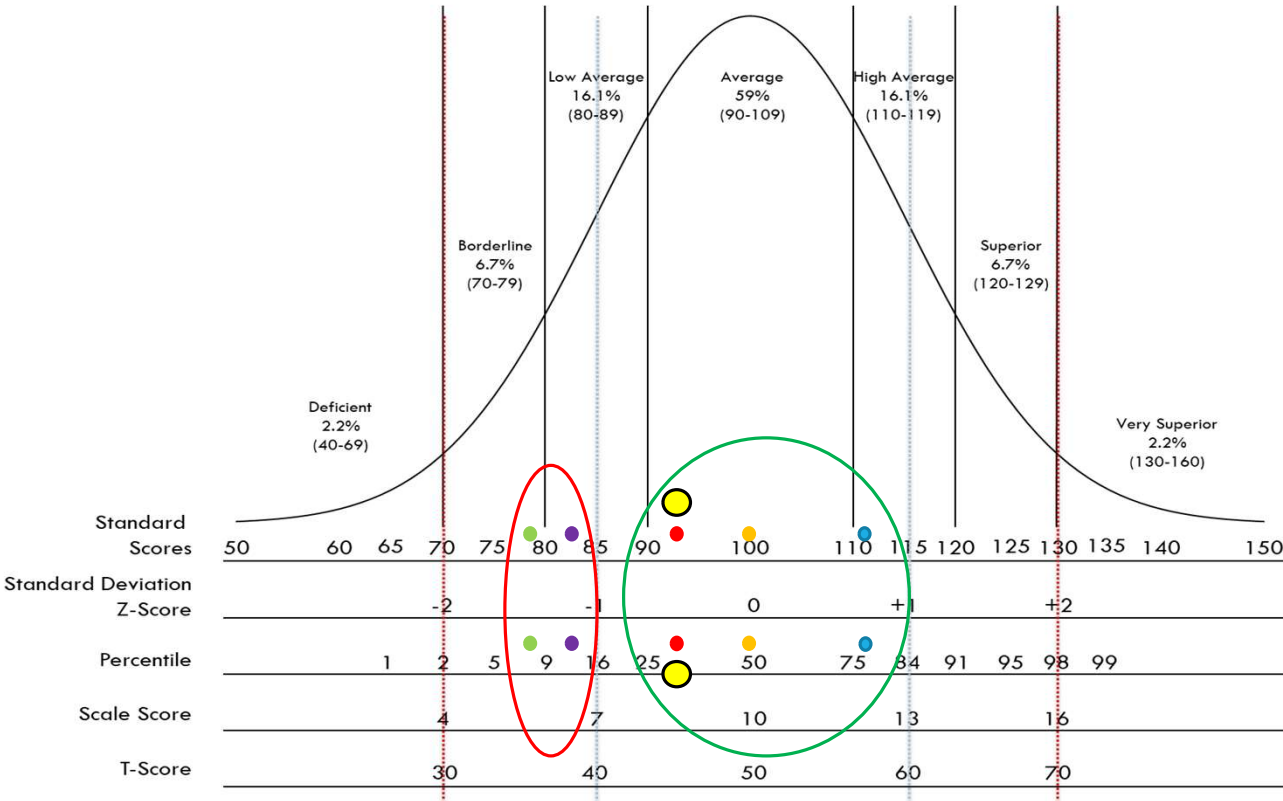
Objective Behavior Assessment

- Direct observations
 - ▣ During evaluation
 - ▣ In classroom
- Completion of rating scales by parents and teacher
 - ▣ General Behavior Scales
 - CBCL, TRF, BASC
 - ▣ Disease Specific
 - Connors, Brown, etc.
- Evaluation of parent-child interactions

Johnny's Testing: Behavior Observations

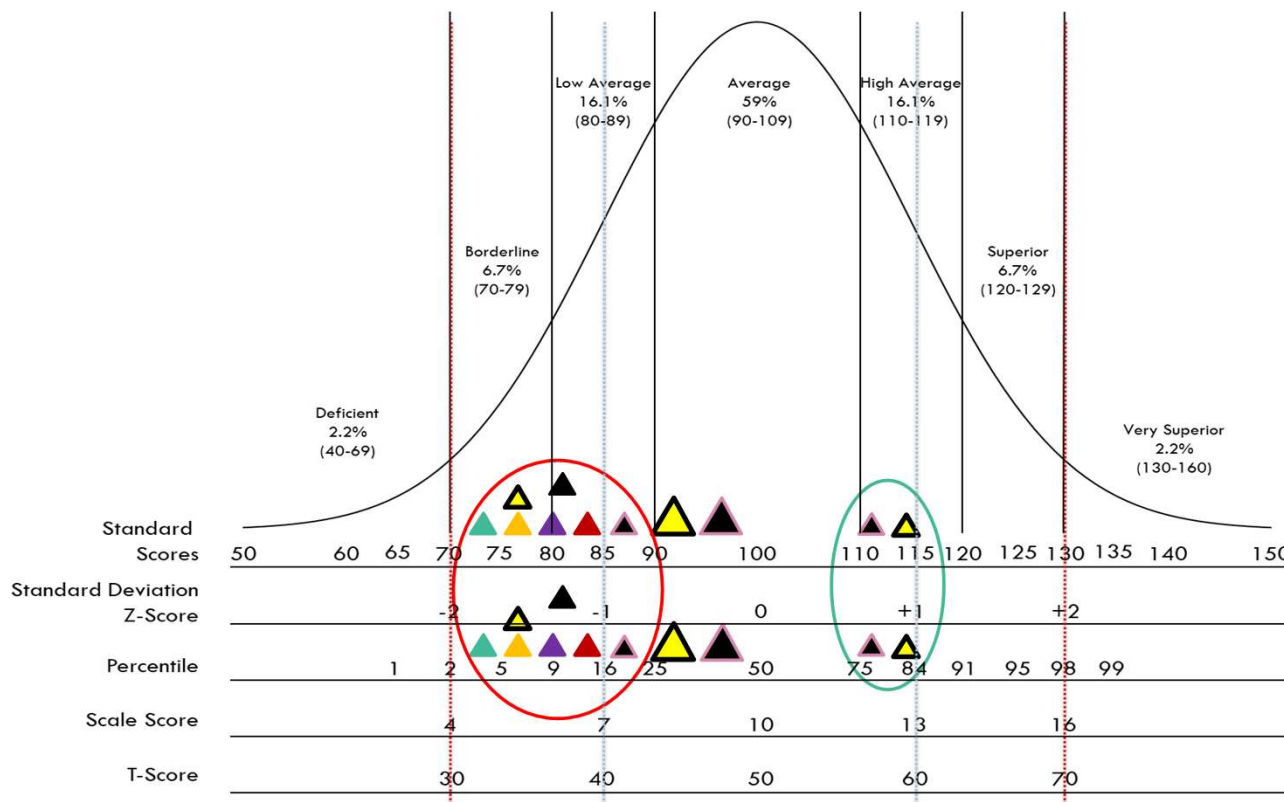
- Duration of session: 4.5 hrs
- Behavior
 - ▣ Polite, friendly, outgoing
 - ▣ Easily engaged, good rapport
 - ▣ Excellent interpersonal skills
- Attention
 - ▣ Verbal tangents in the middle of tasks
 - More stream of consciousness rather than avoidance
 - Easily redirected
 - ▣ No significant hyperactivity

Johnny's Testing – IQ



WISC-V		
Scale	Composite Score	Percentile Rank
Verbal Comprehension	111	77
Visual-Spatial	100	50
Fluid Reasoning	94	34
Working Memory	79	8
Processing Speed	83	13
Full Scale IQ	94	34

Johnny's Testing – Achievement



KTEA-3		
Core Composite Subtests	Age-Based Standard Score	Percentile Rank
Reading	84	14
Written Language	77	6
Sound-Symbol	74	4
Decoding	80	9
Orthographic Processing	81	10
Comprehension	99	47
Reading	87	19
Listening	111	77
Expression	94	34
Written	77	6
Oral	114	82

Johnny's Testing: CTOPP

Subtest/Composite	Composite Standard Score	Subtest Scaled Score	Percentile Rank
Elision		6	9
Blending Words		8	16
Phoneme Isolation		7	25
Phonological Awareness	82		12
Memory for Digits		4	2
Nonword Repetition		7	25
Phonological Memory	73		3
Rapid Digit Naming		10	50
Rapid Letter Naming		10	50
Rapid Symbolic Naming	101		53

Formulation

Assessment- Summary

The 5 Questions to Answer

- Is there really a problem?
- What is it called (diagnosis -es)?
- What is (are) the cause(s)?
- What can be done?
 - ▣ How do we teach?
 - ▣ Is the student eligible for services?
 - ▣ What other services/interventions are needed
- What can be expected in the future?

Formulation Structure: Based on Rule of Fours

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Formulate: Putting it Together

- Organize it conceptually
 - Developmental Profile
 - Cognitive
 - Level of functioning
 - Processing strengths and deficits
 - Academic skills
 - Reading, Writing, Arithmetic
 - Attention
 - Behavior/Emotional Profile
 - Internalizing, Externalizing, Atypical symptoms
 - Health concerns
 - Environmental/Social factors/Peer interactions
 - Diagnoses

Cognitive: Level of Functioning

History

- Strengths
 - ▣ Communicates well
 - ▣ Seems to understand
 - ▣ Seems smart
- Weaknesses
 - ▣ Difficulty following instructions
 - ▣ Does not always finish his work

Testing

- ▣ Strengths
 - Verbal Comprehension
 - Visual Spatial Reasoning
 - Fluid Reasoning
- ▣ Weaknesses
 - Working Memory
 - Processing Speed

Cognitive: Processing

History

- Strengths
 - ▣ Seems to understand what he is told
 - ▣ Communicates well
- Weaknesses
 - ▣ Problems decoding words
 - ▣ Problems spelling

Testing

- Strengths
 - ▣ Listening Comprehension
 - ▣ Oral Expression
 - ▣ Rapid Symbolic Naming
- Weaknesses
 - ▣ Phonological Awareness
 - ▣ Phonological Memory

Achievement

History

- Strengths
 - ▣ Understood concepts well
- Weaknesses
 - ▣ Struggled with skill acquisition
 - Trouble learning the letters names and their sounds in Pre-k & K
 - Struggles to sound out unfamiliar words in 1st grade
 - Poor sight vocabulary
 - Difficulty spelling
 - Handwriting difficulties

Testing

- Reading
 - ▣ Strengths
 - Listening Comprehension
 - ▣ Weaknesses
 - Letter-Word Recognition
 - Reading Comprehension
- Writing
 - ▣ Strengths
 - Oral expression
 - ▣ Weaknesses
 - Written Expression
 - Spelling
 - Handwriting

Attention

History

- Strengths
 - Well behaved at school
- Weaknesses
 - School: problems with attention
 - Home: problems paying attention, impulsive, hyperactive
- Takes medicine on school days

Testing

- Strengths
 - Behavior questionnaires revealed
 - No externalizing symptoms
- Difficulties
 - Behavior questionnaires: School
 - Hyperactivity/impulsivity at school
 - Some internalizing symptoms
 - Behavior questionnaires: Home
 - ADHD symptoms
 - Externalizing and Internalizing Symptoms
- Inattentive but compliant during testing

Behavior Emotional

History

- Strengths
 - ▣ No major behavior problems at school
- Weaknesses
 - ▣ Irritable and noncompliant at home

Testing

- Strengths
 - ▣ Behavior questionnaires did not show significant internalizing or externalizing symptoms at school
- Weaknesses
 - ▣ Behavior questionnaires showed increased internalizing and externalizing symptoms at home

Peer Interactions, Health & Environment

- Peer interactions
 - ▣ No Problems
- Health
 - ▣ No Problems other than mild sleep difficulties
- Environment
 - ▣ No problems

Diagnoses

- Specific Learning Disorder with Impairment in Reading based on a lack of word reading accuracy and fluency (F81.9)
- Specific Learning Disorder with Impairment in Written Expression based on deficits in spelling accuracy, grammar, and clarity of written expression (F81.81)
- Attention Deficit Hyperactivity Disorder, combined presentation (F90.2)
- Developmental Coordination Disorder (F82)
- Oppositional Defiant Disorder (F91.3)
- Other Specified Anxiety Disorder (F41.9)

Formulate

- Discuss findings with family and student
 - Smart but can't read and spell due to brain difference that impact processing sounds and names of letters and recalling them quickly. Makes reading and spelling hard.
 - Absent minded and spacy (worse at home than school)
 - A bit of a worry wort
 - Gets along well with others
 - Healthy
 - Good stable environment (It is not your fault)
- Discuss further steps: Stay tuned for Teach & Treat
- Continue progress monitoring

The 5 Questions

- Is there really a problem?
 - YES
- What is it called (diagnosis -es)?
 - Dyslexia, Dysgraphia, Dyspraxia, ADHD, ODD, Anxiety
- What is (are) the cause(s)?
 - Neurobiological and genetic
 - Deficits in PA, RAN, WM, fine motor control difficulties, attention problems, anxiety symptoms
- What can be done?
 - Educational, Psychological, Medical and Environmental interventions
- What can be expected in the future?
 - Success, if the child is remediated and accommodated appropriately and we address coexisting conditions

Teach and Treat

Educational

Psychological

Medical

Environmental

Teach: Educational Interventions

- Remediation
 - ▣ Structured Literacy
 - ▣ Executive functions strategies
- Accommodations
 - ▣ Extended time
 - ▣ Assistive technology
 - ▣ Individual assistance
- Modifications
 - ▣ Homework time
- Behavior management strategies

Teach

- Educational intervention strategies
 - Remediation
 - Accommodations
 - Modifications
- Behavioral intervention strategies

Psychological Interventions

- Behavior modification for home and school to address defiance and noncompliance
- Possibly cognitive behavior therapy to address anxiety symptoms

Medical

- Refer to prescribing physician to address attention difficulties
 - Give medication 7 days per week
 - Consider booster dose in the evening and giving morning dose earlier
 - May need a different medication

Environment

- School
 - Preferential sitting
 - Arrange schedule for difficult subjects early in the day
 - Maintain consistent schedule
- Home
 - Maintain consistent schedule
 - Provide time for leisure
 - Limit homework time
 - Promote extracurricular activities that enhance the child's strengths and interests
 - Manage stress

Questions