WHAT THE HECK IS GOING ON WITH THIS CHILD?

The Evaluation of the Child with Reading Problems

Eric Tridas, M.D.

Disclosures

☐ I have no disclosures
Objectives

1. Understand the components of an evaluation
   - The purpose: *Consequential validity* – The **WHY**
   - The science behind it – The **Foundation**
   - The structure – The **HOW**
   - The content – The **WHAT**

2. Interpreting the findings to guide intervention: The **NOW WHAT**

The **WHY**

The principle of *Consequential Validity*
Consequential Validity

- The positive or negative social consequences of a test
  - Positive examples
    - A test measures accurately a specific function or skill
    - Improving student learning through test-based classification decisions
    - Ensuring equal access to content for all students
  - Negative examples
    - Using test to re-allocate funding
    - Teaching students to pass a test rather than understanding the material
    - A test that produces a negative impact does not have consequential validity

Why Do We Test

- Gather information to inform decisions about teaching & treating
- Collecting normed-referenced data to compare performance with other students
- Evaluate findings to respond to questions and concerns
- Identifying strengths, needs and weaknesses
- Making meaningful recommendations
- Ascertain eligibility for services
- Inform diagnosis, intervention and supports
Why Do We Test

We test to Teach & Treat

The FOUNDATION

The Science of Reading and the impact on the “Whole Child”
Everything has to do with language!!!

Literacy is part of language arts

The Four Language Arts Skills

- Listening
- Speaking
- Reading
- Writing
Oral Communication

Listening and Speaking

Listening – Oral Language Comprehension

- The ability of the listener to interpret the message accurately
- Understanding others
Speaking – Oral Language Expression

Using voice and gestures to share

- Thoughts
- Ideas
- Feelings
- Emotions

Speech & Language

Communication

Speech
- Articulation
- Voice
- Fluency

Language
- Phonology
- Morphology
- Syntax
- Discourse
- Semantic
- Pragmatic

Metalinguistic
Literacy

- Reading and writing are two sides of the same coin
  - Require reciprocal functions at the word level
  - To read words is to decode
  - To spell a word is to encode
- Both depend on language skills
  - Listening and reading comprehension
    - If you don't understand what you hear, you won't understand what you read
  - Oral and written expression
    - If you can't say it, you can't write it
The process of looking at a series of written symbols and obtaining meaning from them.

Understand the meaning of any type of graphic representation.

2. Diccionario de la lengua española Actualización 2022 - https://dle.rae.es/leer#miform
Report of the National Reading Panel

- TEACHING CHILDREN TO READ: An Evidence-Based Assessment of the Scientific Research Literature on Reading and Its Implications for Reading Instruction
- Identified five pillars of reading
  - Phonemic awareness
  - Phonics
  - Fluency
  - Vocabulary
  - Comprehension


Writing
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Writing

- Representation of the oral or gestural language by means of a writing system
- Complex process that uses various cognitive operations to translate ideas and thoughts into written language

Looking at The Whole Child

The Rule of Fours

**CONTRIBUTING FACTORS**

- Developmental Profile
- Behavioral & Emotional 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
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The **WHAT**

Based on the science of reading

**Next Steps: The Structure of the Evaluation**

- **WHAT** to evaluate?
  - Must assess the four contributing factors based on the Rule of Fours
    - Development
    - Behavior
    - Health
    - Environment
Reading

Reading Rope Model & When and What to Test

Ehri's Phases of Reading Development

Pre-alphabetic stage
Partial alphabetic stage
Full alphabetic stage
Consolidated alphabetic stage
Automatic stage

Scarborough (2002)
Simple View of Reading: What do we test?

\[ \text{D x LC} = \text{Reading Comprehension} \]

\( \text{D} = \text{Decoding & fluency (word level reading): Acquired skills} \)

\( \text{LC} = \text{Listening Comprehension: Innate skills} \)

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**Word-Level Reading**

- **Cipher**
  - Phonic Decoding

- **Word**
  - “Sight” Word Memory

- **Phonological Skill**
- **Letter-Sound Knowledge**
- **Orthographic Knowledge**
- **Phonological Long-Term Memory**

*Gough & Tunmer, 1986*
*Kilpatrick, 2015*
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May 11, 2023

Listening Comprehension

Executive Functions
- Comprehension Monitoring
- Attention
- Working Memory

Language Skills
- Syntactic & Grammatical Knowledge
- Vocabulary
- Inferencing

Background Knowledge
- General & Topical Knowledge
- Genre & Text Structure

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

Kilpatrick, 2015
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

Adopted by the IDA Board of Directors, Nov. 12, 2002 (https://dyslexiaida.org/definition-of-dyslexia/)

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

Adopted by the IDA Board of Directors, Nov. 12, 2002 (https://dyslexiaida.org/definition-of-dyslexia/)
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, 2022
DSM-5-TR & ICD-11: SLD Common Features

- **Cause**
  - Specific deficits in perception or processing information for learning academic skills efficiently and accurately

- **Onset**
  - Symptoms begin in the developmental years (Early identification = risk)

- **Manifestations**
  - Problems begin during the formal school years (After 1st semester of 1st grade = diagnosis)
  - May not manifest until volume, complexity and/or efficiency demands increase

- **Symptoms that are present for 6 months or longer**
  - Persistent and impairing difficulty learning academic skills (reading, writing & mathematics)
    - Academic performance is well below average for age (Unexpected)
    - Requires extraordinary effort and/or support to reach acceptable levels

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DSM-5-TR & ICD-11: SLD 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

[https://icd.who.int/browse11/l-m/en#/http%3a%2f%2fcd.who.int%2fcod%2fenity%2f2099676649](https://icd.who.int/browse11/l-m/en#/http%3a%2f%2fcd.who.int%2fcod%2fenity%2f2099676649)
What Else to Assess: Think 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 Treat**

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 Case

Johnny’s Main Concerns: Just the Facts

- **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 – Go grade by grade
- 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 somewhat inattentive
  - Still a bit apprehensive, seems to worry

Johnny’s **Early Developmental History (Readiness)**

- 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
- **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/combing: 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 and or staying asleep: Varies
  - Snoring: No
  - Nightmares: No

Johnny’s Discipline at Home

**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

History Summary: Impairments and Strengths

**Strengths**
- Academic
  - Does well in math, good at sports
- Behavior/Emotional
  - Home: Can be sweet and loving
  - School: Respectful of teachers.
- Social interaction: Makes friends easily but can loose them
- Health: No problems
- Social/Environmental: Stable home environment

**Impairment**
- Academic
  - Difficulty acquiring basic academic skills in reading, spelling and handwriting
- Behavior/Emotional
  - Home: Irritable, defiant, non-compliant, emotional and aggressive
  - School: Apprehensive and trouble separating from mom
- Social interaction: Makes friends easily but can loose them. Better since Vyvanse was started
- Social/Environmental: Strong family history of learning and attention problems
Evaluate: Testing

Assessment of the specific skills of reading... And everything else!

Comprehensive Assessment
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

- 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
Johnny’s Standardized Testing

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

Johnny’s Testing – Achievement

WISC-V

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KTEA-3

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Johnny’s Testing: CTOPP

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Johnny’s Testing: Behavior/Emotional

- **BASC**
  - **Home**
    - Clinically significant for internalizing, externalizing, symptoms, attention symptoms
  - **School**
    - Borderline clinically significant for internalizing symptoms and attention symptoms
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

- **Contributing Factors**
  - Developmental Profile
  - Behavioral Profile
  - Health
  - Environment

- **Functional Impairment**
  - Academic – Occupational
  - Behavioral – Emotional
  - Social Relationships
  - Health

- **Management**
  - Educational & Developmental
  - Behavioral & Cognitive
  - Medical
  - Environmental

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Formulate: Putting it Together

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

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 all impacting one another!
- 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
**Formulate: Demystification**

- Discuss findings with family and student and **don’t forget the strengths!**
  - Smart but can’t read or spell due to brain differences that impact processing sounds of words, names of letters and recalling them quickly. Makes reading and spelling difficult. **Name: Dyslexia**
  - Absent minded and spacy, but not lazy (worse at home than school — only takes meds on school days) due to deficiencies in neurotransmitters — Low on brake fluid. **Name: ADHD**
  - A bit of a worry wort and irritable and defiant at home due to excessive survival neurotransmitters exacerbated by chronic stress of learning challenges. **Name: Anxiety**
  - Gets along well with others
  - Healthy
  - Good stable environment — **It is not your fault, but it is your problem!**
- Discuss further steps: **Stay tuned for Teach & Treat**
- **Continue progress monitoring**

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**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, volume of work (number of spelling words, math problems, etc.)

- **Behavior management and social emotional learning (SEL) strategies**

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**Psychological Interventions**

- Behavior modification for home and school to address defiance and noncompliance
- Cognitive behavior therapy to address anxiety symptoms
Medical

- Refer to prescribing physician to address attention difficulties
  - Possible considerations by the doctor
    - Give medication 7 days per week
    - Consider increase in dose given persistent difficulties with attention
    - 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 parental stress
Questions