Best Practices in SLD Assessment: A Process That Begins with RTI and that May Culminate in the Use of Norm-Referenced Tests for Redirecting Intervention

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Overview

- Federal Definition of Specific Learning Disability
- Invalidity of the Traditional Discrepancy Model
- Alternative Model for SLD Identification: RTI
- Advantages and Disadvantages of RTI
- What about a "disorder in one or more of the basic psychological processes"?
- Can RTI and Cognitive Assessment Live Together?
- An Operational Definition of SLD: From Theory to Practice
- New Software Programs that Assist in SLD Identification
- Conclusions

IDEA 2004

Specific Learning Disability:

- ". . .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 the imperfect ability to listen, think, speak, read, write, spell, or do mathematical calculations"

Utility of Current Intelligence Tests in LD Identification

- The fate of intelligence tests will become apparent with the implementation of IDEA 2004 regulations
- Another anti-intelligence testing movement is upon us
- RTI versus Intelligence Tests in LD Identification

Major Criticism of IQ Tests in LD Evaluation

- They don't measure abilities that are important "**markers**" associated with potential reading success/failure

Conclusion Made By Many LD Researchers

- IQ Tests are ***Irrelevant*** to LD Diagnosis
  - Problem with this conclusion: the belief that ***IQ=Wechsler*** is not supported
  - Many LD researchers equate IQ with a FSIQ from the Wechlser Scales and ignore all other instrumentation and all other relevant information that may be gleaned from an "IQ" test

On Specific Cognitive Abilities in LD Identification...

- Agreement that these abilities are important in the identification process
- Virtually no recognition that current intelligence tests measure many of these abilities

After reviewing the literature in the fields of LD, School Psychology, and Cognitive Psychology, one conclusion is supported more than any other as it pertains to LD identification:

Deemphasize *g (Wechsler FSIQ)*

Keep the Intelligence Tests

Specific Cognitive Abilities are Important

Traditional LD Assessment models Fail Because of Several Misconceptions About IQ and its Relevance in the Diagnosis of this Condition

Common Misconception #1

- IQ is a highly accurate predictor of academic achievement

Global Ability Score Variance

- Depending on the aggregate in question, global ability scores from the major intelligence batteries generally account for approximately 45-50% of achievement variance (meaning that the ability measure cannot account for or explain 50-55% of the variance in achievement).

Global Ability Score Variance

Approximately 50% of a WISC-III FSIQ is comprised of abilities that are largely irrelevant to reading achievement...

IQ scores accounted for only 10% to 20%, at best, of the variance on the WRMT-R Word Identification and Word Attack subtests, which is hardly a basis for using IQ to predict achievement in beginning reading, to define reading disability, or to make determinations regarding access to instructional resources.

Vellutino et al. (2000, p. 233)

Common Misconception #2

- IQ is synonymous with an individual's academic potential

On Academic Potential…

Psychometricians, developmental psychologists, and educational psychologists long ago gave up the belief that IQ test scores measured potential to any valid sense...at best, IQ test scores are gross measures of current cognitive functioning. In short, we have been basing systems of educational classification in the area of reading disabilities on special claims of unique potential that are *neither conceptually nor psychometrically justifiable*.

Stanovich (1999, p. 354, emphasis added)

Common Misconception #3

- IQ tests ***do not*** assess specific cognitive dimensions that are important in reading as well as other academic areas

Summary of Relations between CHC Abilities and Specific Areas of Academic Achievement (Flanagan, et al., 2006, 2007)

CHC Ability	Reading Achievement	Math Achievement	Writing Achievement
Gf	Inductive (I) and general sequential reasoning (RG) abilities play a moderate role in reading comprehension.	**Inductive (I) and general sequential (RG) reasoning abilities are consistently very important at all ages.**	Inductive (I) and general sequential reasoning abilities is related to basic writing skills primarily during the elementary school years (e.g., 6 to 13) and consistently related to written expression at all ages.
Gc	**Language development (LD), lexical knowledge (VL), and listening ability (LS) are important at all ages. These abilities become increasingly more important with age.**	**Language development (LD), lexical knowledge (VL), and listening abilities (LS) are important at all ages. These abilities become increasingly more important with age.**	**Language development (LD), lexical knowledge (VL), and general information (K0) are important primarily after age 7. These abilities become increasingly more important with age.**
Gsm	Memory span (MS) is important especially when evaluated **within the context of working memory.**	Memory span (MS) is important especially when evaluated **within the context of working memory.**	Memory span (MS) is important to writing, especially spelling skills whereas working memory has shown relations with advanced writing skills (e.g., written expression).
Gv	Orthographic Processing	May be important primarily for higher level or advanced mathematics (e.g., geometry, calculus).	
Ga	**Phonetic coding (PC) or "phonological awareness/processing" is very important during the elementary school years.**		**Phonetic coding (PC) or "phonological awareness/processing" is very important during the elementary school years for both basic writing skills and written expression (primarily before age 11).**
Glr	**Naming facility (NA) or "rapid automatic naming" is very important during the elementary school years.** Associative memory (MA) may be somewhat important at select ages (e.g., age 6).		Naming facility (NA) or "rapid automatic naming" has demonstrated relations with written expression, primarily the fluency aspect of writing.
Gs	**Perceptual speed (P) abilities are important during all school years, particularly the elementary school years.**	**Perceptual speed (P) abilities are important during all school years, particularly the elementary school years.**	**Perceptual speed (P) abilities are important during all school years for basic writing and related to all ages for written expression.**

Note. The absence of comments for a particular CHC ability and achievement area (e.g., *Ga* and mathematics) indicates that the research reviewed either did not report any significant relations between the respective CHC ability and the achievement area, or if significant findings were reported, they were weak and were for only a limited number of studies. Comments in bold represent the CHC abilities that showed the strongest and most consistent relations with the respective achievement domain. Information in this table was

Misconception #4

- All global ability scores (e.g., IQ) are interchangeable, regardless of the intelligence test used to derive such scores

Common Misconception #5

- Aptitude and ability are synonymous

Aptitude

A subset of cognitive abilities that are the ***best predictors*** *of some outcome (e.g., reading achievement)*

Example

- WAIS-III FSIQ = 121
- WJ-R Broad Reading Cluster = 99

- 22 point difference is significant and unusual

- Overall ability is *Superior*, Reading Achievement is *Average*
- Predictor measure does not contain abilities closely related to reading achievement

Example

- WJ-R Reading Aptitude Cluster = 100
- WJ-R Broad Reading Cluster = 99

- 1 point difference is not significant

- Reading Aptitude and Reading Achievement are *Average*
- Predictor measure contains abilities most closely associated with reading

WJ-R BCA vs. Weschsler FSIQ in an LD Sample

Ages 10-12 years (22 point difference)

- WJ-R -> Significantly Below Average
- FSIQ -> Average

Ages 16-18 years (30 point difference)

- WJ-R -> Significantly Below Average
- FSIQ -> Average

use WJ-R (consistency); use FSIQ (discrepancy)

WHY?

Wechsler FSIQ = Gc + Gv

WJ-R BCA = Gc + Gv + Gf + Ga + Glr + Gsm + Gs

What Abilities Predict Reading Achievement

Significantly? Gc, Gf, Ga, Glr, Gsm, Gs

Conclusion: WJ-R BCA is a better predictor than FSIQ; WJ-R Reading Aptitude is best predictor

Common Misconception #6

- A significant discrepancy between IQ and achievement confirms the presence of a learning disability

On ability-achievement discrepancy…

"Such a discrepancy is not a necessary part of the definition of a learning disability" and there may well be cases where learning disabilities are validly indicated in the absence of any such discrepancy.

Siegel (1999, p. 311)

On ability-achievement discrepancy…

Professional associations, advocacy groups, and government agencies have formed task forces and task forces on the task forces to study identification of students with LD. We have had mega-analyses of meta-analyses and syntheses of syntheses. Nearly all groups have reached the same conclusion: *There is little empirical support for test-based discrepancy models in identification of students as LD.*

Ysseldyke (2005, p. 125)

Common Misconception #7

- A statistically significant discrepancy between any two scores is *clinically meaningful*

Intracognitive Discrepancy: Case Example

- WAIS-III Verbal IQ 117
- WAIS-III Performance IQ 138
  - 21 point difference
  - ***Evaluator's Conclusions:***
    - Examinee has "*impaired* information processing when compared to the norming sample of her age group."
    - This difference is *"abnormal"* and demonstrates that the examinee is "*significantly impaired* compared to individuals of her age in the norming sample."

Statistical Rarity Approach

the major weakness of the statistical rarity approach is that it has *no* values; it lacks any system for differentiating between desirable and undesirable behaviors…such a point of view is potentially dangerous, since it discourages even valuable deviations

Alloy, Acocella, & Bootzin, 1996, p. 6, emphasis in the original

Common Misconception #8

Intra-individual analysis and interpretation is independent of *inter*-individual analysis and interpretation

Intracognitive Discrepancy: Processing Speed Example

- Based on an intracognitive analysis with cluster scores from the WJ-R, an evaluator stated that
  - "Processing Speed (Gs) shows [the examinee's] actual score at 98, her predicted score is 119, a difference of -21 points demonstrating an intra-cognitive discrepancy of -1.71 standard deviations. . .[t]he required standard deviation to demonstrate an information processing deficit is 1.5."
- Conclusion: the examinee has "processing speed *deficits* [which] cause [the examinee] to have a reading disorder. . ."

Ignoring Other Data: Processing Speed Example

Battery – Subtest	Evaluation Date	Standard Score	Percentile Rank	Range
WAIS-R – Digit Symbol	1995	14	91st	High Average
WJ-R – Visual Matching	1998	95	38th	Average
WJ-R – Cross-Out	1998	109	73rd	Average
WJ-R – Processing Speed Cluster	1998	98	45th	Average
WAIS-III – Digit-Symbol	1999	15	95th	Superior
WAIS-III – Symbol Search	1999	14	91st	High Average
WAIS-III – Processing Speed Index	1999	125	95th	Superior

- A review of the examinee's data demonstrates that her speed of processing performance across three different evaluations ranged from *Average to Superior*.
- The most recent estimate of processing speed (WAIS-III Processing Speed Index) fell in the Superior range of ability.
- *Conclusion*: The examinee does not process information slowly, instead the data indicate that the examinee's information processing is equal to, and more properly classified as superior to, the performance of most people.

Intracognitive Discrepancies: What's Normal?

McGrew & Knopik, 1996

- At least ***two*** significant discrepancies are found in the cognitive ability profiles of normal people

- Two intracognitive strengths and/or weaknesses are ***not related*** (significantly) to low achievement or underachievement

How Should Schools Identify SLD?

- Federal legislation provides the guidelines that schools must follow when identifying children for special education services.
- Based on the changes in IDEA 2004, the US Department of Education (**USDOE**) updated its regulations to state education departments. The new USDOE regulations:
  - Explicitly ***allow*** states to use RTI to identify SLD
  - ***Forbid*** states from forcing schools to use a 'discrepancy model' to identify SLD

Why have states been *forbidden* to mandate an ability-achievement discrepancy model for the identification of SLD?

Professional associations, advocacy groups, and government agencies have formed task forces and task forces on the task forces to study identification of students with LD. We have had mega-analyses of meta-analyses and syntheses of syntheses. Nearly all groups have reached the same conclusion: *There is little empirical support for test-based discrepancy models in identification of students as LD.*

Ysseldyke (2005, p. 125)

How Should SLD be Identified?

- Out with the traditional Discrepancy Model
- In with a Response to Intervention Model

What is Response to Intervention?

'Response to Intervention' is an emerging approach to the diagnosis of Learning Disabilities that holds considerable promise. In the RTI model:

- A student with academic delays is given one or more research-validated interventions.
- The student's academic progress is monitored frequently to see if those interventions are sufficient to help the student to catch up with his or her peers.
- If the student fails to show significantly improved academic skills despite several well-designed and implemented interventions, this failure to 'respond to intervention' can be viewed as evidence of an underlying Learning Disability.

What Everyone Should Know About RTI

- Currently not formally defined
- No single RTI model is well-established or widely endorsed by researchers or educators
- Some define it as a diagnostic system
- Others define it as ***an early intervention process that "eliminates" insufficient instruction as an explanatory factor of a child's learning problems***

What Everyone Should Know About RTI

- Focus is on the provision of more effective instruction
- Encourages earlier interventions for students with ***reading difficulties***
- Core assumption is that it can ***prevent SLD*** by providing interventions as concerns emerge
- Core assumption is that nonresponders ***are SLD***

Many believe that RTI…

- ***is a promising practice for preventing SLD***
  - You cannot ***prevent*** SLD – you may be able to circumvent the full impact of the disorder (so that it does not rise to the level of a disability). ***You cannot cure*** a psychological processing disorder by educational instruction.
- To prevent the disorder from rising to the level of a disability:
  - accommodations to the classroom environment
  - accommodations to teaching methods
  - teaching students compensatory strategies
- Identifying and understanding psychological processing disorders ***requires an individualized assessment***

Fundamental Components…

when RTI is in place

- Assessment technology approved (pre and post)
- Continuous progress monitoring
- Research-based interventions available
- Staff for implementing interventions
- Assessment of fidelity/integrity of intervention implementation
- School/district has RTI model well described in written documents
- Two RTI models:
  - Standardized treatment protocol
  - Individualized, problem-solving model

How can a school restructure to support RTI?

The school can organize its intervention efforts into 3 Tiers that represent a continuum of increasing intensity of support (Kovaleski, 2003; Vaughn, 2003; c.f., Wright, 2006).

Tier I	*Universal Instruction:* Available to all students Example: Regular education classroom
Tier II	*Small Group Intervention:* Students who need additional support compared to peers are given intervention plans. Example: Standardized tutoring protocol to increase reading fluency
Tier III	*Intensive Intervention:* Students whose intervention needs are greater than that which general education can meet may be referred for more intensive services Example: Special Education

RTI: Tier I

- All children receive the universal, core instructional program
  - ***Assumption***: Students receive validated, research-based instruction in regular education
- RTI identifies those students who do not respond well to general education instruction
  - The current reading failure rate is 20%-30%
  - This rate could be reduced to 2%-10% percent if elementary school classrooms incorporated research-based practices

What Education Schools Aren't Teaching about Reading and What Elementary Teachers Aren't Learning

Executive Summary, May 2006

National Council on Teacher Quality

Are Elementary Schools Incorporating Research-based Practices?

- Daily training in linguistic and oral skills to build awareness of speech sounds, or phonemes
- Explicit instruction in letter sounds, syllables, and words accompanied by explicit instruction in spelling
- Teaching phonics in the sequence that research has found leads to the least amount of confusion, rather than teaching it in a scattered fashion and only when children encounter difficulty
- Practicing skills to the point of "automaticity" so that children do not have to think about sounding out a word when they need to focus on meaning
- Concurrently with all of the above, building comprehension skills and vocabulary knowledge through reading aloud, discussing, and writing about quality children's literature and nonfiction topics
- Frequent assessment and instructional adjustments to make sure children are making progress

- ***Regardless of social class, race, or income, roughly a third of all kindergarteners require this explicit, systematic approach to learn how to read***

What do education schools teach elementary teacher candidates about reading instruction?

- ***National Council on Teacher Quality*** (NCTQ) examined course syllabi and texts that must be read for these courses
- Represents the most comprehensive picture to date of what elementary teacher candidates are learning – ***or failing to learn*** – about the teaching of reading
- Randomly selected 72 elementary education programs that mirror the admissions selectivity of the nation's 1,271 higher education institutions that house elementary education programs. Analysis restricted to:
  - Reading courses required of students who aspire to teach kindergarten through fifth grade
  - Required reading courses
- Final sample included 222 required courses
- Each course was analyzed to assess the degree to which the five components of effective reading instruction are taught: ***phonemic awareness, phonics, fluency, vocabulary, and comprehension***

What do education schools teach elementary teacher candidates about reading instruction?

THE FINDINGS…..

Why Can't Johnny Read? NCTQ Findings

- ***Most education schools are not teaching the science of reading***
  - Almost all of the 72 institutions earned a "failing" grade, even though a passing grade was possible if a professor devoted less than 20 percent of the lectures to the science of reading
- ***Even courses claiming to provide a "balanced" approach ignore the science of reading***
  - Almost all of the professors who say their intention is to provide a "balanced" approach never acknowledge that there is a science of reading
- ***Characteristics such as national accreditation do not increase the likelihood that an education school is more likely than others to teach the science of reading***
  - NCATE schools did no better than the non-NCATE schools

Why Can't Johnny Read? NCTQ Findings

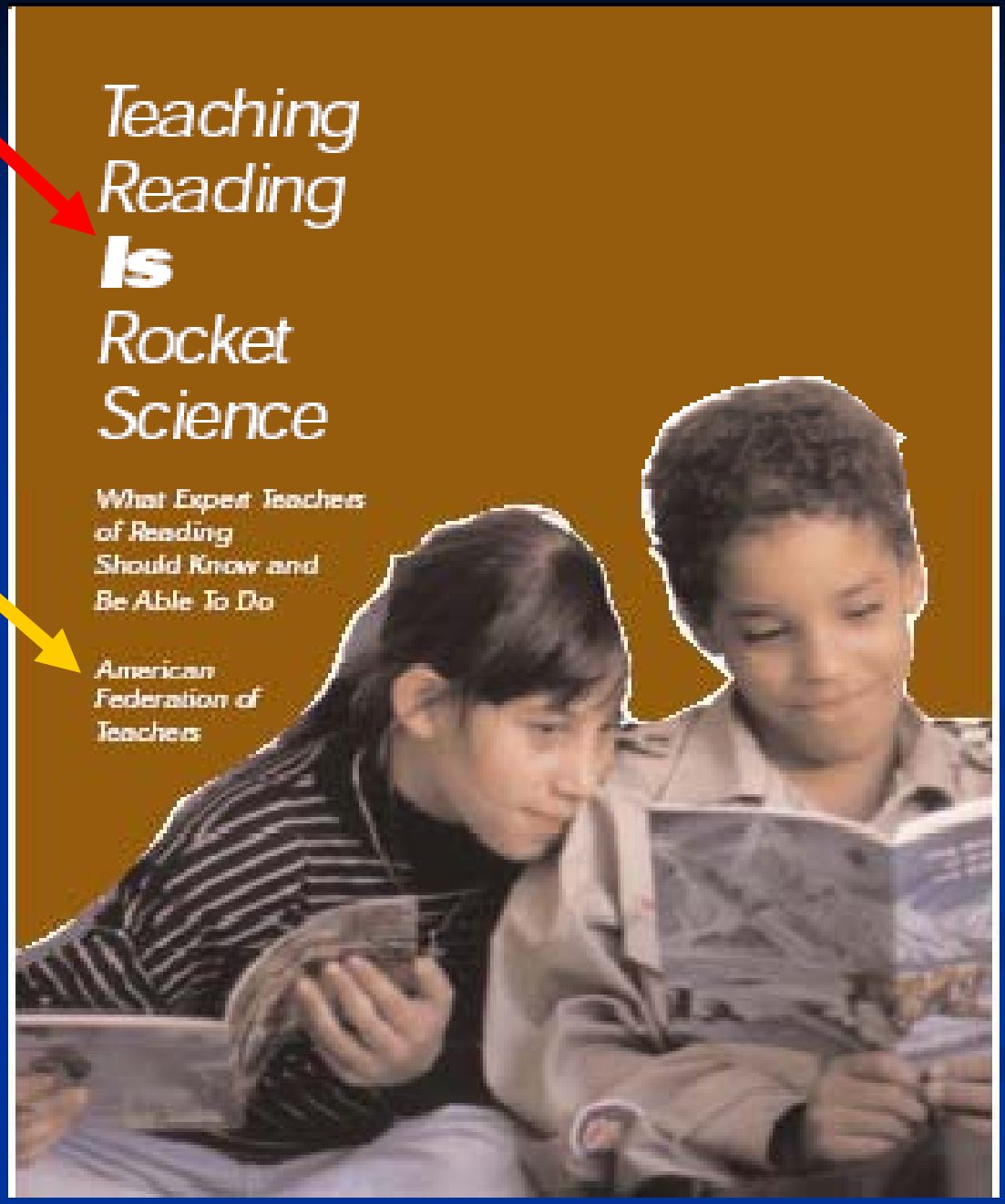
- ***Six out of seven courses do not even broach phonics, despite its long history as a critical component of reading instruction***
- ***Much of current reading instruction is incompatible with the science***
  - Many reading teachers and textbooks describe the process of becoming a reader as a natural, organic process, though there is no scientific basis supporting such a view for any child, even for children who seem to find it easy to learn how to read
- ***Teacher educators portray the science of reading instruction as one approach that is no more valid than others***

Why Can't Johnny Read? NCTQ Findings

- ***Many courses reflect low expectations, with little evidence of college-level work***
  - Effort to develop practical application of knowledge is not evident
  - Many professors place more emphasis on keeping their courses fun than on learning – results in activities in which students rely on their own devices to teach literacy rather than on learning how to use well-tested, scientifically sound approaches
  - Typical example of this "entertainment approach": "After reading the book, design an original cover for it. Construct reading comprehension questions. Make a commercial that convinces others to buy and read the book. Make a diorama of the book."
  - ***Too many young teachers are entering the field of teaching having been required to do nothing more sophisticated than the same arts and crafts projects they did as young children***

Why Can't Johnny Read? NCTQ Findings

- ***The quality of almost all reading textbooks is poor. Their content includes little to no hard science, and in far too many cases they are inaccurate and misleading***
  - Of 226 texts that were required reading, literacy experts were able to identify only four that would be acceptable as general textbooks…because they included the science of reading. These four books were used in only 11 of 222 courses.
  - ***There is no agreement in the field about what constitutes "seminal" texts***
    - In truth, the field is a free-for-all!


Teaching
Reading
Is
Rocket
Science
What Expert Teachers
of Reading
Should Know and
Be Able To Do
American
Federation of
Teachers

Biggest Tier I Problem: Poorly Trained Teachers

Tier I

Research-based Instruction and School-Wide Screening

As quality of training improves, the 20-30% of children at risk for reading failure can be reduced to 2-10%

Tier-by-Tier Questions

- Tier 1
  - "All children are tested once in the Fall"
- Question
  - What type of screening method is used? Standardized tests? CBA? At what point in the Fall are they tested? Are they tested across academic domains or just reading? Is it group or individual testing? Who does the testing?

Tier-by-Tier Questions

- Tier 1
  - "At-risk students are identified for Tier 2 intervention on the basis of low performance"
- Question
  - What constitutes low performance? A normative deficit? A criterion-referenced deficit?

Tier-by-Tier Questions

- Tier 2
  - "For at-risk students, a second tier of prevention is implemented using standard research-validated tutoring protocols"
- Question
  - Where does one find these protocols?

Web resources for evidence-based intervention strategies

- *Big Ideas in Beginning Reading* (U of Oregon): ***reading.uoregon.edu***
- *What Works Clearinghouse* (US Dept of Education): **www.w-w-c.org**
- Intervention Central: **www.interventioncentral.org**

What's "Empirically-Supported" ?

- Interestingly, a last minute revision to the OSEP Regulations on IDEA was inserted that substituted "*appropriate* interventions" for "*empirically-supported* interventions". This change was made because of the lack of scientifically supported interventions beyond early reading.

Tier-by-Tier Questions

- Tier 2
  - "Student progress is monitored throughout the intervention, and students are re-tested following the intervention"
- Question
  - How is progress monitored? How often is progress monitored? Who monitors progress?

Progress Monitoring Resources

- National Center on Student Progress Monitoring
- AIMSweb Progress Monitoring System
- Dynamic Indicators of Basic Early Literacy Skills (DIBELS)
- Intervention Central

Tier-by-Tier Questions

- Tier 2
  - "Growth/performance is dichotomized as responsive or unresponsive"
- Question
  - What is the cut off?

Biggest Tier II Problem: Who Will Implement the Scientific, Research-based Interventions?

Typical RTI Scenario: **500 kids in K-3; 20% At-Risk (N=100) at Tier I; 36 benefit from Title Programs; 64 are identified as in need of more intensive and more frequent intervention**

	Employee/Teacher	*Groups of 2 (32 groups)*	*Groups of 3 (21 groups)*
Hire New	Full Time (6 hours/day)	4 teachers	3 teachers
Hire New	Part Time (3 hours/day)	7 teachers	5 teachers
Use Existing	Lunch + After School OR Lunch + Before School	11 teachers	7 teachers
Use Existing	Lunch OR After School OR Before School	21 teachers	14 teachers

N **= 64 40 minutes a session 3 times a week = 120 minutes a week**

Biggest Tier II Problem: Who Will Implement the Scientific, Research-based Interventions?

Tier II

'Non-Responders' to Tier I Are Given 'small group' interventions

In order for individualized interventions to be effectively implemented, they should be limited to approximately 5% of the student population. But, on average, 20% are not successful. No problem-solving team or problem-analysis approach can be successful with that many children because the problem-analysis process and resulting interventions are *too time and resource intensive* to be implemented. Thus, many school districts implement a watered-down version of the problem-solving team process under the umbrella of RTI.
(Burns, 2007)

What Does One Do With a Tier II Responder?

- Where do Tier 2 ***responders*** go?
- Do they go back to the general education classroom – back to the instruction to which they were unresponsive?
- Are they monitored? Who does the monitoring?

Tier-by-Tier Questions

- Tier 3
  - Those who do not respond receive a multidisciplinary team evaluation and are identified for individualized programming in special education (LD, BD, MR)
- Question
  - What about other disability categories (speech impaired, visually impaired, etc.) as explanations of continued academic failure?
  - What about other SLD categories besides basic reading skills and reading fluency (e.g., listening comprehension, oral expression, written expression, math calculation, math problem solving)?

Biggest Tier III Problem: Assumption that Child WILL Qualify for Special Education

Tier III

'Long-Term Programming for Students Who Fail to Respond to Tier II Interventions' (e.g., Special Education)

What if the student does not meet criteria for a disability category? Does the student go back to Tier II? Return to Tier I?

Advantages and Disadvantages of RTI

What are advantages of RTI?

- Helps ensure that the student's poor academic performance is not due to poor instruction
- Allows schools to ***intervene early*** to meet the needs of struggling learners.
  - Proponents of RTI vehemently state that it is ***NOT*** a wait-to-fail model"
- Provides research-based instruction and intervention (ideally)
- Collected data better informs instruction than data generated by ability-achievement discrepancy methods

Advantages of RTI

- RTI ***streamlines the referral process*** because intensive intervention (Tier II)
  - Will take care of those who needed remedial instruction
  - Will identify those who do not respond and who, therefore, are candidates for differential diagnosis
- Traditionally, *nearly all* children who did not respond to general education instruction (Tier I) were eventually referred for testing

Disadvantages of RTI

- RTI is ***NOT*** a diagnostic system
  - Lack of response to intervention is an insufficient method in identifying SLD
    - MR. LEP, language impairments, low SES, can all play a role in students' nonresponsiveness

- SLD is ". . .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 the imperfect ability to listen, think, speak, read, write, spell, or do mathematical calculations"

On RTI as a diagnostic system…

The RTI model as presently described appears to radically alter the SLD concept and, consequently, cannot be endorsed; in fact, it will have the effect of eliminating much of what is known about SLD

Kavale, Holdnack, & Mostert (2005, p. 14)

On RTI as a Diagnostic System…

At best, the RTI model identifies students who are at risk for *reading failure* and who require intensive intervention to achieve any success. The narrowly focused reading achievement problem, the *single processing deficit*, and the limited intervention options suggest that what is being identified is a far cry from SLD in any significant sense

Kavale, Holdnack, & Mostert (2005, p. 14)

On RTI as a Diagnostic System…

The disconnect between the RTI model and the SLD construct creates the potential for diagnostic chaos. The number of false positives and false negatives may increase significantly because of a failure to know what a true positive should be. Such a scenario would do little to improve SLD identification.

Kavale, Holdnack, & Mostert (2005, p. 14)

Disadvantages of RTI

- RTI may be a "Wait-to-Fail" Model for Nonresponders
  - It would not be uncommon under an RTI model to wait several months for the desired response
  - This time-frame would exceed the 60 days (time of referral to CSE or ARD)
- Instruction/Intervention is not truly "individualized" until Tier III and only after a comprehensive evaluation

Challenges of RTI

- Requires a substantial amount of cooperation on the part of regular and special educators
  - Frequent communication, support for general education teachers, availability of intervention resources, etc.

Challenges of RTI

- ***Implementing Technology***
  - Assessment methods, progress monitoring, scientifically-based interventions
- ***Significant changes in roles/responsibilities of RTI participants***
  - e.g., school staff may have larger role in terms of time commitments and responsibilities than they have had previously (teachers assessing classroom students with screening measures)

Challenges of RTI

- ***Integrating approach into the existing structure and/or culture of a school***
  - "Helping" a child who is behind his/her peers is often considered equivalent to "providing special education services"

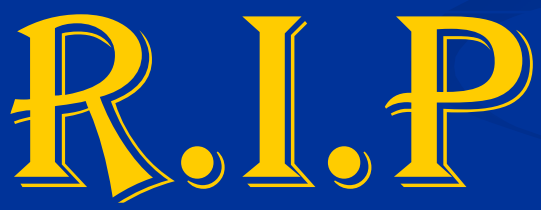
On Implementing RTI…

Today's teaching conditions, including large class sizes, lack of adequate training, and strained school budgets, could make such implementation *nothing more than a lofty but unrealistic goal* for many schools across the country.

Mellard, 2006

Discrepancy Analysis is Neither Gone nor Forgotten

Full Scale IQ-Achievement Discrepancy…



Is RTI also A Discrepancy-Based Model?

YES

You cannot take "discrepancy" out of the diagnostic criteria for SLD

What does RTI look like when applied to an individual student?

A widely accepted method for determining whether a student has a Learning Disability under RTI is the ***dual discrepancy model*** (Fuchs, 2003).

- Discrepancy 1: The student is found to be performing academically at a level significantly below that of his or her typical peers (discrepancy in initial skills or performance).
- Discrepancy 2: Despite the implementation of one or more well-designed, well-implemented interventions tailored specifically for the student, he or she fails to 'close the gap' with classmates (discrepancy in rate of learning relative to peers).

How are Ability-Achievement Discrepancy and RTI Alike?

- ***They both involve circular logic***
- Why is Johnny LD?
- Because he has an ability-achievement discrepancy
- Why does he have an ability-achievement discrepancy?
- ***Because he's LD!***
- Why is Sally LD?
- Because she failed to respond to a scientifically-based intervention
- Why didn't she respond to the scientifically-based intervention?
- ***Because she's LD!***

What's Missing in the Discrepancy and RTI Models?

- Evidence of the underlying cause of the "unexpected underachievement" or "failure to respond"
- The "***disorder in one or more basic psychological processes***…" component

Discrepancy as a Diagnostic Model. . .

". . .the scores in a discrepancy calculation do not inform us about any of the underlying bases for the child's underachievement. . . Unless you have a good understanding of the basis of what's causing the discrepancy, you really don't know how to best help a child learn"

(Mellard, 2006)

On RTI as a Diagnostic Model. . .

When a child is nonresponsive to interventions . . .the instructional and diagnostic staff (e.g., school psychologists, reading teachers, or language therapists) does not yet know why the implemented interventions were unsuccessful, or which interventions might work

(Mellard, 2006)

On RTI as a Diagnostic Model. . .

To garner that important information, other assessment approaches will be needed, including extensive histories on health, development, education, family education data, information processing abilities (e.g., working memory, attention, sensation level, and self-monitoring), and overall intellectual capacity

(Mellard, 2006)

Why Do We Need to Choose?

We now have two major approaches to LD eligibility and intervention. The Discrepancy Model starting with assessment but not necessarily leading to specific interventions and RTI that starts with intervention and might lead to assessment (Tier 3 or 4). We have ***"wait to fail"*** in the Discrepancy approach and ***"wait to respond"*** in the RTI approach. So where is the satisfaction?

(Fagan, 2007)

Tier-by-Tier Questions

- **Tier 2: Why do some children fail to respond?**
  - Perhaps because interventions are being applied "blindly" as a one size fits all method without understanding whether or not specific cognitive deficits exist

- A neuropsychological process that is important to reading skills development is working memory – it is a crucial process for early reading recognition and later reading comprehension. ***One must assess it if one is to develop the most appropriate method of intervention*** (Teeter et al., 1997).

- Given the findings from the neuroimaging and neruopsychological fields of deficient performance on measures of ***working memory, processing speed, auditory processing ability, and executive functions***, evaluation of these skills is necessary to determine the most appropriate program to fit the individual child's need.

Semrud-Clikeman (2005)

Individual Difference ARE Important

- The danger with not paying attention to ***individual differences*** is that we will repeat the current practice of simple assessments in curricular materials to evaluate a complex learning process and to plan for interventions with children and adolescents with ***markedly different needs and learning profiles*** (Semrud-Clikeman, 2005).

- "Nonresponders" provide sound evidence that ***one size DOES NOT fit all.***

Tests of Cognitive Abilities/Processes ARE Important

- Highly Reliable
- Exemplary Standardization Characteristics
- Theory- based
- Valid indicators of CHC abilities/processes

Arguments Against Use of "IQ" Tests

- ***They lack diagnostic utility***

" **Tests do not think for themselves**, nor do they directly communicate with patients. Like a stethoscope, a blood pressure gauge, or an MRI scan, **a psychological test is a dumb tool**, and the worth of the tool cannot be separated from the sophistication of the clinician who draws inferences from it and then communicates with patients and professionals"

Meyer et al. (2001). Psychological testing and psychological assessment. *American Psychologist*, February

Arguments Against Use of "IQ" Tests

- ***They lack treatment utility***
  - Tests do not treat; people do!
- ***Information provided by tests assists in selection of the most appropriate treatments***

Individual Difference ARE Important

- If students with reading or math difficulties are compared with typical achievers, it is possible to show that these three groups display different cognitive correlates
- Neurobiological studies show that these groups differ in the neural correlates of reading and math performance as well as the heritability of reading and math disorders (Lyon et al., 2003)
- Evidence will likely show that different kinds of interventions are needed for students who do not show an adequate response to instruction

Fletcher, Denton, and Francis (2005)

… there is a demand for the comprehensive assessment to drive intervention. This is the way it has always been, and this is the way it will always be because the referral questions for children with SLD have always asked, What is wrong? And how can we help? These questions demand differential diagnosis, a large part of which is determined by the cognitive abilities present in the individual child (p. 211).

Source: Kaufman, A. S., Lichtenberger, E. O., Fletcher-Janzen, E., & Kaufman, N. L. (2005). *Essentials of the K-ABC-II Assessment.* New York: John Wiley & Sons.

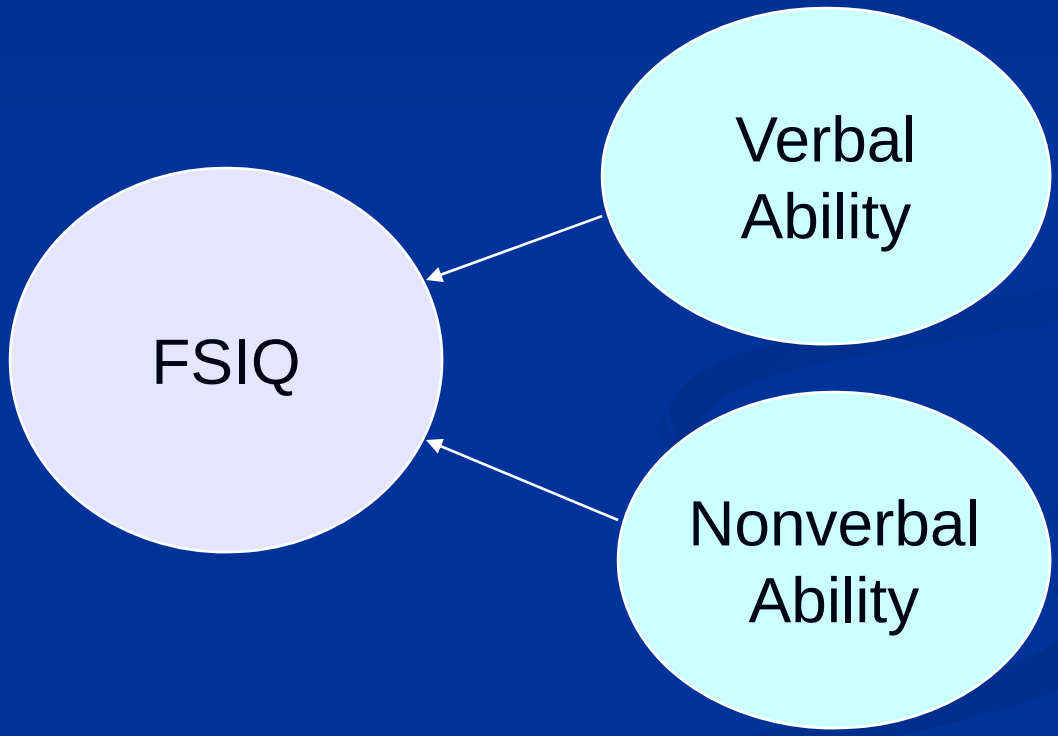
Major Criticism of IQ Tests in LD Evaluation

- They don't measure abilities that are important "**markers**" associated with potential reading success/failure

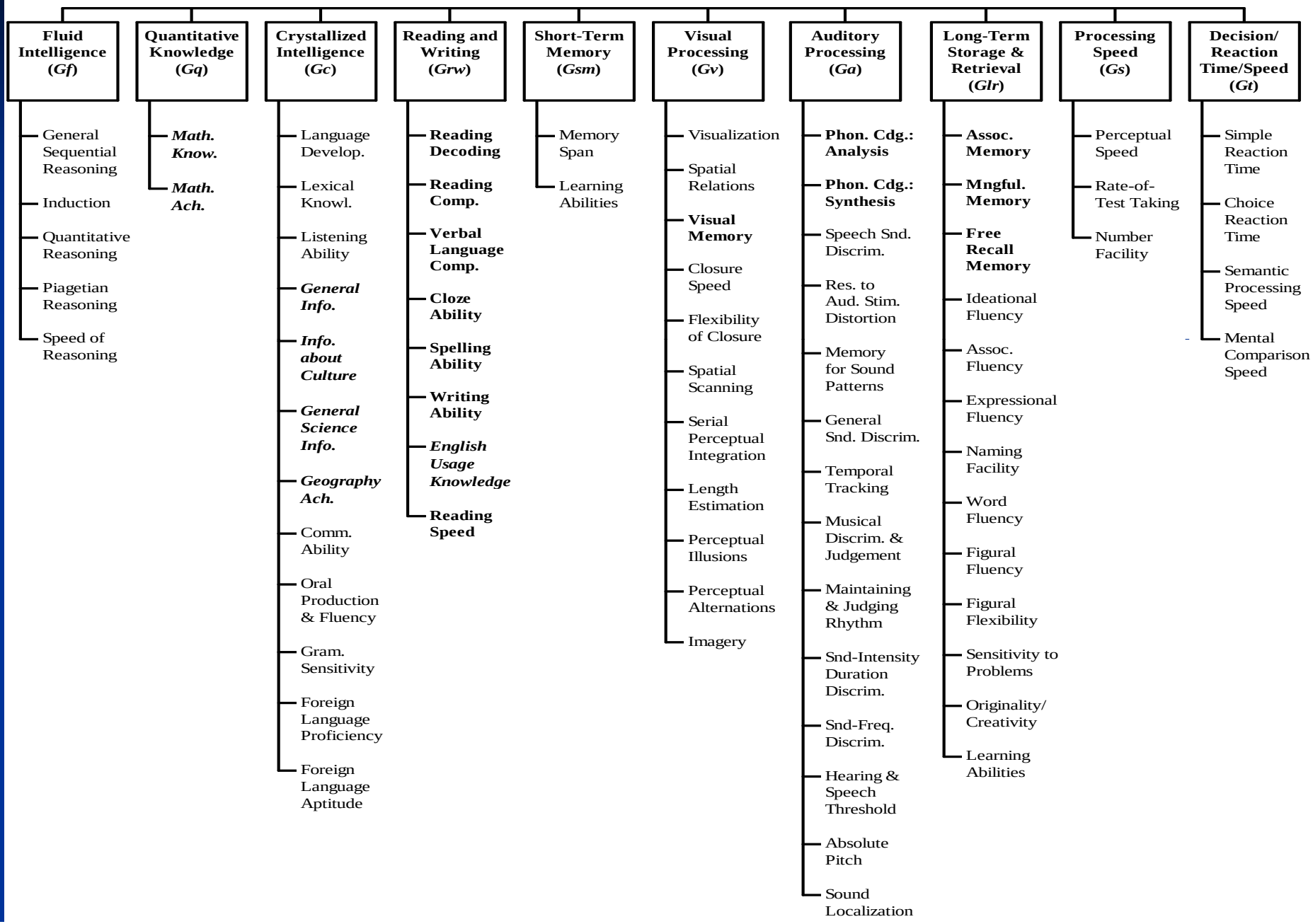
Conclusion Made By Many LD Researchers

- IQ Tests are ***Irrelevant*** to LD Diagnosis
  - Problem with this conclusion: the belief that ***IQ=Wechsler*** is not supported
  - Many LD researchers equate IQ with a FSIQ from the Wechlser Scales and ignore all other instrumentation and all other relevant information that may be gleaned from an "IQ" test

Traditional Wechsler Structure



Catell-Horn-Carroll (CHC) Theory of Cognitive Abilities/Processes



On Specific Cognitive Abilities in SLD Identification...

- Agreement that these abilities are important in the identification process
- Virtually no recognition that current intelligence tests measure many of these abilities

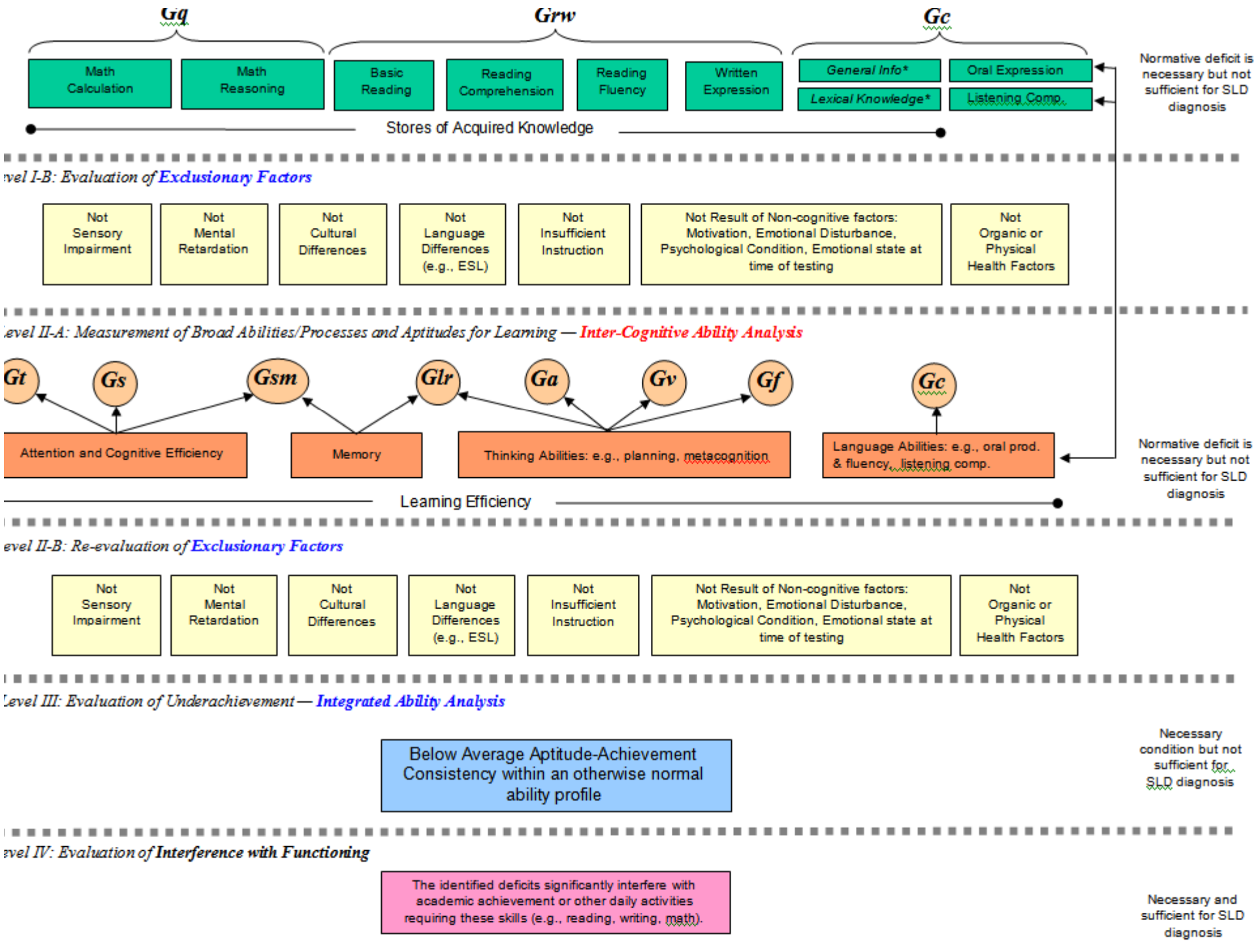
How do you individualize instruction?

- Through an understanding of specific academic difficulties (and strengths) and the student's response to instruction/intervention
- Through an understanding of an individual's pattern of cognitive ability/processing strengths and weaknesses
  - Comprehensive theory- and research-based evaluation
    - ***Information that will assist in understanding why Tier II interventions failed***
    - Without information from measures of cognitive abilities/processes, Special Education will likely not be effective

An Operational Definition of SLD

Consistent with

"Comprehensive Evaluation"

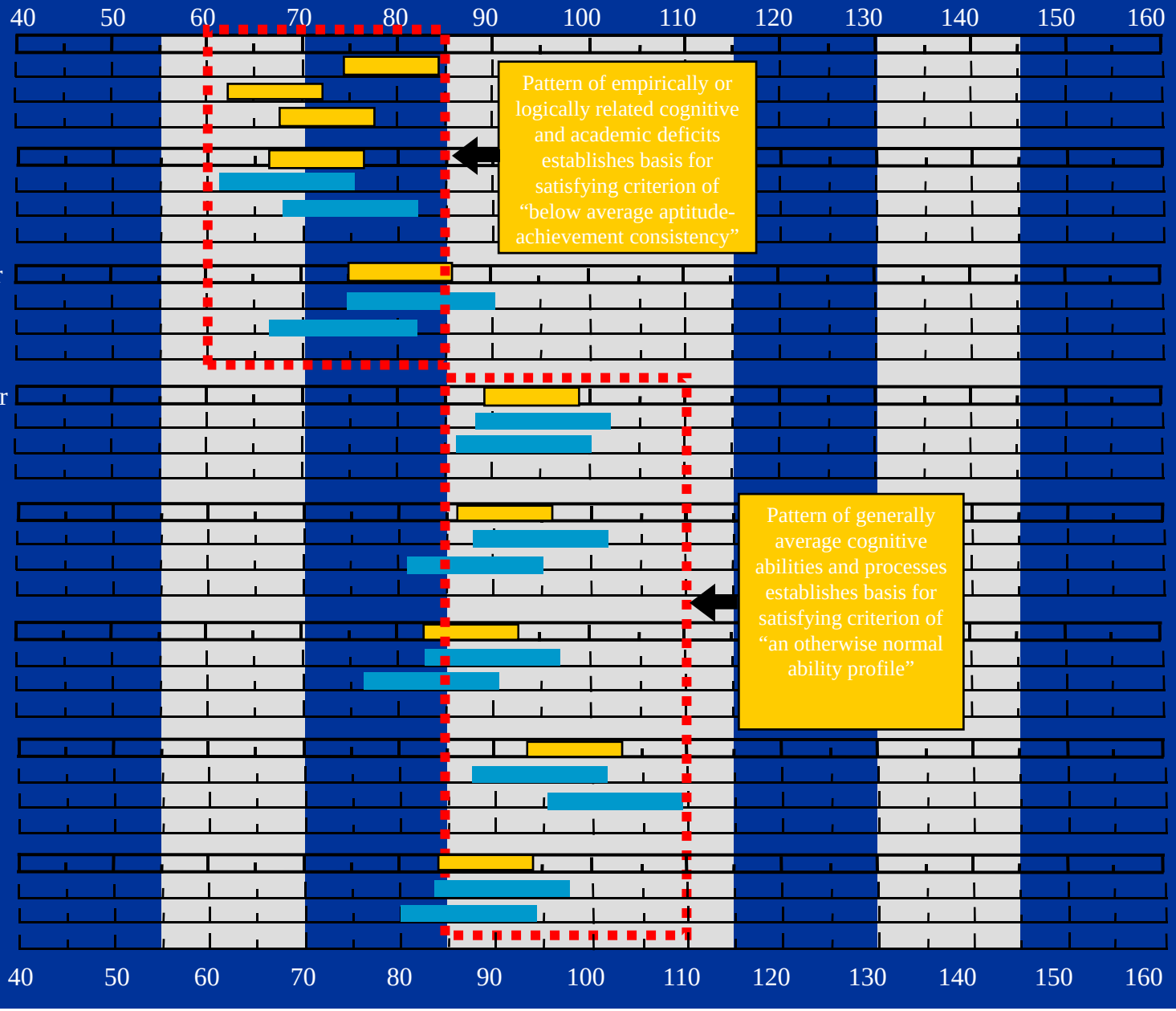

Gq
Grw
Gc
Math Calculation
Math Reasoning
Basic Reading
Reading Comprehension
Reading Fluency
Written Expression
General Info*
Oral Expression
Lexical Knowledge*
Listening Comp.
Normative deficit is necessary but not sufficient for SLD diagnosis
Stores of Acquired Knowledge
vel I-B: Evaluation of Exclusionary Factors
Not Sensory Impairment
Not Mental Retardation
Not Cultural Differences
Not Language Differences (e.g., ESL)
Not Insufficient Instruction
Not Result of Non-cognitive factors: Motivation, Emotional Disturbance, Psychological Condition, Emotional state at time of testing
Not Organic or Physical Health Factors
evel II-A: Measurement of Broad Abilities/Processes and Aptitudes for Learning — Inter-Cognitive Ability Analysis
Gt
Gs
Gsm
Glr
Ga
Gv
Gf
Gc
Attention and Cognitive Efficiency
Memory
Thinking Abilities: e.g., planning, metacognition
Language Abilities: e.g., oral prod. & fluency, listening comp.
Normative deficit is necessary but not sufficient for SLD diagnosis
Learning Efficiency
evel II-B: Re-evaluation of Exclusionary Factors
Not Sensory Impairment
Not Mental Retardation
Not Cultural Differences
Not Language Differences (e.g., ESL)
Not Insufficient Instruction
Not Result of Non-cognitive factors: Motivation, Emotional Disturbance, Psychological Condition, Emotional state at time of testing
Not Organic or Physical Health Factors
Level III: Evaluation of Underachievement — Integrated Ability Analysis
Below Average Aptitude-Achievement Consistency within an otherwise normal ability profile
Necessary condition but not sufficient for SLD diagnosis
evel IV: Evaluation of Interference with Functioning
The identified deficits significantly interfere with academic achievement or other daily activities requiring these skills (e.g., reading, writing, math).
Necessary and sufficient for SLD diagnosis

Integrated Ability Analysis of Learning Disability

Name:_____ Age: ____ Grade: ____
Examiner:_____ Date: _____

KABC-II and KTEA-II Data

Grw Broad/Narrow Cluster
Reading Composite(___)
Sound Symbol ___(___)
Reading Fluency__(___)
Ga Broad/Narrow Cluster
Nonsense Wd Decod(___)
Phonol. Awareness_(___)
_____(___)
Glr/Gs Broad/Narrow Cluster
Assoc. Fluency_____(___)
Naming Facility____(___)
_____(___)
***Glr*-MA** Broad/Narrow Cluster
Rebus_____(___)
Atlantis_ _____(___)
_____(___)
Gsm Broad/Narrow Cluster
Word Order__ ___(___)
Number Recall ___(___)
_____(___)
Gf Broad/Narrow Cluster
Story Comp. ___(___)
Pattern Reasoning (___)
_____(___)
Gv Broad/Narrow Cluster
Rover _____(___)
Triangles_____(___)
_____(___)
Gc Broad/Narrow Cluster
Expressive Vocab. (___)
Verbal Knowledge (___)
_____(___)

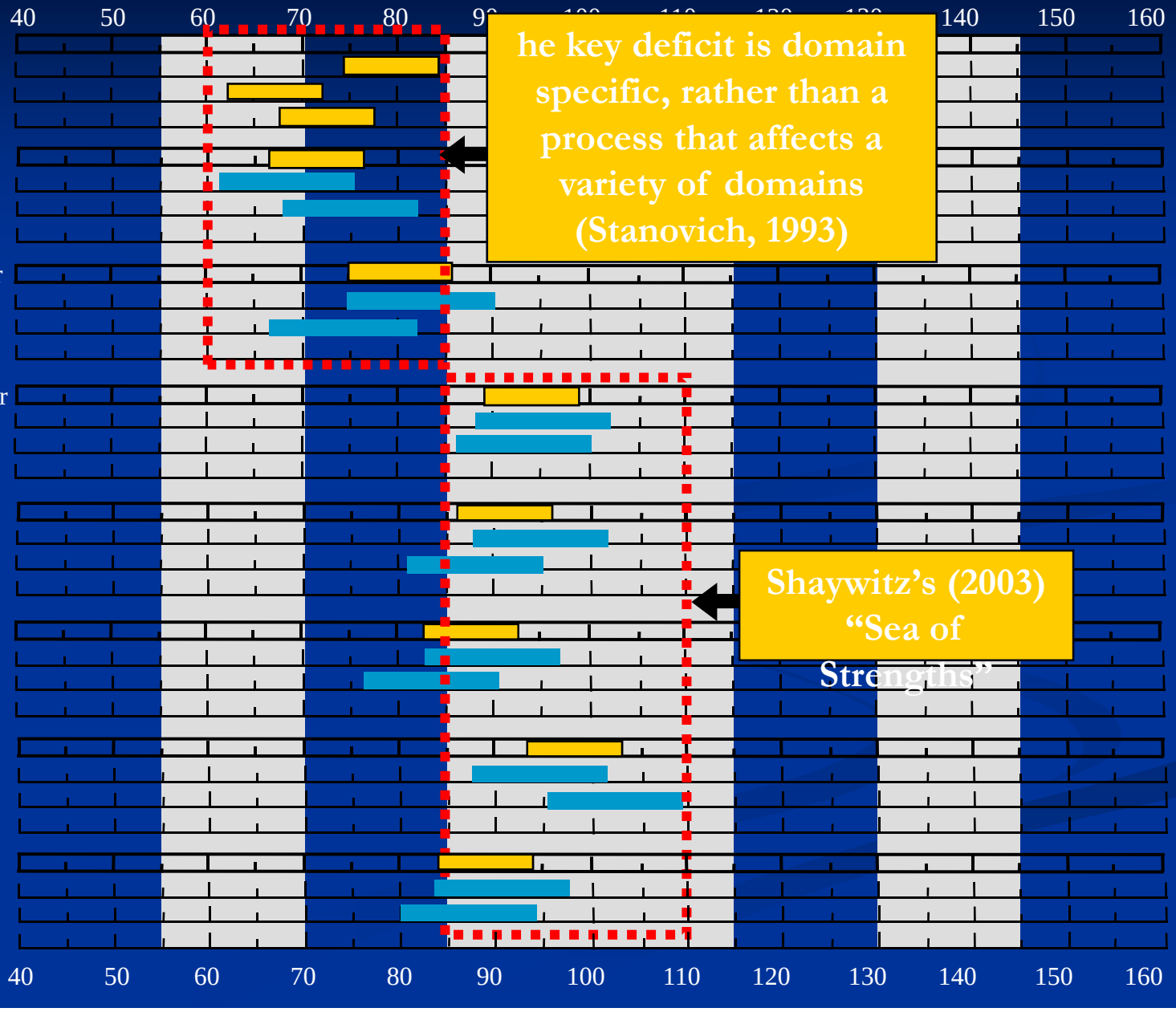


Integrated Ability Analysis of Learning Disability

Name:_____ Age: ____ Grade: ____
Examiner:_____ Date: _____

KABC-II and KTEA-II Data

Grw Broad/Narrow Cluster
Reading Composite(___)
Sound Symbol ___(___)
Reading Fluency__(___)
Ga Broad/Narrow Cluster
Nonsense Wd Decod(___)
Phonol. Awareness_(___)
_____(___)
Glr/Gs Broad/Narrow Cluster
Assoc. Fluency_____(___)
Naming Facility____(___)
_____(___)
***Glr*-MA** Broad/Narrow Cluster
Rebus_____(___)
Atlantis_ _____(___)
_____(___)
Gsm Broad/Narrow Cluster
Word Order__ ___(___)
Number Recall ___(___)
_____(___)
Gf Broad/Narrow Cluster
Story Comp. ___(___)
Pattern Reasoning (___)
_____(___)
Gv Broad/Narrow Cluster
Rover _____(___)
Triangles_____(___)
_____(___)
Gc Broad/Narrow Cluster
Expressive Vocab. (___)
Verbal Knowledge (___)
_____(___)

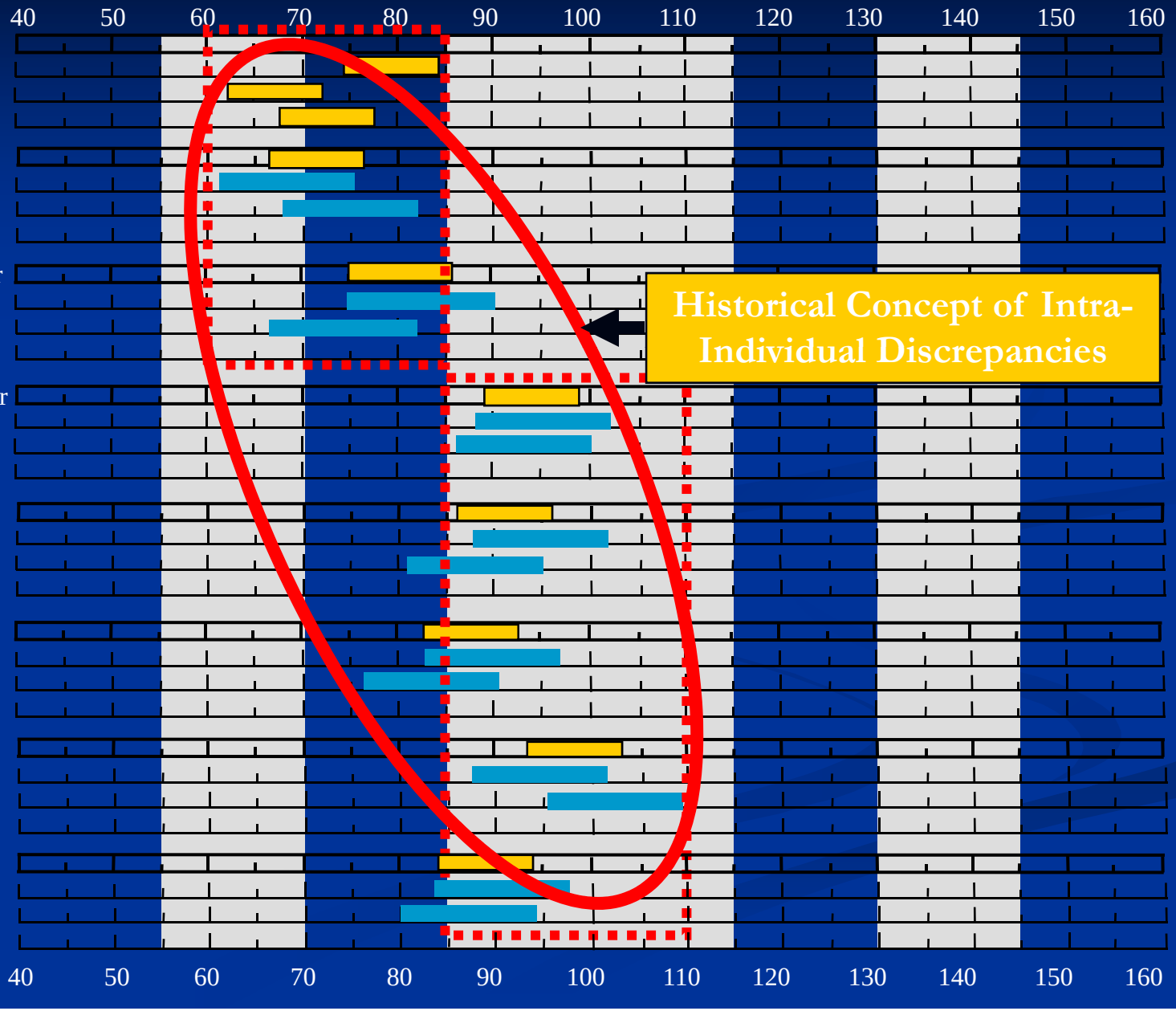


Integrated Ability Analysis of Learning Disability

Name:_____ Age: ____ Grade: ____
Examiner:_____ Date: _____

KABC-II and KTEA-II Data

Grw Broad/Narrow Cluster
Reading Composite(___)
Sound Symbol ____(___)
Reading Fluency__(___)
Ga Broad/Narrow Cluster
Nonsense Wd Decod(___)
Phonol. Awareness_(___)
_____(___)
Glr/Gs Broad/Narrow Cluster
Assoc. Fluency_____(___)
Naming Facility____(___)
_____(___)
***Glr*-MA** Broad/Narrow Cluster
Rebus_____(___)
Atlantis_ _____(___)
_____(___)
Gsm Broad/Narrow Cluster
Word Order__ ____(___)
Number Recall ___(___)
_____(___)
Gf Broad/Narrow Cluster
Story Comp. ____(___)
Pattern Reasoning (___)
_____(___)
Gv Broad/Narrow Cluster
Rover _____(___)
Triangles_____(___)
_____(___)
Gc Broad/Narrow Cluster
Expressive Vocab. (___)
Verbal Knowledge (___)
_____(___)



Regulations IDEA 2004, August 14, 2006

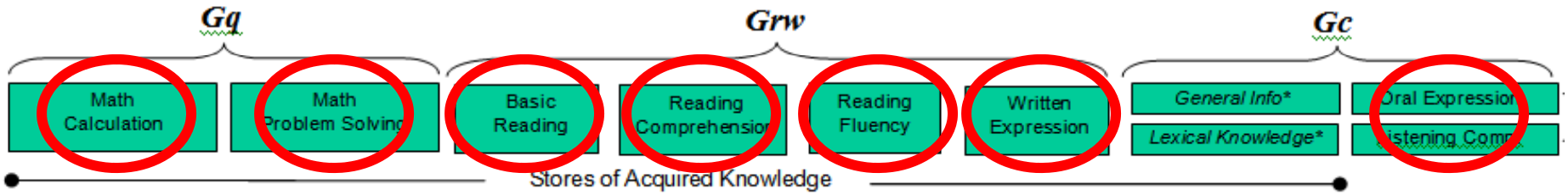
§300.309(a)(2)(ii) permits consideration of:

The child exhibits a pattern of strengths and weaknesses in performance, achievement, or both, relative to intellectual development, that is determined by the team to be relevant to the identification of a specific learning disability.

Level I-A of the Operational Definition

Flanagan, Ortiz, Alfonso, & Mascolo (2002, 2006)

Inter-Individual Academic Ability Analysis



Local Norms are acceptable but not sufficient for determining "at-risk"

Norm-referenced standardized achievement tests are necessary to determine deficits in relation to peers

RTI Models focus on Basic Reading Skills (phonics) and fluency

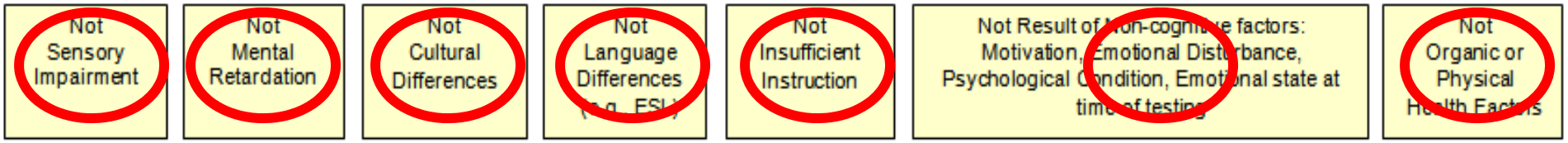
RTI Models ignore six other areas in which SLD may manifest

Level I-A is consistent with Tier I: *Identify Academic Deficits Early*

Level I-B and II-B of the Operational Definition

Flanagan, Ortiz, Alfonso, & Mascolo (2002, 2006)

Evaluation of Exclusionary Factors



Occurs at the same time as Level I-A evaluation

Certain factors can be ruled out early in the process

Other factors require a more comprehensive evaluation

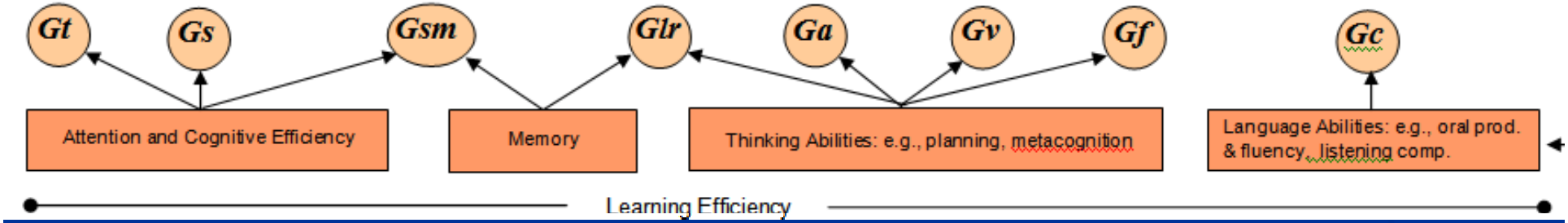
Tier II intervention is likely necessary to rule out "insufficient (ineffective) instruction"

Evaluation of exclusionary factors should be carried out and documented at all tiers in an RTI model

Level II-A of the Operational Definition

Flanagan, Ortiz, Alfonso, & Mascolo (2002, 2006)

Inter-Individual Cognitive Ability Analysis



Necessary to determine whether the failure to respond is related to a disorder in one or more psychological processes

The relations between cognitive abilities/processes is supported by research

This type of evaluation should occur when students do not respond to Tier II interventions

This type of evaluation is necessary to gain insight into why Tier II intervention was ineffective; how to redirect intervention at Tier III (true problem-solving) and for the purposes of differential diagnosis

Level III of the Operational Definition

Flanagan, Ortiz, Alfonso, & Mascolo (2002, 2006)

Integrated Ability Analysis: Aptitude-Achievement Consistency

Below Average Aptitude-Achievement Consistency within an otherwise normal ability profile

Necessary for differential diagnosis. Does the student have a domain-specific Disorder?

SLD Assistant designed to assist in answering this question

This type of analysis occurs as part of a comprehensive evaluation at Tier III

Level IV of the Operational Definition

Flanagan, Ortiz, Alfonso, & Mascolo (2002, 2006)

Interference with Functioning

The identified deficits significantly interfere with academic achievement or other daily activities requiring these skills (e.g., reading, writing, math).

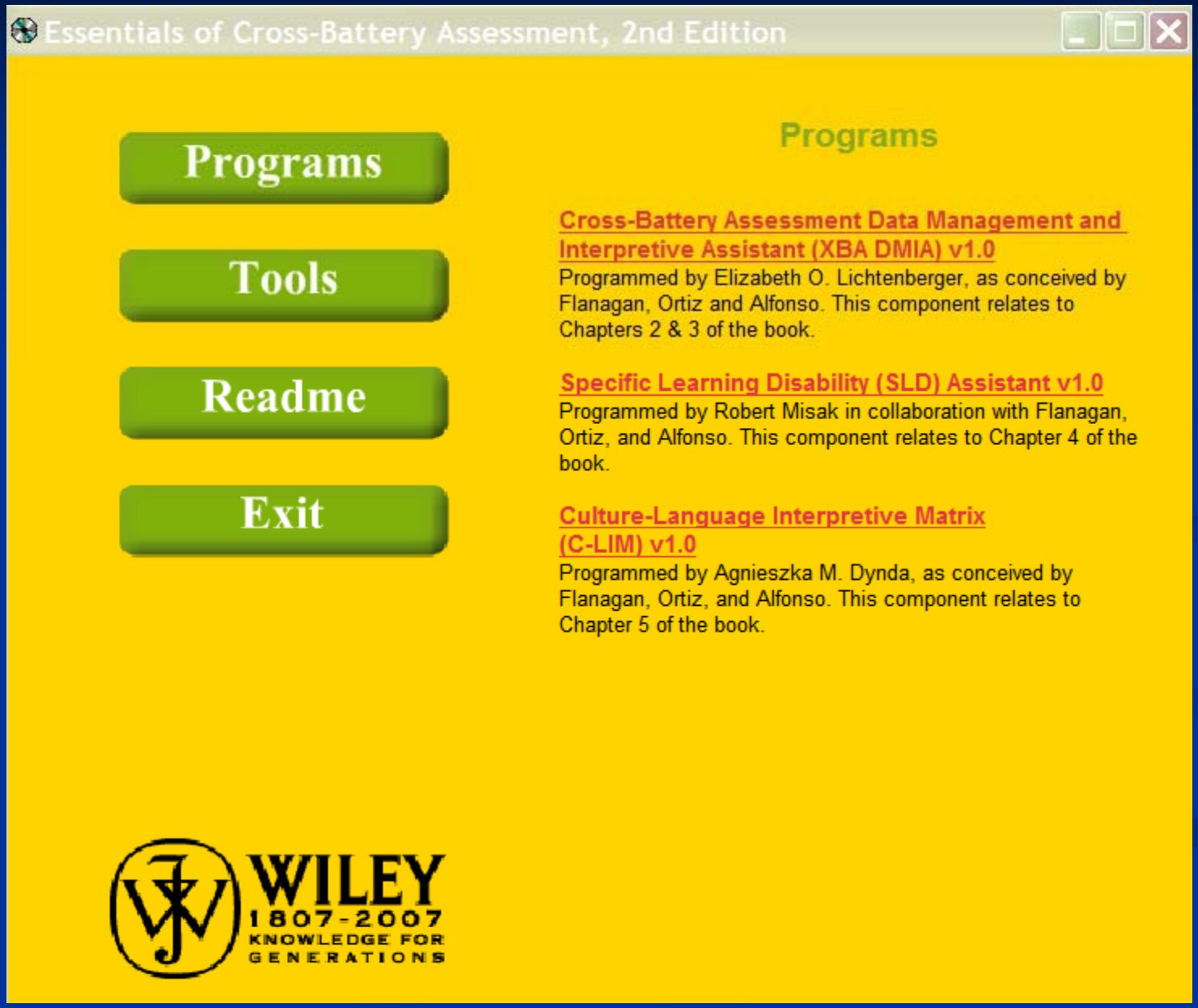
Necessary for differential diagnosis

The deficits are normative, not relative

This type of analysis occurs as part of a comprehensive evaluation at Tier III

Three Programs to Assist in Implementation of the Operational Definition

Essentials of Cross-Battery Assessment, 2nd Edition



Purpose of the XBA DMIA

- Allows for data to be entered on separate tabs for the following batteries: WISC-IV, WPPSI-III, WAIS-III, WJ III, SB5, KABC-II, DAS-II
- Assists in interpreting data from individual batteries
- Allows for data to be entered in individual CHC domains (*Gf, Gc, Glr, Gsm, Ga, Gv, Gs, Gq, Grw*) via drop down menus
- Assists in interpreting data from across batteries
- Graphs data automatically

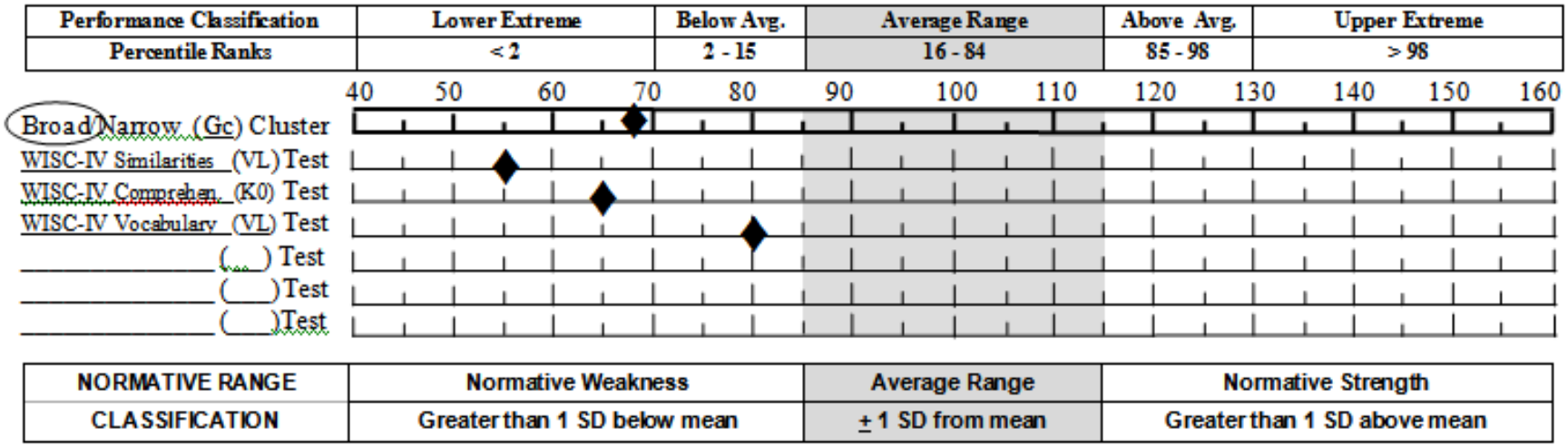
Purpose of SLD Assistant

- Provides a quantitative means of answering the question: ***Does the student's related cognitive and academic deficits occur within an otherwise normal ability profile?***
- Program reports a "*g* value" based on the students intact cognitive abilities/processes
  - What percentage of *g* variance is explained by the intact abilities (based on age)
  - Intact abilities/processes that are more important for academic success are weighted more heavily (based on grade)

Demonstrate Use of Cross-Battery Assessment Data Management and Interpretive Assistant

XBA DMIA

Figure 3.4 Decision points corresponding to Interpretive Statement 1 in Rapid Reference 3.5.



Decision Points:

a) WISC-IV data were entered into the WISC-IV tab of the XBA DMSP™.

b) The XBA DMSP™ reported that the broad *Gc* ability/process based on the WISC-IV subtests comprising the Verbal Comprehension Index (VCI) (i.e., Vocabulary, Similarities, and Comprehension) is nonunitary and noninterpretable (see criteria reported in Table 3.1).

c) The WISC-IV VCI subtest scores were entered into the *Gc* tab of the XBA DMSP™ to better understand functioning in the *Gc* domain.

d) The XBA DMSP™ calculated and reported a cluster based on the WISC-IV VCI subtests.

e) Cluster is interpreted as representing broad *Gc* ability.

f) See Statement 1 in Rapid Reference 3.5 for an interpretation of this cluster.

Table 3.1 Criteria Used to Determine a Nonunitary or Noninterpretable Cluster for Seven Intelligence Batteries

Battery (Source)	Cluster(s)	Criterion
WISC-IV (Flanagan & Kaufman, 2004)	VCI and PRI	A difference between highest and lowest scaled scores of ≥ 5 points (i.e., ≥1.5 SDs)
	WMI, PSI, Gf Cluster, Gv Cluster	A difference between scaled scores of ≥ 5 points (i.e., ≥1.5 SDs)
	FSIQ	A difference between highest and lowest Index of ≥ 23 standard score points (i.e.,≥1.5 SDs)
	GAI	A difference between VCI and PRI of ≥ 23 standard score points (i.e., ≥1.5 SDs)
WAIS-III (Kaufman & Lichtenberger, 2006)	VCI, POI, WMI, VIQ, and PIQ	A difference between highest and lowest scaled scores of ≥5 points (i.e., ≥1.5 SDs)
	PSI, Gf, and Gv	A difference between scaled scores of ≥5 points (i.e., ≥1.5 SDs)
	FSIQ	A difference between highest and lowest Index of ≥23 standard score points (i.e., ≥1.5 SDs)

WISC-IV Interpretation

Enter the scores in cells bordered in red with examinee's scores.

COMPOSITE Subtest	Score	Percentile Rank	Descriptive Category	Is Composite Interpretable?
VERBAL COMPREHENSION (Gc)	69	2	Lower Extreme/Normative Weakness	*No*
Similarities	1	0.1		
Vocabulary	6	9		
Comprehension	3	1		
(Information)			*Does not contribute to Index or IQ*	
(Word Reasoning)			*Does not contribute to Index or IQ*	

XBA Interpretation Guidelines

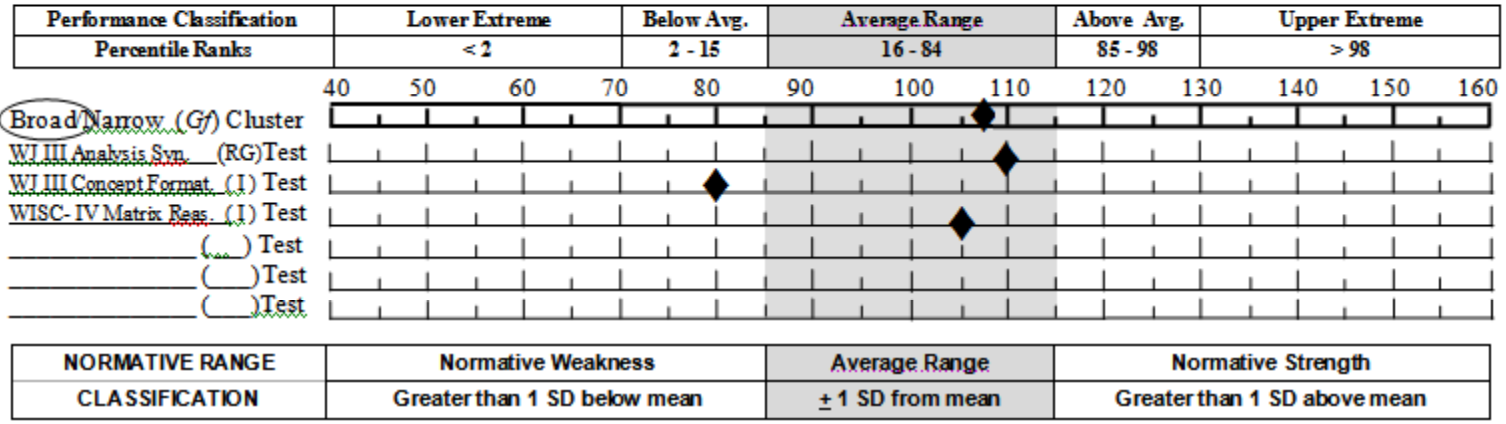
CRYSTALLIZED KNOWLEDGE (Gc)	Subtest Standard Score	Converted Standard Score
WECH VOCABULARY (VL)	6	80
WECH COMPREHENSION (K0,LD)	3	65
WECH SIMILARITIES (VL,LD)	1	55
Average Standard Score		67

Rapid Reference 3.5. A guide to interpreting three scores within an ability/processing domain.

		Cluster		
		SS ≤84	SS ≥85 AND ≤115	SS ≥116
Outlier	SS ≤ 84	Interpretive Statement 1	Interpretive Statement 2	Interpretive Statement 3
	SS ≥85 AND ≤115	Interpretive Statement 4	Interpretive Statement 5	Interpretive Statement 6
	SS ≥116	Interpretive Statement 7	Interpretive Statement 8	Interpretive Statement 9

= Ability cluster based on Average of three scores. All other Interpretive Statements are based on the average of two scores and a single outlier score.

Figure 3.5 Decision points corresponding to Interpretive Statement 2 in Rapid Reference 3.5.



Decision Points:

a) WJ III data were entered into the WJ III tab of the XBA DMSP™.

b) The XBA DMSP™ reported that the broad *Gf* ability/process based on WJ III Analysis-Synthesis and Concept Formation is nonunitary and noninterpretable (see criteria reported in Table 3.1).

c) WISC-IV Matrix Reasoning was administered to test the hypothesis that Induction (I) is within normal limits (and not deficient as suggested by performance on Concept Formation).

d) WISC-IV Matrix Reasoning performance was significantly higher than Concept Formation, supporting the hypothesis that Induction is within normal limits.

e) The WJ III and WISC-IV subtests were entered into the *Gf* tab of the XBA DMSP™.

f) The XBA DMSP™ calculated and reported a cluster based on WJ III Analysis-Synthesis and WISC-IV Matrix Reasoning and reported WJ III Concept Formation as an outlier.

g) Cluster is interpreted as representing a broad *Gf* ability.

h) See Statement 2 in Rapid Reference 3.5 for an interpretation of this constellation of scores.

WJ III TAB of XBA DMIA

FLUID REASONING (*Gf*)	90	25	Average Range/Within Normal Limits	*NO*
Concept Formation	80	9		
Analysis-Synthesis	110	75		

XBA Interpretive Guidelines

FLUID REASONING (Gf)	Subtest Standard Score	Converted Standard Score	
WJ III CONCEPT FORMATION (I)	80	80	outlier
WJ III ANALYSIS-SYNTHESIS (RG)	110	110	
WECH MATRIX REASONING (I,RG)	105	105	
Average Standard Score		108	

Rapid Reference 3.5. A guide to interpreting three scores within an ability/processing domain.

		Cluster		
		SS ≤84	SS ≥85 AND ≤115	SS ≥116
Outlier	SS ≤ 84	Interpretive Statement 1	Interpretive Statement 2	Interpretive Statement 3
	SS ≥85 AND ≤115	Interpretive Statement 4	Interpretive Statement 5	Interpretive Statement 6
	SS ≥116	Interpretive Statement 7	Interpretive Statement 8	Interpretive Statement 9

= Ability cluster based on Average of three scores. All other Interpretive Statements are based on the average of two scores and a single outlier score.

Getting Started

Enter the individual's age in the appropriate cell below. Using your mouse or pointer, click in the next cell and select the individual's grade from the drop down menu (you'll see the selection arrow appear when you click in the cell). Next, click on each ability cell and select either "yes" if the ability/process is within normal limits or higher (i.e., standard score ≥ 85) or "no" if the ability/process is below normal limits (i.e., standard score < 85). The program will then automatically compute a "g-value."

Enter Age =	7	<- type in age here
Select Grade =	2	<- click and select grade

Ability/Process	WNL Y/N?	
Gc	NO	<- click and select yes/no
Glr	YES	<- click and select yes/no
Gv	YES	<- click and select yes/no
Ga	NO	<- click and select yes/no
Gf	YES	<- click and select yes/no
Gs	NO	<- click and select yes/no
Gsm	NO	<- click and select yes/no

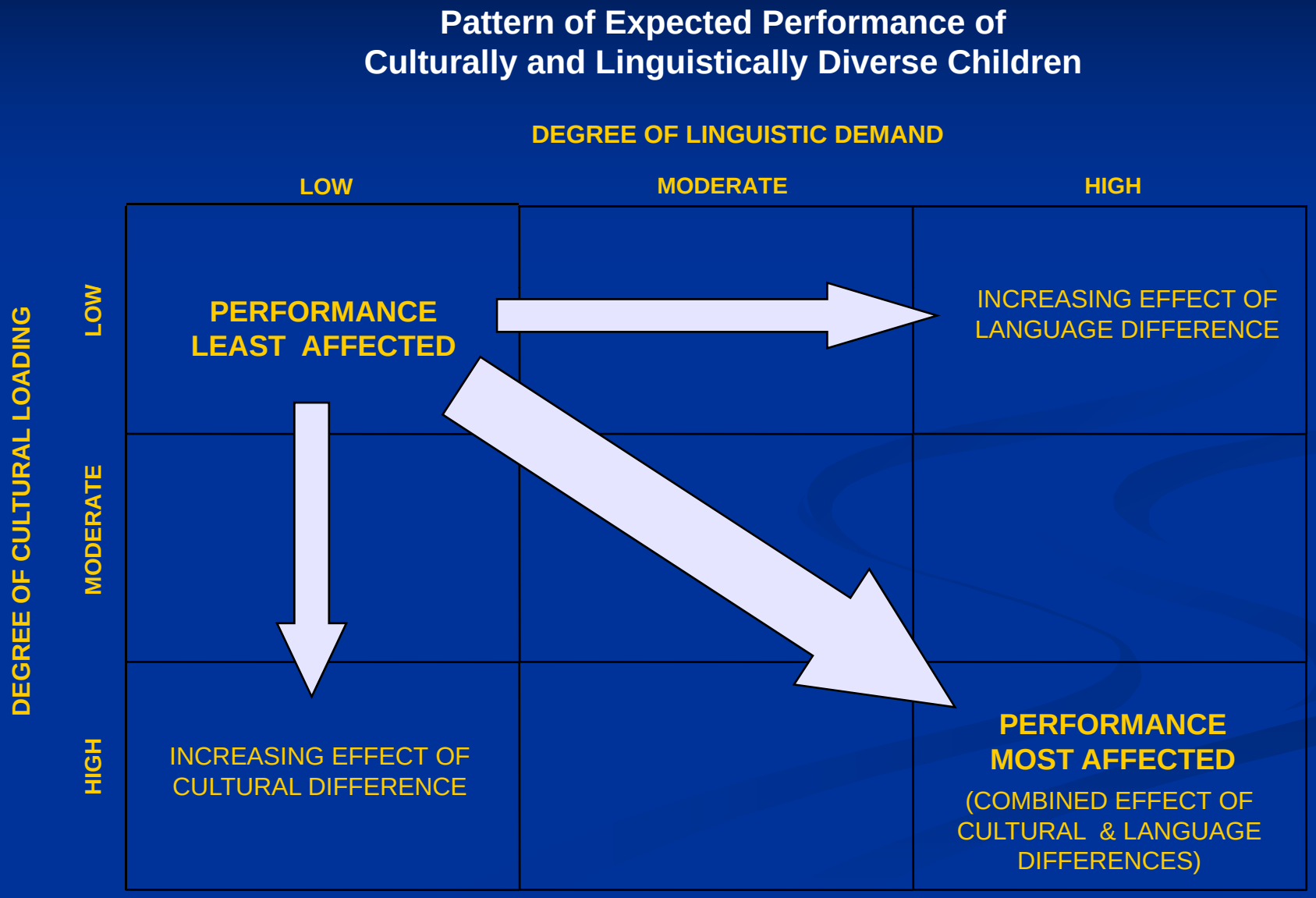
g-value=	0.6	<- read score here

Interpretation

If the total g-value is greater than or equal to 1.0, then the individual can be considered as having an "otherwise normal ability profile" relative to the identified cognitive and academic ability/processing deficits. When the value is close to the cutoff (e.g., .97+), the determining factor should include the normative position of the intact abilities/processes within the context of the entire case history. A g-value that is based on intact abilities/processes that are within the above average or superior ranges likely meets the criterion for an otherwise normal ability profile. Conversely, a g-value based on intact abilities/processes that are within the lower part of the average range likely does not.

The Culture-Language Interpretive Matrix (Automated)

Cultural and Linguistic Classification of Tests Addressing Bias in Test Validity and Interpretation (Flanagan & Ortiz, 2001)



Culture and Language Matrix developed by Flanagan and Ortiz (2001)

DEGREE OF LINGUISTIC DEMAND

DEGREE OF CULTURAL LOADING

	LOW	MODERATE	HIGH
LOW	Matrix Reasoning Cancellation *Hand Movements* *Face Recognition* *Pattern Reasoning* *Triangles* *Atlantis* *Atlantis – Delayed* *Rebus - Delayed*	Block Design Symbol Search Digit Span Coding *Block Counting* *Rover* *Number Recall* *Rebus*	Letter-Number Sequencing
MODERATE		Arithmetic Picture Concepts *Word Order* *Conceptual Thinking*	
HIGH	Picture Completion *Gestalt Closure*		Information Similarities Vocabulary Comprehension Word Reasoning

Purpose of the C-LIM

- To address the question of whether the obtained results reflect cultural or linguistic differences or whether they indicate the presence of some type of disability.

OR

- The "difference vs. disorder" question.

General Guidelines for Expected Patterns of Test Performance for Diverse Individuals (Ortiz, 2005)

DEGREE OF LINGUISTIC DEMAND

DEGREE OF CULTURAL LOADING	Low	Moderate	High
LOW	Slightly Different: 3-5 points Different: 5-7 points Markedly Different: 7-10 points	Slightly Different: 5-7 points Different: 7-10 points Markedly Different: 10-15 points	Slightly Different: 7-10 points Different: 10-15 points Markedly Different: 15-20 points
MOD	Slightly Different: 5-7 points Different: 7-10 points Markedly Different: 10-15 points	Slightly Different: 7-10 points Different: 10-15 points Markedly Different: 15-20 points	Slightly Different: 10-15 points Different: 15-20 points Markedly Different: 20-25 points
HIGh	Slightly Different: 7-10 points Different: 10-15 points Markedly Different: 15-20 points	Slightly Different: 10-15 points Different: 15-20 points Markedly Different: 20-25 points	Slightly Different: 15-20 points Different: 20-30 points Markedly Different: 25-35 points

***Slightly Different**: Includes individuals with high levels of English language proficiency (e.g., advanced BICS/emerging CALP) and high acculturation, but still not entirely comparable to mainstream U.S. English speakers. Examples include individuals who have resided in the U.S. for more than 7 years or who have parents with at least a high school education, and who demonstrate native-like proficiency in English language conversation and solid literacy skills.*

***Different**: Includes individuals with moderate levels of English language proficiency (e.g., intermediate to advanced BICS) and moderate levels of acculturation. Examples include individuals who have resided in the U.S. for 3-7 years and who have learned English well enough to communicate, but whose parents are limited English speakers with only some formal schooling, and improving but below grade level literacy skills.*

***Markedly Different**: Includes individuals with low to very low levels of English language proficiency (e.g., early BICS) and low or very low levels of acculturation. Examples include individuals who recently arrived in the U.S. or who may have been in the U.S. 3 years or less, with little or no prior formal education, who are just beginning to develop conversational abilities and whose literacy skills are also just emerging.*

How do Cognitive Assessment Results Lead to Tailored Interventions?

How Cognitive Results Inform Intervention

- Interpretation of inter- and intra-individual differences and a determination of how these differences affect academic performance is the cornerstone for linking the results of cognitive ability tests to meaningful instructional plans.

How Cognitive Results Inform Intervention

- Learning disabilities are caused by inherent weaknesses in underlying cognitive processes (Robinson et al., 2002). The assessment process can then be viewed as an ability-oriented evaluation designed to help formulate the problem and then determine specific interventions (Fletcher, Taylor, Levin, & Satz, 1995).

Academically Driven Interventions May Be Too Narrow In Scope

- Student with low reading fluency may be offered a reading fluency intervention (e.g., choral repeated reading)
- However. . .low ***processing speed*** may suggest that
  - the individual needs an instructional strategy that is designed to promote reading fluency and rate
  - additional support: extended time on tests, shortened in-class assignments, shortened assignments
  - Impact on *Gsm-WM*

Conclusions

RTI Research

- Research suggests that "an RTI framework can benefit youngsters by addressing academic difficulties in an individualized and timely way" (see Mellard, Byrd, Johns, Tollefson, & Boesche, 2004)
- No good data to date on application of RTI as an identification model
  - most schools are using RTI as a preventative, rather than determinative, model.

RTI Research

- Currently little to no data on how RTI models function in later grades (e.g., middle and high school)
- Most RTI models limited to reading interventions in primary grades
- Much less known about RTI models for other academic domains (e.g., math).

The Dangers of Sole Reliance on RTI for Identification of SLD

- The cause(s) of the limited response to treatment will not be well understood by teachers, parents, and the student.
- Implementation has only been widely explored for early reading
- SLD will be confused with all forms of poor learning and underachievement.
- The category of SLD will be eliminated.
- Individuals with SLD will be misunderstood and denied the accommodations and interventions they need to be successful.

Mather, 2007

If applied in isolation, RTI methods will not increase diagnostic sensitivity and specificity, but will result in a generic “learning problems” category, comprising a considerable portion of the population.

Source:

Hale, J. B., Naglieri, J. A., Kaufman, A. S. & Kavale, K.A. (2004). Specific learning disability classification in the new Individuals with Disabilities Education Act: The danger of good ideas. *The School Psychologist,58*, 6-13.

On the Flanagan et al. and Kavale et al. Operational Definition of LD…

These operational definitions provide an inherently practical method for SLD identification that carries the potential for increased agreement about the validity of SLD classification

Kavale, Holdnack, & Mostert (2005, p. 12)

The Importance of Assessing Cognitive and Academic Skills…

By identifying specific targets for remediation, the possibilities for truly individualized intervention are increased significantly.

Kavale, Holdnack, & Mostert (2005, p. 12)

The Value of Assessing Cognitive Skills…

Even if a student never enters the special education system, the general education teacher, the student's parents, and the student him- or herself would receive valuable information regarding why there was such a struggle in acquiring academic content, to the point of possibly needing special education

Kavale, Holdnack, & Mostert (2005, p. 12)

Can RTI and Cognitive Assessment Live Together?

Evidence of SLD

- Failure to respond provides only indirect evidence.
  - "*We tried all available interventions and nothing worked, so the student must be learning disabled*".
- We have a professional responsibility to support our conclusions with data regarding the presumptive cause of the disability (i.e., underlying cognitive ability/processing deficits) and confirm those conclusions with an individualized evaluation.
- After all…..
  - ***It's the LAW!***

RTI and Cognitive Assessment are Not Mutually Exclusive

- There will undoubtedly be countless arguments on each side, but none will be strong enough to convince people that one approach is clearly better than the other.

- An increasingly widespread view will likely emerge that embraces each approach as different but ***complementary*** in the identification and diagnosis of specific learning disability.