

W-10 PSW & Discrepancy Models – Theory to Practical Application - Intermediate to Advanced Concepts To Consider

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Who is this James Hiramoto?

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Nearly 30 year as a school psychologist, 10 years+ as professor/program director (MA & PsyD) in educational & school psychology, 7 years with the Diagnostic Center, North-CDE. Provided professional development trainings statewide (including 25+ SELPA's and County Offices of Education, 25+ school districts, CASP and CASP Affiliate Associations) nationally and internationally. Content expert for the state's www.askaspecialist.ca.gov website on areas of special education assessment. Serve(d) many roles in CASP including: Region II Rep, Editor of CASP Today and currently and past 5 years as Chair/Specialist of Assessment as well as been a member of many committees. Written and co-authored CASP Position Papers. Resource Papers ad articles for CASP Today. Currently work for Lodi Unified as a school psychologist.

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Who are you?

- School Psychologist
- 1st 5 years, 6-10 years, 11-20 years 20+?

3

Objectives

- Careful look as SLD eligibility and its 3 methods of determination
 - Discrepancy
 - Patterns of Strengths and Weaknesses
 - RTI (we will look at this a little too)
- What is the research saying about these methods
- More clarity about what CHC processing areas are
 - the difference between them and the 8 processing areas in California Code of Regulations 3030(b)(10)...What? They aren't the same?
 - What are we actually measuring in each processing area
 - Developing confidence in our assessment methodology

4

Before Beginning

- Breaks
- Handouts: Copies are available as well as available to download as pdf's.

5

Norms



- Eat, drink and be (quietly) merry
- Keep cell phones turned off
- Mute yourselves, until you have a question and then speak up
- When we do a break comeback on time
- Ask questions for clarification

6

What is the Difference between the discrepancy model and PSW...really what is it?

- How do you DEFINE IT...?
- Explain it so others can understand it...?
- calculate it...?

7

What Does the Law Say?

- There is the Federal Law -CFR
- There is the California Education Code – CA Ed Code
- There is the California Code of Regulations - CCR

8

California Ed. Code 30 EC 56337

“(b) Notwithstanding any other law and pursuant to Section 1414(b) (6) of Title 20 of the United States Code, in determining whether a pupil has a specific learning disability as defined in subdivision (a), a local educational agency is not required to take into consideration whether a pupil has a severe discrepancy between achievement and intellectual ability in oral expression, listening comprehension, written expression, basic reading skill, reading comprehension, mathematical calculation, or mathematical reasoning.”

Sec. 300.307 Specific learning disabilities.

(a) General. A State must adopt, consistent with Sec. 300.309, criteria for determining whether a child has a specific learning disability as defined in Sec. 300.8(c)(10). In addition, the criteria adopted by the State--

(1) Must not require the use of a severe discrepancy between intellectual ability and achievement for determining whether a child has a specific learning disability, as defined in Sec. 300.8(c)(10);

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California Ed. Code 30 EC 56337

(c) In determining whether a pupil has a specific learning disability, a local educational agency may use a process that determines if the pupil responds to scientific, research-based intervention as a part of the assessment procedures described in Section 1414(b)(2) and (3) of Title 20 of the United States Code and covered in Sections 300.307 to 300.311, inclusive, of Title 34 of the Code of Federal Regulations.”

Sec. 300.307 Specific learning disabilities.

(2) Must permit the use of a process based on the child's response to scientific, research-based intervention; and

(3) May permit the use of other alternative research-based procedures for determining whether a child has a specific learning disability, as defined in Sec. 300.8(c)(10).

(b) Consistency with State criteria. A public agency must use the State criteria adopted pursuant to paragraph (a) of this section in determining whether a child has a specific learning disability.

(Authority: 20 U.S.C. 1221e-3; 1401(30); 1414(b)(6))

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Wait a minute...
Where did the discrepancy model go?

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CCR 3030 (b) (10)

(10) Specific learning disability means **a disorder in one or more of the basic psychological processes involved** in understanding or in using language, spoken or written, that may have manifested itself in the imperfect ability to listen, think, speak, read, write, spell, or do mathematical calculations, including conditions such as perceptual disabilities, brain injury, minimal brain dysfunction, dyslexia, and developmental aphasia.

CFR Sec 300.8

(10) Specific learning disability.
(i) General. Specific learning disability means **a disorder in one or more of the basic psychological processes involved** in understanding or in using language, spoken or written, that may manifest itself in the imperfect ability to listen, think, speak, read, write, spell, or to do mathematical calculations, including conditions such as perceptual disabilities, brain injury, minimal brain dysfunction, dyslexia, and developmental aphasia.”

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CCR 3030 (b) (10) continued

(10) **The basic psychological processes include attention, visual processing, auditory processing, phonological processing, sensory-motor skills, cognitive abilities including association, conceptualization and expression.**

CFR Sec 300.8

Does not exist in the CFR...

13

CCR 3030 (b) (10)

(A) Specific learning disabilities do not include learning problems that are primarily the result of visual, hearing, or motor disabilities, of intellectual disability, of emotional disturbance, or of environmental, cultural, or economic disadvantage.

CFR Sec 300.8

(ii) Disorders not included. Specific learning disability does not include learning problems that are primarily the result of visual, hearing, or motor disabilities, of mental retardation, of emotional disturbance, or of environmental, cultural, or economic disadvantage”

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CCR 3030 (b) (10)

(B) In determining whether a pupil has a specific learning disability, **the public agency may consider whether a pupil has a severe discrepancy between intellectual ability and achievement in oral expression, listening comprehension, written expression, basic reading skill, reading comprehension, mathematical calculation, or mathematical reasoning. discrepancy**, the IEP team shall use the following procedures:

CFR Sec 300.309

Does not exist in the CFR...

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CCR 3030 (b) (10)

(B) ...The decision as to whether or not a severe discrepancy exists shall take into account all relevant material which is available on the pupil. No single score or product of scores, test or procedure shall be used as the sole criterion for the decisions of the IEP team as to the pupil's eligibility for special education. In determining the existence of a severe discrepancy, the IEP team shall use the following procedures:

CFR Sec 300.309

Does not Exist in the CFR...

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CCR 3030 (b) (10)

1. When standardized tests are considered to be valid for a specific pupil, a severe discrepancy is demonstrated by: first, converting into common standard scores, using a mean of 100 and standard deviation of 15, the achievement test score and the intellectual ability test score to be compared; second, computing the difference between these common standard scores; and third, comparing this computed difference to the standard criterion which is the product of 1.5 multiplied by the standard deviation of the distribution of computed differences of students taking these achievement and ability tests.

CFR Sec 300.309

Does not exist in the CFR...

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CCR 3030 (b) (10)

A computed difference which equals or exceeds this standard criterion, adjusted by one standard error of measurement, the adjustment not to exceed 4 common standard score points, indicates a severe discrepancy when such discrepancy is corroborated by other assessment data which may include other tests, scales, instruments, observations and work samples, as appropriate.

2. When standardized tests are considered to be invalid for a specific pupil, the discrepancy shall be measured by alternative means as specified on the assessment plan.

CFR Sec 300.309

Does not exist in the CFR...

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Let's talk about this...what does it mean...

A computed difference which equals or exceeds this standard criterion, adjusted by one standard error of measurement, the adjustment not to exceed 4 common standard score points, indicates a severe discrepancy when such discrepancy is corroborated by other assessment data which may include other tests, scales, instruments, observations and work samples, as appropriate.

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Back in the day we had the...
Regression Equation

$$Y = r_{xy} \frac{S_y}{S_x} (IQ - \bar{X}) + \bar{Y}$$

where Y = the expected achievement for a given IQ
 r_{xy} = the IQ-achievement correlation
 S_y = the standard deviation of the achievement scores
 \bar{X} = the mean IQ
 S_x = the standard deviation of the IQ scores
 \bar{Y} = the overall mean achievement

<https://dpi.wi.gov/sites/default/files/imce/sped/xls/ld-regr-100.xls>

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CCR 3030 (b) (10)

3. If the standardized tests do not reveal a severe discrepancy as defined in subdivisions 1. or 2. above, the IEP team may find that a severe discrepancy does exist, provided that the team documents in a written report that the severe discrepancy between ability and achievement exists as a result of a disorder in one or more of the basic psychological processes. The report shall include a statement of the area, the degree, and the basis and method used in determining the discrepancy. The report shall contain information considered by the team which shall include, but not be limited to:

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CFR Sec 300.309

Does not exist in the CFR...

CCR 3030 (b) (10)

- (i) Data obtained from standardized assessment instruments;
 - (ii) Information provided by the parent;
 - (iii) Information provided by the pupil's present teacher;
 - (iv) Evidence of the pupil's performance in the regular and/or special education classroom obtained from observations, work samples, and group test scores;
 - (v) Consideration of the pupil's age, particularly for young children; and
 - (vi) Any additional relevant information.
4. A severe discrepancy shall not be primarily the result of limited school experience or poor school attendance.

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CFR Sec 300.309

Does not exist in the CFR

CCR 3030 (b) (10)

(C) Whether or not a pupil exhibits a severe discrepancy as described in subdivision (b)(10)(B) above, a pupil may be determined to have a specific learning disability if:

1. The pupil does not achieve adequately for the pupil's age or to meet State-approved grade-level standards in one or more of the following areas, when provided with learning experiences and instruction appropriate for the pupil's age or State-approved grade-level standards:

CFR Sec 300.309

“(a) The group described in § 300.306 may determine that a child has a specific learning disability, as defined in § 300.8(c) (10), if

- (1) The child does not achieve adequately for the child's age or to meet State-approved grade-level standards in one or more of the following areas, when provided with learning experiences and instruction appropriate for the child's age or State-approved grade-level standards:”

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CCR 3030 (b) (10)

- (i) Oral expression.
- (ii) Listening comprehension.
- (iii) Written expression.
- (iv) Basic reading skill.
- (v) **Reading fluency skills.**
- (vi) Reading comprehension.
- (vii) Mathematics calculation.
- (viii) Mathematics problem solving, and

CFR Sec 300.309

- “(i) Oral expression.
- (ii) Listening comprehension.
- (iii) Written expression.
- (iv) Basic reading skill.
- (v) **Reading fluency skills.**
- (vi) Reading comprehension.
- (vii) Mathematics calculation.
- (viii) Mathematics problem solving.

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CCR 3030 (b) (10)

2.

(i) The pupil does not make sufficient progress to meet age or State-approved grade-level standards in one or more of the areas identified in subdivision (b)(10)(C)(1) of this section when using a process based on the pupil's response to scientific, research-based intervention; or

CFR Sec 300.309

(2)

(i) The child does not make sufficient progress to meet age or State-approved grade-level standards in one or more of the areas identified in paragraph (a)(1) of this section when using a process based on the child's response to scientific, research-based intervention; or

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CCR 3030 (b) (10)

(ii) The pupil exhibits a pattern of strengths and weaknesses in performance, achievement, or both, relative to age, State-approved grade-level standards, or intellectual development, that is determined by the group to be relevant to the identification of a specific learning disability, using appropriate assessments, consistent with 34 C.F.R. sections 300.304 and 300.305; and

CFR Sec 300.309

(ii) The child exhibits a pattern of strengths and weaknesses in performance, achievement, or both, relative to age, State-approved grade level standards, or intellectual development, that is determined by the group to be relevant to the identification of a specific learning disability, using appropriate assessments, consistent with Sec. Sec. 300.304 and 300.305; and

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CCR 3030 (b) (10)

3. The findings under subdivisions (b)(10)(C)(1) and (2) of this section are not primarily the result of:

- (i) A visual, hearing, or motor disability;
- (ii) Intellectual disability;
- (iii) Emotional disturbance;
- (iv) Cultural factors;
- (v) Environmental or economic disadvantage; or
- (vi) Limited English proficiency.

CFR Sec 300.309

(3) The group determines that its findings under paragraphs (a)(1) and (2) of this section are not primarily the result of—

- (i) A visual, hearing, or motor disability;
- (ii) Mental retardation;
- (iii) Emotional disturbance;
- (iv) Cultural factors;
- (v) Environmental or economic disadvantage; or
- (vi) Limited English proficiency.

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CCR 3030 (b) (10)

4. To ensure that underachievement in a pupil suspected of having a specific learning disability is not due to lack of appropriate instruction in reading or math, the group making the decision must consider:

- (i) Data that demonstrate that prior to, or as a part of, the referral process, the pupil was provided appropriate instruction in regular education settings, delivered by qualified personnel; and

CFR Sec 300.309

“(b) To ensure that underachievement in a child suspected of having a specific learning disability is not due to lack of appropriate instruction in reading or math, the group must consider, as part of the evaluation described in § § 300.304 through 300.306

- (1) Data that demonstrate that prior to, or as a part of, the referral process, the child was provided appropriate instruction in regular education settings, delivered by qualified personnel; and

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CCR 3030 (b) (10)

(ii) Data-based documentation of repeated assessments of achievement at reasonable intervals, reflecting formal assessment of student progress during instruction, which was provided to the pupil's parents.

CFR Sec 300.309

(2) Data-based documentation of repeated assessments of achievement at reasonable intervals, reflecting formal assessment of student progress during instruction, which was provided to the child's parents.

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CCR 3030 (b) (10)

5. In determining whether a pupil has a specific learning disability, the public agency must ensure that the pupil is observed in the pupil's learning environment in accordance with 34 C.F.R. section 300.310. In the case of a child of less than school age or out of school, a qualified professional must observe the child in an environment appropriate for a child of that age. The eligibility determination must be documented in accordance with 34 C.F.R. section 300.311.

CFR Sec 300.310

- (a) The public agency must ensure that the child is observed in the child's learning environment (including the regular classroom setting) to document the child's academic performance and behavior in the areas of difficulty.
- (b) The group described in §300.306(a)(1), in determining whether a child has a specific learning disability, must decide to—
- (1) Use information from an observation in routine classroom instruction and monitoring of the child's performance that was done before the child was referred for an evaluation; or

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CCR 3030 (b) (10)

5. In determining whether a pupil has a specific learning disability, the public agency must ensure that the pupil is observed in the pupil's learning environment in accordance with 34 C.F.R. section 300.310. In the case of a child of less than school age or out of school, a qualified professional must observe the child in an environment appropriate for a child of that age. The eligibility determination must be documented in accordance with 34 C.F.R. section 300.311.

CFR Sec 300.310

- [\(2\)](#) Have at least one member of the group described in [§300.306\(a\)\(1\)](#) conduct an observation of the child's academic performance in the regular classroom after the child has been referred for an evaluation and parental consent, consistent with [§300.300\(a\)](#), is obtained.
- [\(c\)](#) In the case of a child of less than school age or out of school, a group member must observe the child in an environment appropriate for a child of that age.

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Now we know the Law and where it comes from

Who Is comfortable with it as written? Is there enough clarity there?

So...Who has a problem with the discrepancy model...

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MICHAEL v. DEPT. OF EDUCATION

MICHAEL P.; Elizabeth G., as Guardian
Ad Litem of Courtney G., an incompetent
minor; Courtney G., an incompetent
minor, Plaintiffs-Appellants,

v.

DEPARTMENT OF EDUCATION, State
of Hawaii, Defendant-Appellee.

656 F.3d 1057 (9th Cir. 2011)

Argued June 18, 2010
Decided September 8, 2011

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Over the last decade, scientific research has established that the "severe discrepancy model" is not necessarily a good indicator of whether a child has a learning disability. See Weber, *supra* at 123-27; H.R. Rep. No. 108-77 at 112 (2003). The "severe discrepancy model" is based on the premise that underperforming students with relatively high IQs must have a learning disability, whereas underperforming students with low IQs are just "slow." See Suzanne Wilhelm, *Accommodating Mental Disabilities in Higher Education: A Practical Guide to ADA Requirements*, *10611061 32 J.L. Educ. 217 (2003). This premise is subject to dispute because intelligence testing is not the best indicator of academic potential. See Susan E. McGuigan, *Documenting Learning Disabilities: Law Schools' Responsibility to Set Clear Guidelines*, 36 J.C. U.L. 191, 196. As a result, reliance on the "severe discrepancy model" tends to under-identify children with below average intelligence. *Id.* Moreover, education experts have criticized the model as unreliable, invalid, easily undermined, and harmful because it delays early treatment. See Weber, *supra* at 124.

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To address these growing concerns, Congress eliminated the "severe discrepancy" requirement when it reauthorized IDEA in 2004. See 20 U.S.C. § 1414(b)(6)(A) ("[W]hen determining whether a child has a specific learning disability . . . , a local educational agency shall not be required to take into consideration whether a child has a severe discrepancy between achievement and intellectual ability in oral expression, listening comprehension, written expression, basic reading skill, reading comprehension, mathematical calculation, or mathematical reasoning."); see also H.R. Rep. No. 108-77 at 112 (2003) (indicating that Congress is "discouraged by the widespread reliance on the IQ-achievement discrepancy model that serves as the determining factor of whether a child has a specific learning disability").

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Although the amended statute does not require school districts to use an alternative model to determine whether a student has a "specific learning disability," it expressly permits use of the "response to intervention model." See 20 U.S.C. § 1414(b)(6)(B) ("In determining whether a child has a specific learning disability, a local educational agency may use a process that determines if the child responds to scientific, research-based intervention . . ."). Moreover, legislative history endorses this model. See H.R. Rep. No. 1-08-77, at 107 ("The Committee is greatly encouraged by the growing use of alternative measures that are being used in place of the IQ-achievement discrepancy model [including the 'response to intervention model']").

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The premise underlying the "response to intervention model" is that "a majority of students can learn if effective instruction is provided." Nicholas L. Townsend, *Framing a Ceiling as a Floor: The Changing Definition of Learning Disabilities and the Conflicting Trends in Legislation Affecting Learning Disabled Students*, 40 Creighton L. Rev. 229, 259 (2007). A student who does not progress adequately after exposure to increasingly intensive and individualized instruction is deemed eligible for special education. See *id*; see also Weber, *supra* 128. "Thus, the definition of disability and the identification of learning disabled students become linked to instruction." Townsend, *supra* at 259. Many experts favor the "response to intervention model" because it identifies students with a "specific learning disability" before academic failure occurs, whereas the "severe discrepancy model" takes a "wait to fail" approach. See Weber, *supra* at 131-33; H.R. Rep. No. 108-77, at 112 (2003).

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FOR PUBLICATION

**UNITED STATES COURT OF APPEALS
FOR THE NINTH CIRCUIT**

M.M.; E.M., individually and on
behalf of their minor son C.M.,
Plaintiffs-Appellants,

v.

LAFAYETTE SCHOOL DISTRICT, a
local educational agency;
LAFAYETTE BOARD OF EDUCATION,
Defendants-Appellees.

No. 12-15769

D.C. No.
3:10-cv-04223-SI

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of whether a child has a learning disability,” Congress eliminated the “severe discrepancy” requirement and expressly permitted use of the “response to intervention model,” allowing for either model to be used. *Michael P. v. Dept. of Educ.*, 656 F.3d 1057, 1060–61 (9th Cir. 2011). See also 20 U.S.C. § 1414(b)(6) (“when determining whether a child has a specific learning disability . . . a local educational agency shall not be required to take into consideration whether a child has a severe discrepancy . . . [and] may use a process that determines if the child responds to scientific, research-based intervention as a part of the evaluation procedures”). We held in *Michael P.* that the Hawaii Department of Education violated the IDEA by using only the severe discrepancy model without permitting use of the response to intervention model. 656 F.3d at 1067.

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What does the Research Say

Kranzler, J.H., Maki, K.E., Benson, N.F. *Et Al.* How Do School Psychologists Interpret Intelligence Tests For The Identification Of Specific Learning Disabilities?. *Contemporary School Psychology* (2020).
<https://doi.org/10.1007/s40688-020-00274-0>

Maki, K. E. & Adams, S. R. (2019). Specific Learning Disabilities Identification: Do The Identification Methods And Data Matter? *Learning Disability Quarterly*, 43(2), 63-74.

Fletcher, J. M. & Miciak, J. & (2017). Comprehensive Cognitive Assessments are not Necessary for the Identification and Treatment of Learning Disabilities. *Archives of Clinical Neuropsychology*, 32(1):2-7.

Miciak, J., Williams, J. L., Taylor, W. P., Cirino, P. T., Fletcher, J. M., & Vaughn, S. (2016). Do Processing Patterns Of Strengths And Weaknesses Predict Differential Treatment Response? *Journal Of Educational Psychology*, 108(6), 898–909.

Miller, D. C.; Maricle, D. E.; Jones, A. M. (2016). Comparing Three Patterns Of Strengths And Weaknesses Models For The Identification Of Specific Learning Disabilities, *Learning Disabilities: A Multidisciplinary Journal*, 21(2) 31-45.

Balu, R., Zhu, P., Doolittle, F., Schiller, E., Jenkins, J., & Gerseten, R. (2015) Evaluation of Response to Intervention Practices for Elementary School Reading. *Institute of Education Sciences, National Center for Education Evaluation and Regional Assistance, U.S. Department of Education.*

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And before all you RTI folks start cheering

Balu, R., Zhu, P., Doolittle, F., Schiller, E., Jenkins, J., & Gersten, R. (2015). Evaluation of Response to Intervention Practices for Elementary School Reading. U.S. Dept of Education, November. Institute of Education Sciences, National Center for Education Evaluation and Regional Assistance.

“To summarize, results [...] show that early-grade elementary students *at the margin* of being considered at risk by current screening measures failed to benefit from Tier 2 or Tier 3 intervention services provided to them. In first grade, these students actually fell further behind their counterparts who, because they scored just above the cut point on the screening variable for intervention, were placed to receive only Tier 1 services.”

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How well does an overall measure of intelligence/cognitive ability predict achievement?

- Let's all revisit grad school where we had to take a stats class or TWO...
- Let's talk about Correlations and variance...

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Predictive Validity Weakening?

- When I was in grad school in the early 90's, we read papers citing studies where intelligence tests were correlated with achievement at about $r = .70$. Squaring r we found that about 49% of the variance in achievement tests is accounted for by one's performance on an intelligence test.
- APA's 1996 report stated that g correlated with school grades where $r = .50$, and with income $r = .41$.

Ulrich Neisser, et al. "Intelligence: Knowns and Unknowns," *American Psychologist* 51(2) 1996:77-101.

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Correlations with Achievement

- Correlations between ability & achievement tests show the strength of measuring basic psychological processes

Note: All correlations are reported in the ability tests' manuals. Values per scale were averaged within each ability test using Fisher z transformations.

Correlations Between Ability and Achievement			Average Correlation		
			All Scales	Scales without achievement	% Variance
WISC-V WIAT-III N = 201	Verbal Comprehension	.74	.53	.47	.22
	Visual Spatial	.46			
	Fluid Reasoning	.40			
	Working Memory	.63			
	Processing Speed	.34			
WJ-IV COG WJ-IV ACH N = 825	Comprehension Knowledge	.50	.54	.50	.25
	Fluid Reasoning	.71			
	Auditory Processing	.52			
	Short Term Working Memory	.55			
	Cognitive Processing Speed	.55			
	Long-Term Retrieval	.43			
KABC WJ-III ACH N = 167	Sequential/Gsm	.43	.53	.48	.23
	Simultaneous/Gv	.41			
	Learning/Glr	.50			
	Planning/Gf	.59			
CAS WJ-III ACH N=1,600	Knowledge/GC	.70	.59	.35	
	Planning	.57			
	Simultaneous	.67			
	Attention	.50			
	Successive	.60			

Note: WJ-IV Scales Comp-Know= Vocabulary and General Information; Fluid Reasoning = Number Series and Concept Formation; Auditory Processing = Phonological processing.

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Correlation of .7 dropping to .5 What's the big deal?

Well it means instead of your overall score predicting nearly 50% of the reason why your student is doing poorly academically...your test only tells you 25-35% of the reason why your student is doing poorly.

Said a different way, "If these instruments only account for 25-35% of the variance in achievement (and the only part that would qualify a student for special education) then 65-75% of the reason a student succeeds or fails has nothing to do with intelligence/cognitive ability and that a district's general education programs need to address it.

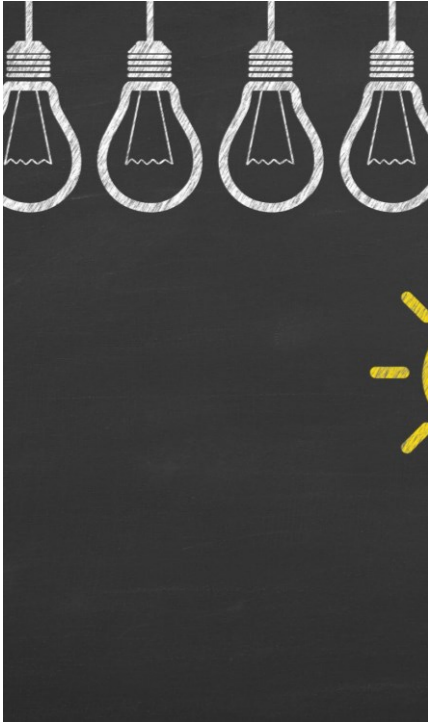
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Why is this happening...

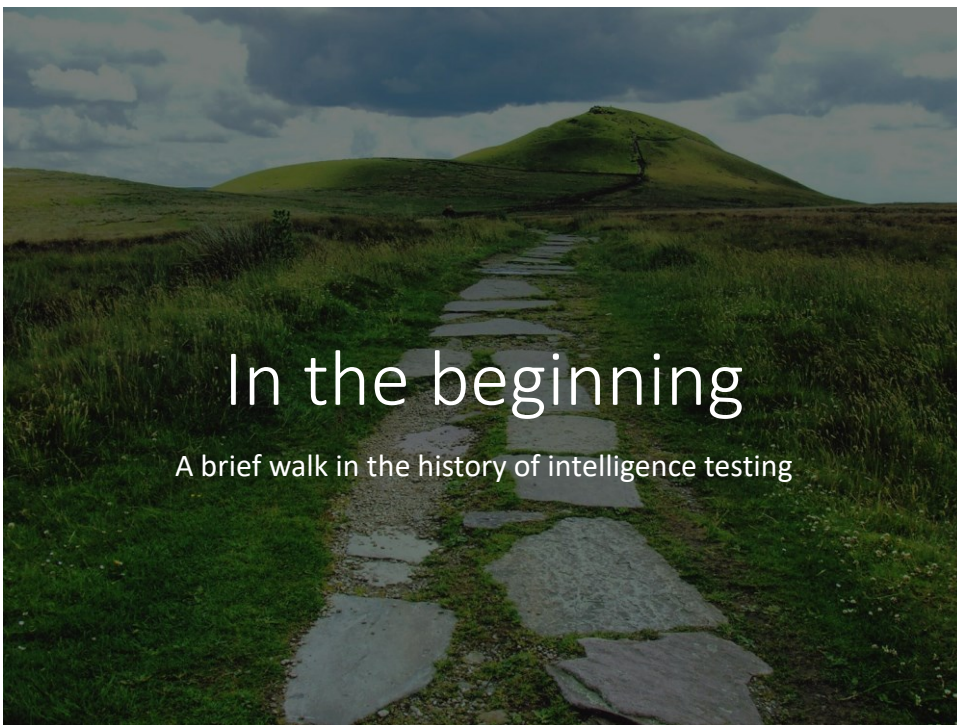
- It has something to do with achievement tests
 - I'll touch on this now
- It has something to do with the intelligence tests
 - I'll touch on this later

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A Closer look at current tests of intelligence/ Cognitive Abilities

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In the beginning

A brief walk in the history of intelligence testing

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7 Broad CHC ability domains.

Seven CHC ability domains were generally accepted as the hallmark feature of CHC theory. Depending on the test maker there are, typically five to seven of these domains represented in contemporary intelligence batteries.

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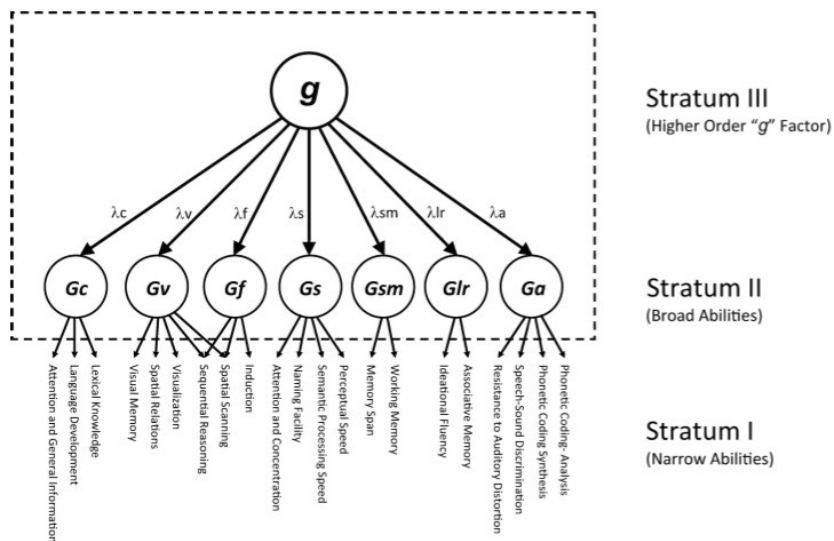
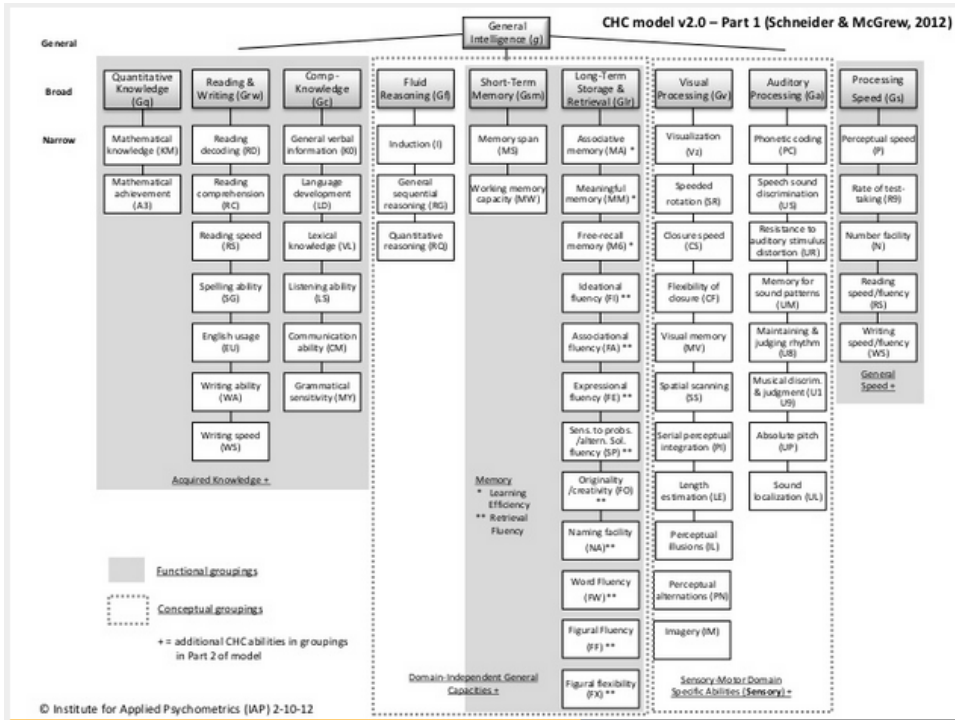


Figure 4. A graphical depiction of the theoretical structure on which the Woodcock-Johnson Tests of Cognitive Abilities III was based. This Horn-Cattell-Carroll model assumes that cognitive abilities are organized in a hierarchy containing three strata, with variables in contiguous strata related to one another by way of linear factor loadings. The current investigation focuses on (potentially nonlinear) relations between the variables thought to represent abilities at Stratum II and a higher order *g* factor at Stratum III. *Gc* = comprehension knowledge; *Gv* = visual-spatial thinking; *Gf* = fluid reasoning; *Gs* = processing speed; *Gsm* = short-term memory; *Glr* = long-term retrieval; *Ga* = auditory processing.

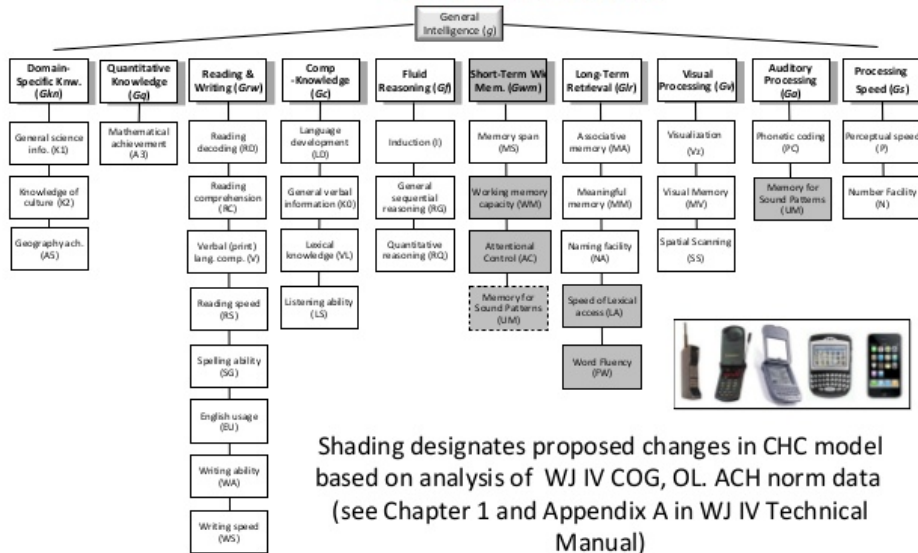
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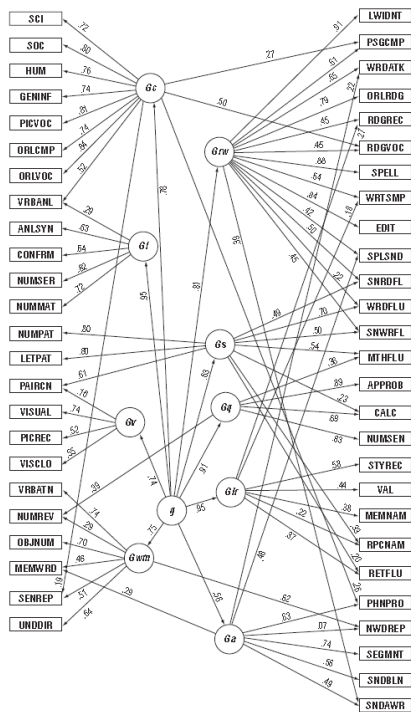


Contemporary CHC broad and narrow ability content coverage by WJ-IV Cognitive, Oral Language, and Achievement batteries



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Figure 5-13.
Final cross-validated CHC broad 9-factor model (top-down, Model 2) of ages 9 through 13 model-development sample A (n = 785).



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Table 5-16.
Median Broad CHC Factor Loadings (Model 2) for Primary WJIV COG Clusters (Organized per Modified WJIV COG Selective Testing Table)

	Battery & Test Number	Test Name	Cognitive Composite Clusters ^a				CHC Factors & Clusters ^b						Other CHC Factors		
			General Intellectual Ability (Gc)	Brief Intellectual Ability (Gnw)	Gf-Gc Composite	Comprehension-Knowledge (Gs)	Fluid Reasoning (Gf)	Short-Term Working Memory (Gsm)	Cognitive Processing Speed (Gs)	Auditory Processing (Gv)	Long-Term Retrieval (Gq)	Visual Processing (Gv)		Quantitative Knowledge (Gq)	
Cognitive Standard Battery	COG 1	Oral Vocabulary	0.72	0.72	0.72	0.87									
	COG 2	Number Series	0.62	0.62	0.62		0.79								
	COG 3	Verbal Attention	0.64	0.64											
	COG 4	Letter-Pattern Matching	0.57				0.77								
	COG 5	Phonological Processing	0.71			0.27		0.74							
	COG 6	Story Recall	0.58						0.62						
	COG 7	Visualization	0.61							0.57					
	COG 8	General Information			0.59	0.78								0.74	
	COG 9	Concept Formation			0.66		0.69								
	COG 10	Numbers Reversed					0.48								0.25
Cognitive Extended Battery	COG 11	Number-Pattern Matching													
	COG 12	Nonword Repetition													
	COG 13	Visual-Auditory Learning					0.59		0.18						
	COG 14	Picture Recognition								0.51					
	COG 15	Analysis-Synthesis					0.63							0.49	
	COG 16	Object-Number Sequencing					0.75								
	COG 17	Pair Cancellation							0.50						0.22
	COG 18	Memory for Words													
Other Tests	OL 1	Picture Vocabulary				0.82									
	OL 5	Sentence Repetition													

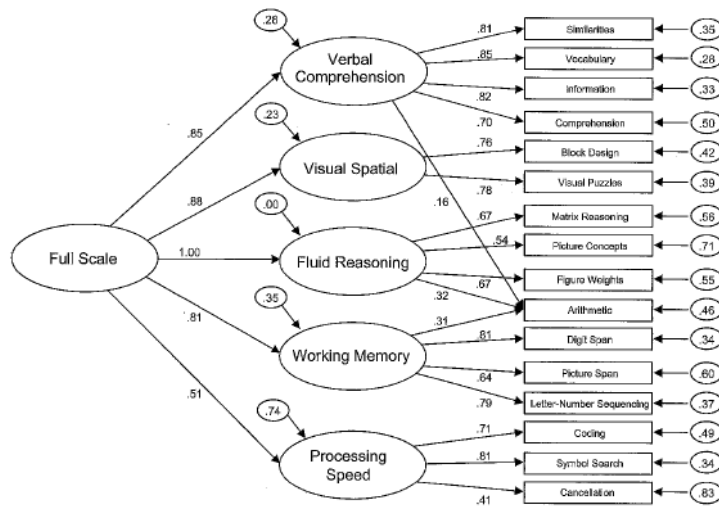
Note: Gray shading denotes loadings on other CHC factors not listed in CHC Factors and Clusters section. Bold font = tests required to create the primary cluster listed. Italic font = tests required to create the extended cluster listed. Regular font = loading on other non-target CHC factors.

^a Indicates median *g* loadings from Table 5-6.

^b Indicates median CHC factor loadings from Table 5-15.

54

WISC-V Factor Structure

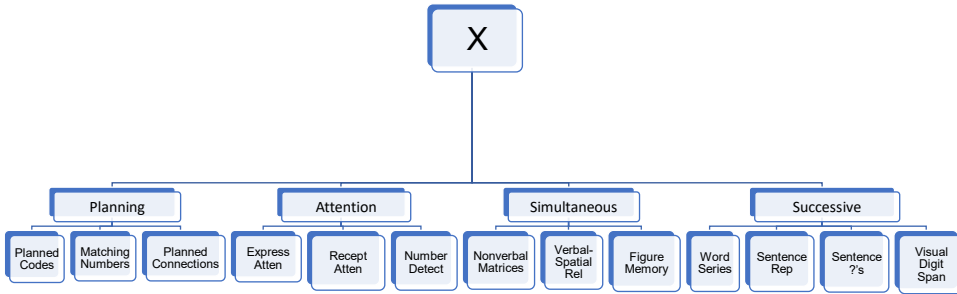


55

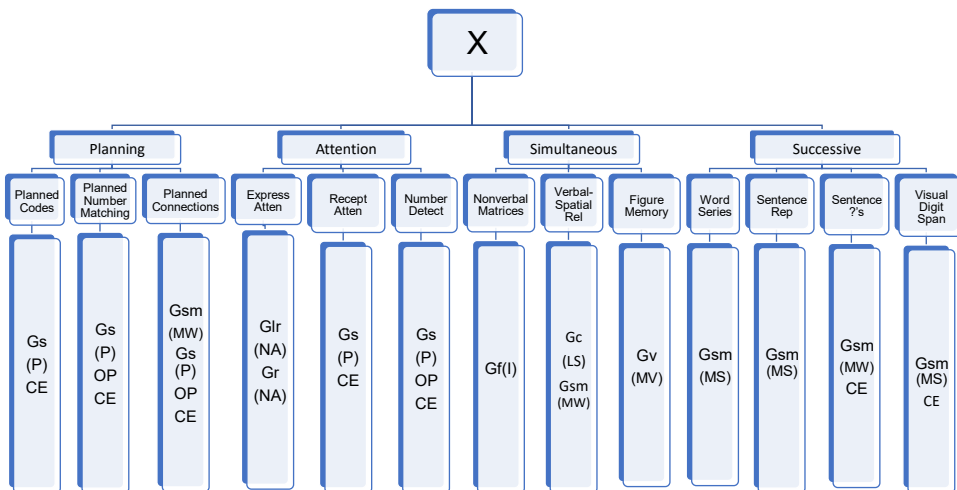
Competing Theory

Neuropsychological PASS Theory CAS 2

56



57



CE = Cognitive Efficiency
 Gsm = Short Tem Memory
 Gc = Crystallized Intelligence
 Gf = Fluid Reasoning
 Glr = Long Term Retrieval

Gv = Visual-Spatial Processing
 Gs = Processing Speed
 Gr = Retrieval Fluency
 Op = Orthographic Processing

58

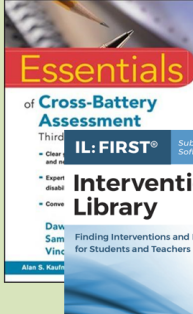
File Home Insert Page Layout Formulas Data Review View Automate Help

G160

Cross-Battery Assessment Software System (X-BASS® v2.4)

Release: 2.4

Conceptualization by D.P. Flanagan, S.O. Ortiz, V.C. Alfonso; Programming by S.O. Ortiz and A.M. Dynida
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Essentials
of **Cross-Battery Assessment**
Third Edition
Dawn P. Flanagan, Samuel O. Ortiz, Vincent C. Alfonso

IL: FIRST®
Subscription-based Software

Intervention Library
Finding Interventions and Resources for Students and Teachers

Alan S. Kaufman

Essentials of Cross-Battery Assessment, 3rd Edition remains the reference document necessary for understanding Cross-Battery Assessment (XBA) and the principles upon which the X-BASS is based.

NEW: We are proud to announce the release of an independent, companion program to X-BASS called "Intervention Library: Finding Interventions and Resources for Students and Teachers (IL:FIRST v1.0)." IL:FIRST is a stand alone program designed to assist practitioners in being able to find, evaluate, and explore a variety of interventions that can be tailored to specific cognitive and academic strengths and weaknesses commonly found in students with learning difficulties as may

New Users:
If you are new to XBA or X-BASS, click the "Start Here" button and follow the prompts for step-by-step guidance. This option is strongly recommended for first time and inexperienced users of X-BASS. New users should also read and review the User Guide for basic info.

Start Here
Guide
Help

Experienced Users:
Experienced users can just set the User Mode and navigate directly to one of the main tabs from here.

User Mode

Beginner

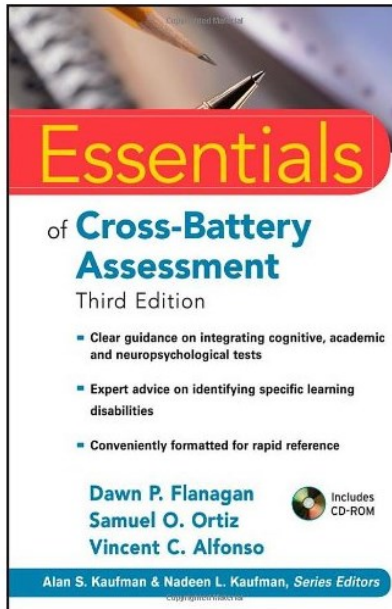
Intermediate

Advanced

Start
Index

PSW-Quick Analysis:

59



60

Perhaps one of the most important aspects of the XBA Analyzer is that it provides the capability of evaluating the formation of composites from scores across cognitive and academic batteries in an integrated manner. To fully permit this type of evaluation, users need to understand the transfer process involving the scores and subtest names. First, the program will transfer cognitive subtest scores and names from cognitive batteries and place them in any available space, beginning with the top row, in the correct CHC broad domain. Because of the four subtest limit, if more than four subtests from the same domain are selected for transfer to the XBA Analyzer, only the first four in order will be transferred. Similarly, the program will transfer academic subtest scores and names from academic batteries and place them in any available space, beginning with the top row, in the correct SLD domain. Subtests on achievement batteries that have cognitive classifications without any corresponding SLD classification, will only transfer to their respective cognitive domain. The transfer process of subtests to the XBA Analyzer is on a space-available basis and will not overwrite existing data. To make room for new or additional scores, make sure there are spaces available for the new data by clearing any unwanted or unused data first.

63

Composites generated from the data entered on (or transferred to) the various sections of the XBA Analyzer are based on a formula that uses a median reliability and median inter-correlation representative of any combination of narrow ability tests (up to four) within the specific broad ability domain (e.g., Gc, Gf, Gv, Glr). These median reliabilities and inter-correlations were calculated based on about 2000 coefficients culled from cognitive, academic, and neuropsychological test manuals and include both within-battery and cross-battery data. For example, the median reliability coefficient used in the formula to calculate a Gc composite is .88, which was based on 58 reliability coefficients (from multiple technical manuals) that ranged from .70 to .95 across measures of six different Gc narrow abilities. The median inter-correlation used in the formula to calculate a Gc composite is .56 (range = .16 to .80), which was based on 108 coefficients (from multiple technical manuals), representing eight Gc narrow ability pairs (e.g., Vocabulary test with General Information test; Vocabulary test with Listening Ability test, and so forth). Thus, the composites generated by the XBA Analyzer are not arithmetic averages.

64



Ventura County SELPA PSW Model Procedural Manual (rev. 9/2018)

- Intended to summarize the known relationships between cognitive processing areas and academic achievement areas
- Based on a review of existing literature
- Identifies the most likely psychological processes involved in each area of academic achievement
- <http://www.vcselpa.org/Resources-for-Teachers-and-Staff/Pattern-of-Strengths-and-Weaknesses-PSW/PSW-Resources/Pattern-of-Strengths-and-Weaknesses-PSW-Manual>

65

The COMPARES Key

COMPARES Key of Rating Symbols for Research Associating Processing & Achievement Areas	Description of Relationship
4	<p>Strong convincing evidence. Research shows a strong to very strong relationship, and is consistent. Meta-analyses may confirm the correlation between this processing area and achievement area.</p>
3	<p>Convincing evidence. One or more research studies or meta-analyses show a strong relationship, but findings may be inconsistent or contradictory. A recognized expert in the field may state in an article or a textbook that there is a significant or relevant relationship, yet current research may not focus on the explicit connection. An fMRI study may show activation of a brain area known to be associated with a particular cognitive process while engaged in a related academic task.</p>
2	<p>Partially convincing evidence. Some research shows a moderate or relevant relationship, but findings may be inconsistent, contradictory, or preliminary.</p>
1	<p>Unconvincing evidence. Research shows a weak relationship, and/or is anecdotal rather than quantitative, and/or lacks peer review, and/or has few or no bibliographic citations.</p>
∅	<p>No research found that shows even a weak correlation as of the publication date of this document. If a study was found that shows "no relation," this study is cited in the annotated version of the COMPARES.</p>

66

66

Overview of the COMPARES

Directions for use: The overview of the COMPARES document allows assessment teams a quick glance at the strength of the research link between the processing area and academic achievement area. Assessment teams need to examine the specific page number(s) (which are located directly to the right of the rating symbol) for the areas of question and take into consideration the other information provided within the COMPARES.

Processing Area	Processing Sub-Area	Basic Reading Skills (Decoding)	Reading Fluency	Reading Comprehension	Written Expression	Math Calculation	Math Problem-Solving	Listening Comprehension	Oral Expression
Auditory Processing	Phonological Processing	1 B11	3 B11	3 1 B11	2 B11	2 B18	2 B18	3 B23	3 B23
	Auditory Memory	1 B11	3 B11	1 B11	1 B11	1 B18	1 B18	1 B23	1 B23
	Auditory Processing Speed	* B11	* B11	* B11	* B11	* B18	* B18	3 B23	3 B23
	Auditory Processing	2 3 B12	* B12	3 B12	3 B12	0 B18	0 B18	3 B23	3 B23
Visual-Spatial Processing	Visual-Spatial Processing	2 B13	2 B13	2 3 B13	1 B13	2 3 B19	1 B19	1 2 B24	0 B24
	Orthographic Processing	1 B13	1 B13	2 B13	2 B13	2 B19	0 B19	0 B24	0 B24
	Visual Memory	2 B13	2 B13	1 B13	3 4 B13	1 B19	1 B19	0 B24	0 B24
	Visual Processing Speed	1 B13	1 B13	* B13	* B13	* B19	* B19	0 B24	0 B24
Cognitive Abilities	Association/Memory	1 B14	1 B14	1 B14	1 B14	1 B20	1 B20	3 1 B25	1 B25
	Rapid Naming Skills	1 B14	1 B14	2 B14	2 B14	3 B20	2 B20	0 B25	* B25
	Conceptualization and Fluid Reasoning/Problem-Solving	0 B14	0 B14	2 3 B14	2 3 B14	3 B20	1 B20	0 B25	0 B25
	Expression	3 B15	0 B15	1 B15	3 B15	0 B20	3 B20	3 B25	* B25
	Language Processing (Crystallized Knowledge)	1 B15	3 B15	3 B15	3 B15	2 B20	3 B20	* B25	* B25
	Processing Speed	1 B15	1 B15	3 B15	3 4 B15	1 B21	1 B21	3 B26	3 B26
Sensory-Motor Skills	Executive Functions	3 B16	2 3 B16	1 B16	3 B16	3 B21	3 B21	1 B26	1 B26
	Visual Motor, Fine Motor, Graphomotor, Sensorimotor	1 B17	0 B17	0 B17	3 B17	2 B22	1 B22	0 B27	0 B27
	Sensorimotor Memory	1 B17	0 B17	0 B17	0 B17	0 B22	0 B22	0 B27	0 B27
	Sensorimotor Speed	0 B17	0 B17	0 B17	* B17	0 B22	0 B22	0 B27	0 B27
	Oral Motor/Oral Motor Speed	2 B17	3 B17	0 B17	0 B17	0 B22	0 B22	0 B27	* B27
Attention†	Attention	1 B17	1 2 B17	2 B17	2 B17	3 B22	2 B22	3 B28	1 B28

*Please reference the COMPARES for specific information.

Updated 11/2015

†Please refer to page B3 for additional information regarding Attention.

67

What's New in X-BASS v2.2?

This version of X-BASS is designed to bridge the gap between its current incarnation as an Excel-based program and its upcoming transition into an online, web-based platform. This version includes a number of fixes that correct various minor errors and typographical mistakes to ensure full accuracy and correct operation throughout. One important new feature in this release, however, is the implementation of a PSW-Quick Analysis which offers users an opportunity to conduct a quick evaluation of SLD via PSW analysis with existing scores. The output provides a simplified determination of SLD but still applies all of the sophisticated statistical methodology and application of the rigorous criteria necessary for identification as operationalized within the DD/C model. In addition, the type of score usage (composite vs. subtest) has been expanded on the Data Entry - Other tab which will permit greater clinical flexibility with respect to scores that may be used and selected for subsequent PSW Analysis. It is anticipated that, apart from any necessary bug fixes and error corrections, this will be the final version of X-BASS in Excel form. New features and classifications of new tests will only be implemented in the upcoming X-BASS Online version. Search Wiley.com for additional information about this transition.

68

XBASS software v2.4 Cultural Language Interpretive Matrix (C-LIM)

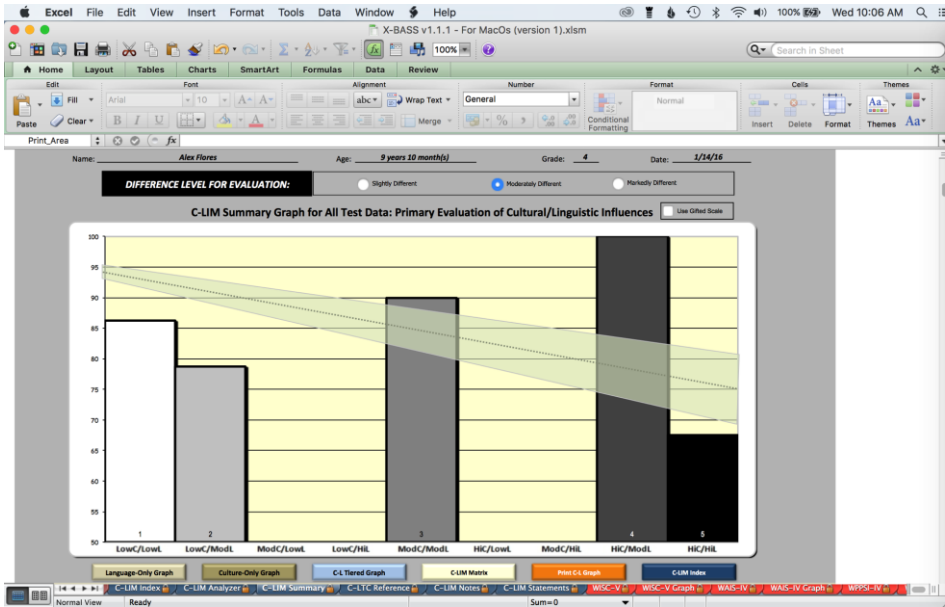
69

The screenshot displays the XBASS software interface with the Cultural Language Interpretive Matrix (C-LIM) grid. The grid is a 3x3 matrix with 'DEGREE OF CULTURAL LOADING' on the vertical axis (LOW, MODERATE, HIGH) and 'DEGREE OF LINGUISTIC DEMAND' on the horizontal axis (LOW, MODERATE, HIGH). Each cell in the grid contains a vertical column of red boxes for 'Score' and a horizontal row of yellow boxes for 'Cell Average ='. The grid is overlaid on a Microsoft Excel ribbon with tabs for Home, Layout, Tables, Charts, SmartArt, Formulas, Data, and Review. The ribbon shows various formatting options like font, alignment, and number formatting.

	LOW	MODERATE	HIGH
LOW	Score	Score	Score
MODERATE	Score	Score	Score
HIGH	Score	Score	Score

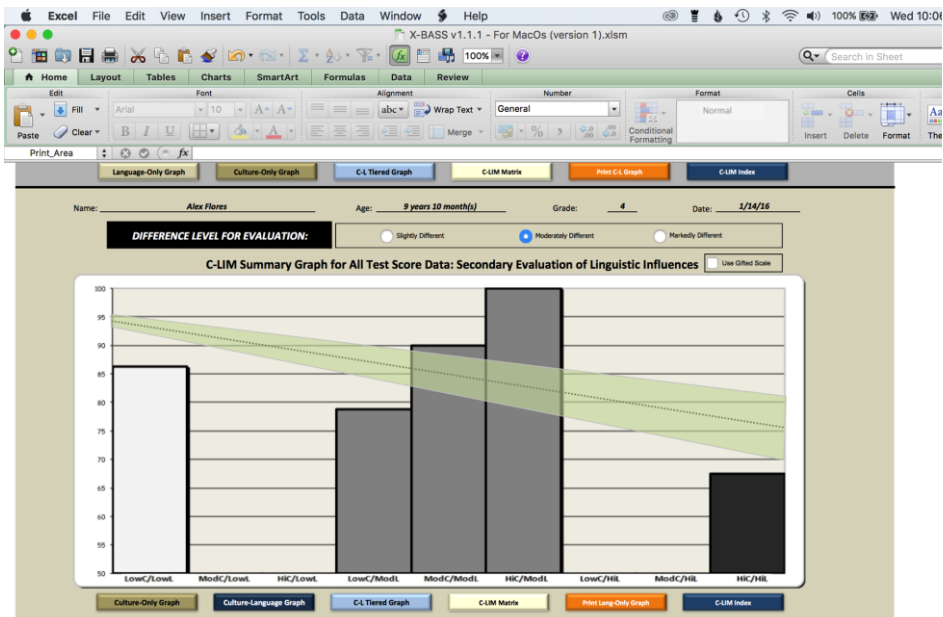
70

Interaction of Culture & Language



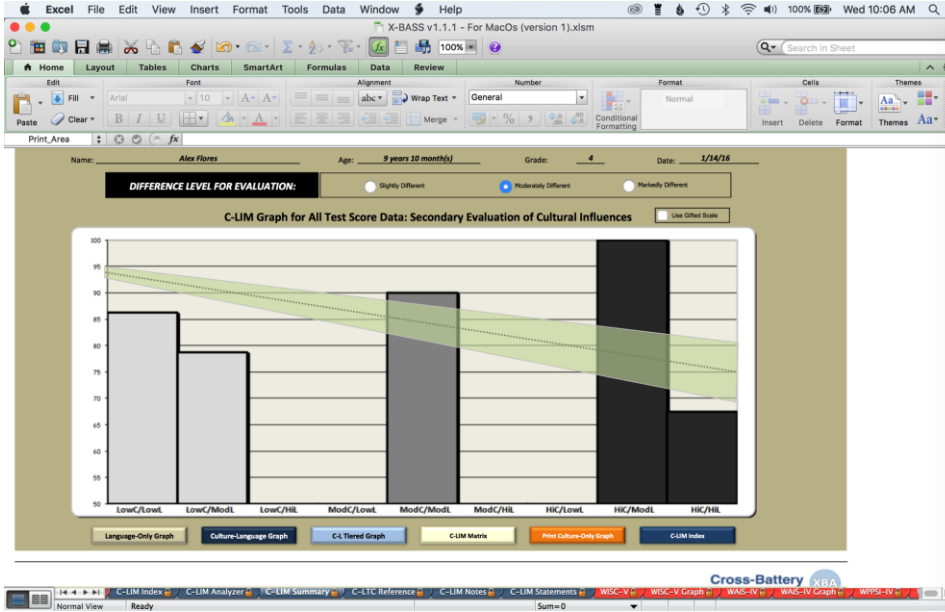
71

Main Effect for Language

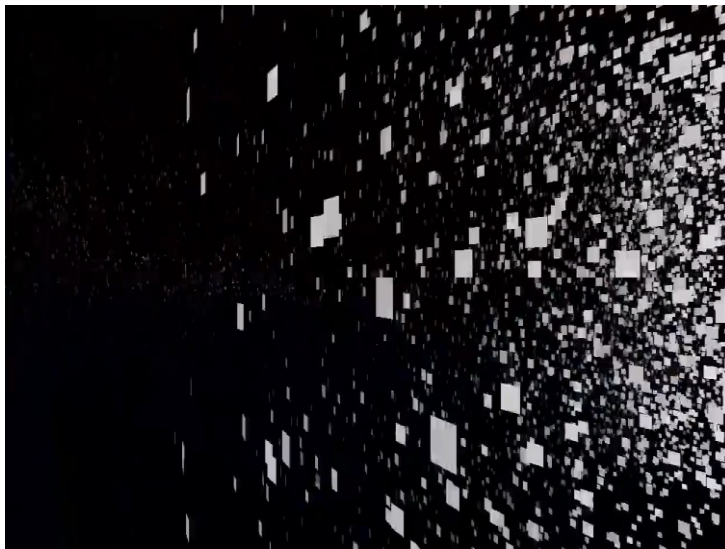


72

Main Effect for Culture



73



<https://www.youtube.com/watch?v=gmwiJ6ghLIM>

74

It's RIOT not TRIO

- Record Review
- Interviews
- Observations
- Testing (Standardized and Non-Standardized)

75

Going to add a little bit here about Larry P.
given the update.

If you want to talk about it in more detail, you've got me so you can
ask.

76

CASP recommends using best practice for all students being assessed for special education, which is by starting with Record review, Interviews with family and staff, and Observation(s).

This is the RIO of RIOT and the reason for T, “Testing” being at the end is intentional as the RIO informs what we are assessing for. The Sept 14, 2022 carefully reminds school psychologists of the laws and regulations to be included and considered as part of an evaluation for a SLD. By doing so we can address concerns if ID is an area of suspected disability, or a disability area that was not suspected but based on ROI is now a possibility.

77

To address potential ID, look at Adaptive Behavior:

- If “subaverage...deficits in adaptive behavior.” are not present, then ID can be ruled out and there are no restrictions regarding intelligence tests or overall measures of cognitive ability being used for African American students.
- If subaverage Adaptive Behavior deficits are present and not better explained by Other Health Impairment (OHI), Emotional Disturbance (ED), Traumatic Brain Injury (TBI) or another disability area, and/or there is no evidence to support stronger problem-solving skills beyond assessed adaptive behavior (CCR 3030(b)(6), ID cannot be ruled out. In this case for African American students the ban would remain in effect, unless further information is gathered that can rule out ID.

78

To address potential ID, look at Adaptive Behavior:

- Using this along with other measures such as dynamic assessment, mediated learning, and/or other tasks that can indicate competency and/or skills outlined in the 1989 Larry P Task Force Report as well as the 2012 Best practices guidelines for the assessment of African American students. Cognitive processes manual. Diagnostic Center North, California Department of Education is also recommended.

79

Regarding Observations

“34 CFR § 300.310 Observation.

*(a) The [public agency](#) must ensure that the child is observed in the child's learning environment (**including the regular classroom setting**) to document the child's academic performance and behavior in the areas of difficulty.*

(b) The group described in [§ 300.306\(a\)\(1\)](#), in determining whether a child has a specific learning disability, must decide to -

- (1) Use information from an observation **in routine classroom instruction and monitoring** of the child's performance that was done before the child was referred for an [evaluation](#); or*
- (2) **Have at least one member of the group described in [§ 300.306\(a\)\(1\)](#) conduct an observation of the child's academic performance in the regular classroom after the child has been referred for an [evaluation](#) and parental [consent](#), consistent with [§ 300.300\(a\)](#), is obtained.***

(c) In the case of a child of less than school age or out of school, a group member must observe the child in an environment appropriate for a child of that age.

(Authority: [20 U.S.C. 1221e-3](#); 1401(30); 1414(b)(6))”

80

- Distance learning is temporary and not considered a "regular classroom". It is therefore recommended that pre-distance learning observations be at least discussed and considered as part of the "O" data. There is no specific requirement as to who does the observation.

81

Definition of Terms...

The Basic Psychological Processes

82

The basic psychological processes are

- **attention**
- **visual processing**
- **auditory processing**
- **phonological processing**
- **sensory-motor skills**
- **Cognitive association**
- **Cognitive conceptualization**
- **Cognitive expression.**

83

Excuse me...

Don't worry about the fact that The Basic Processing Areas don't match with names used by test makers, XBASS, PASS Theory, etc...we will get to that

First...answer this...Do you all have good definitions of those eight basic Processing areas including: Cognitive Conceptualization...Association...Expression...anyone...Bueller...Bueller...

84

References for these Definitions

- Larry P. Task Force 1989
- Ventura PSW Model
- What I like to say

85

DOCUMENT RESUME

ED 314 898

EC 222 056

TITLE Larry P. Task Force Report. Policy and Alternative Assessment Guideline Recommendations.

INSTITUTION California State Dept. of Education, Sacramento. Div. of Special Education.

PUB DATE Jan 89

NOTE 109p.; For other reports in this series, see EC 222 053-055.

AVAILABLE FROM Resources in Special Education, 900 J St., Sacramento, CA 95814-2703 (\$20.00).

PUB TYPE Viewpoints (120) -- Guides - Classroom Use - Guides (For Teachers) (052) -- Guides - Non-Classroom Use (055)

86

- **PSYCHOLOGICAL PROCESSES ANALYSIS:**

Note: Psychological processes have been discussed as an alternative strategy for evaluation of cognition.

As a separate factor in assessment when a pupil has been identified as having a learning disability with a significant discrepancy between cognition and academic skills, it is necessary to identify the psychological process(es) implicated in the learning problem.

The assessment of psychological processes draws on all information sources, including teacher information, parent information, observation, academic production and standardized testing (behavior and responses). Basic assessment may need to be supplemented with additional tests which provide specific insights into reasoning and learning skills. The focus in this area of assessment is on how instructional information is handled with the goal of planning for instructional modifications needed, potentially beyond those of general education classes.

87

To identify the psychological process(es) impairing learning, clinical analysis is necessary. Substantiating information can be drawn from observation and test performance. A process of elimination, differentiating the point in the sequence of learning where impediment occurs, must be made. At the decoding level, there must be adequate perception. At the mediation level, material has to be remembered, organized and understood in terms of the academic areas(s) involved. At the encoding level, there must be capacity to transpose information which is intact at the internal level. Further important information may be obtained by comparing learning requirements at the point of suspected impairment in the area of disability with those in another area of academics which is progressing in a satisfactory manner.

In the following sections, information regarding each process is provided as a foundation for analysis. Neither observational factors nor testing suggestions should be considered as comprehensive, and individual evaluators are expected to use their own professional expertise and insights as indicated by the individual differences encountered when making a clinical analysis. Information must be considered relative to each pupil's age/grade level and overall developmental status, and any physical or emotional or sensory conditions which are present.

88

Attention

89

Larry P. Task Force 1989 says...

Attention is the process of focusing on stimuli, and sustaining or shifting this focus as required by the learning or functioning situation. This process occurs repeatedly during activity and affects all academic areas. Observational data may include information on:

**The activity level of the pupil
Response to materials or instruction**

Distractability

Functional use of stimuli such as: appropriate shifts of attention, sense of task expectancy, immediate or delayed imitation of a model working with an array, task completion and absence of perseveration.

Supplemental assessment may include use of tests or tasks which allow comparison of attention to different instructional modalities such as visual versus auditory presentations, different formats of materials such as recognition versus recall. Care must be taken that emphasis is on *focus* rather than limitations in conceptual understanding.

90

Ventura PSW says in COMPARES...

“Attention is the mental/psychological process of maintaining alertness to incoming sensory stimuli in order to process it. Attention requires the sustained focus of cognitive resources on information while filtering or ignoring extraneous information. Attention is a basic or “gatekeeping” function that is a foundation to all other neurological/cognitive functions. Attention is a process that matures late after gradual development (Dehn, 2014). See “Executive Functions” in the COMPARES Glossary.” page 94

91

Ventura PSW says in COMPARES...

“Some researchers divide attention into component parts, which may be measured separately:

- Focused Attention: The ability to respond discretely to specific visual, auditory or tactile stimuli.
- Sustained Attention (vigilance): The ability to maintain a consistent behavioral response during continuous and repetitive activity.
- Selective Attention: The ability to maintain a behavioral or cognitive set in the face of distracting or competing stimuli. Therefore it incorporates the notion of "freedom from distractibility."
- Alternating/Shifting Attention: The ability of mental flexibility that allows individuals to shift their focus of attention and move between tasks having different cognitive requirements.
- Divided Attention: This is the highest level of attention and it refers to the ability to respond simultaneously to multiple tasks or multiple task demands.” page 88 (really page 94)

92

Attention

Attention is the process of being able to focus on a specific, given stimuli (object, task, instruction), sustaining that attention and redirecting attention (shifting focus) when it is required by the learning or function of the situation. The vast majority of individuals can attend when what they are attending to, is of high interest or emotionally engaging.

Processing Speed is another way of measuring a person's ability to sustain their attention (as tasks are often repetitive and not particularly interesting or emotionally engaging, as they often consist of abstract shapes).

93

How do you decide if attention is part of an SLD or OHI?

We all know ADHD can also be an eligibility area for ED but that is more an obvious issue...

94

Questions to ask yourself...

Is the attention difficulty preventing learning?

Are associated processing areas preventing learning?

Is the attention difficulty preventing production/output?

Are associated processing areas preventing production/output?

95

Visual Processing

96

Larry P. Task Force 1989 says...

Visual Processing involves perception and use of visual stimuli. This process is involved in all learning areas which rely on using symbols and pictures, and with pupils who rely on gestures and/or signing communication in all academic areas. Rule out any effects of visual acuity conditions.

Observational data may include information on:

Physical or postural adjustments pupil makes

Attention to paper/pencil tasks

Difficulty working with crowded materials

Omissions in sections of materials

Functional use of visual stimuli such as in: differentiation of different symbols, sorting, matching, pattern recognition or replication, whole/part organization, working with complex visual materials, response to facial expression, immediate or short-term visual memory.

Supplemental assessment may include tests or tasks which emphasize visual processing development or strands such as the Frostig Developmental Test of Visual Perception, Motor Free Visual Perception Test, Beery Buktenica Test of Visual Motor Integration, Kohs Blocks or Wepman Visual Discrimination Test. Care must be taken that emphasis is on *visual skills* rather than attentional factors, the association process, or conceptual understanding.

97

Ventura PSW says in COMPARES...

“Visual Processing is the mental/psychological construct defined by cognitive mechanisms that are involved in the retention, processing, and organization of visual information so as to demonstrate accurate perception, as distinct from visual acuity. This type of cognitive processing ability involves the ability to generate, perceive, analyze, synthesize, manipulate, and transform visual patterns and stimuli. Measures of the visual process may include factors such as spatial awareness, visual-perceptual skills, perceptual organization, visual mental manipulation, and perceptual discrimination. Visual-Spatial Processing matures early, after gradual development (Dehn, 2014). See “Visual-Spatial Processing,” “Orthographic Processing,” “Visual Memory,” “Visual Processing Speed,” and “Processing Speed” in the COMPARES Glossary.” page 86 (really page 92)

98

Visual Processing

Visual Processing is the broad ability to perceive, process, and use visual spatial information. It includes being able to: Identify the key components of visual information; analyze similarities, differences, patterns (sequential) and categories, as well as storage and retrieval of visual information. A Narrow ability that falls under this ability is Visualization - the ability to perceive complex patterns and manipulate how they might look transformed, e.g., rotated, when the view is partially obscured, shrunk or enlarged, as well as recall or recognize the information.

99

Auditory Processing

100

Larry P. Task Force 1989 says...

Auditory Processing involves perception and use of auditory stimuli. This process is involved in all areas of academics with recognition that all instruction, except when signing is the mode of communication, involves verbal explanations and directions. Auditory acuity and oral-motor impairments must be ruled out as affecting factors.

Observational data may include information on:

- Physical or postural adjustments of the pupil
- Mispronunciations or unusual intonation or speech patterns
- Frequent repetition of things heard
- Functional use of auditory stimuli such as:
 - Discrimination of sounds
 - Imitation of sounds or sentences
 - Immediate or short term auditory memory.

Supplemental assessment may include collaboration with audiologist and/or speech specialists, and tests or tasks which emphasize auditory processing development such as the Wepman Auditory Memory Span.

101

Ventura PSW says in COMPARES...

“Auditory processing refers to the ability to perceive, analyze, and synthesize a variety of auditory stimuli. Measures of auditory processing tap into phonemic awareness (rhyming, segmentation, sound-symbol association), auditory perception, sound discrimination, auditory mental manipulation, as well as auditory memory. Auditory processing matures early, after gradual development (Dehn, 2014). See “Phonological Processing,” “Auditory Memory,” “Auditory Processing Speed,” and “Processing Speed” in the COMPARES Glossary.” page 86 (really page 92)

102

Auditory Processing

Auditory Processing (excluding phonological processing as it now has its own processing area) includes Auditory Memory Span-the ability to maintain information in primary memory and immediately reproduce it in the same sequence in which it was presented and Working Memory Capacity - the ability to focus one's attention to perform relatively simple combinations, manipulations, transformation of information while avoiding distractions while simultaneously engaging in strategic, controlled searches for information in long term memory, such as when following verbal directions or attempting to understand verbal explanations.

103

Phonological Processing

104

Larry P. Task Force 1989 says...

Auditory Processing involves perception and use of auditory stimuli. This process is involved in all areas of academics with recognition that all instruction, except when signing is the mode of communication, involves verbal explanations and directions. Auditory acuity and oral-motor impairments must be ruled out as affecting factors.

Observational data may include information on:

- Physical or postural adjustments of the pupil
- Mispronunciations or unusual intonation or speech patterns
- Frequent repetition of things heard
- Functional use of auditory stimuli such as:
 - Discrimination of sounds
 - Imitation of sounds or sentences
 - Immediate or short term auditory memory.

Supplemental assessment may include collaboration with audiologist and/or speech specialists, and tests or tasks which emphasize auditory processing development such as the Wepman Auditory Memory Span.

105

Ventura PSW says in COMPARES...

“Phonological Processing includes phonemic awareness, sound discrimination, phonetic coding, and phonological memory. Phonological Processing is listed as a “basic psychological process” by California Education Code (California Department of Education: Section 3030(b)(10), Title 5, CCR). This type of processing involves the ability to hear, manipulate and, in the case of phonological memory, remember phonemes. Phonological Processing matures early after gradual development and is associated with the Temporal and Parietal lobes of the brain (Dehn, 2014a). See “Auditory Processing” and “Phonological Memory” in the COMPARES glossary.” page 88 (really page 94)

106

Phonological Processing

Phonological Processing includes Phonological Awareness – the ability to access the sound structure of language at the phoneme level (phonological units that are used in various words) and Phonological Memory – the ability to code information phonologically in short term auditory memory. Phonological processing is fundamental to basic reading skills, the ability to decode and sound out words are directly related to this processing area, especially for unfamiliar words. Individuals with significant weakness in phonological processing, who have demonstrated weakness in basic reading skills are consistent with individuals with a phonologically based reading disorder, Dyslexia. –

107

Sensory motor Skills

108

Larry P. Task Force 1989 says...

Sensory Motor Processing involves the transformation of information to motor production. While the emphasis in the Expressive Processing is on organization of thought, in Sensory Motor Processing the emphasis is on the perceptual to motor factor. This factor is seen in any academic activity requiring written work. The effect of any physical handicaps must be considered.

Observational data may include information on:

- General body control
- Hand control
- Copying
- Printing and writing
- Doing mazes
- Laterality
- Imitation of motor activity
- Define instructional needs (including LRE issues)

109

Ventura PSW says in COMPARES...

“Sensory-Motor or Psycho-Motor Integration is the mental/psychological process that involves engaging perceptual and cognitive skills to organize physical output. As a basic psychological process involved in learning, sensory-motor skills chiefly involve fine-motor and graphomotor output. The sensory-motor process may include measures of visual-motor integration, motor speed, and overall fine-/gross-motor skills. Fine motor processing matures early after gradual development (Dehn, 2014). See “Fine Motor Skills,” “Visual Motor Skills,” “Graphomotor Skills,” “Sensorimotor Memory,” “Sensorimotor Speed,” “Oral Motor Speed,” “Psychomotor Abilities,” and “Processing Speed” in the COMPARES Glossary.” page 87 (really page 93)

110

Sensory Motor Skills

Sensory-Motor Skills involve the transformation of information to motor production. Specifically Sensory Motor Processing's emphasis is on perceptual to motor, e.g. visual motor integration one's ability to coordinate fine motor skills such as drawing or in written work.

111

Cognitive association

112

Larry P. Task Force 1989 says...

Association is the process of acquiring basic units of information in memory, and establishing systems for relating these units to each other as in matching, same/different, pattern or logical groups. Association involves long-term memory, as opposed to immediate or short term memory which can be related to a sensory modality. The processing at this level serves as a foundation for more complex operations in conceptualization.

Observational data may include information on:

- Long term memory**
- Sense of cause and effect relationships**
- Sense of part/whole relationships**
- Development of basic organizational relationships, such as matching, patterns, same/different**

Supplemental assessment may include use of tests or tasks which evaluate memory directly, and status of basic learning and rate of learning. Information on background of educational opportunities is important to ensure that social, cultural or experiential factors have not impaired learning.

113

Ventura PSW says in COMPARES...

“Association is the mental/psychological process of remembering basic units of information and establishing systems for relating those units to each other. See definitions of “Memory,” “Long-Term Retrieval,” “Working Memory,” “Rapid Naming Skills,” “Orthographic Processing,” “Auditory Memory,” “Visual Memory,” and “Sensorimotor Memory” in the COMPARES Glossary.” page 87 (really page 93)

114

Cognitive Association

Cognitive Association is the process of acquiring information in memory, and the system for relating that information to previously learned information to develop patterns or logical groups and also called long term retrieval. This is a foundational process that is required for more complex operations that take place in conceptualization. Included in Cognitive Association is the element of efficiency, i.e. how fluidly one can retrieve information from long term memory. However, untimed measures are as important as well. – Part 1

115

Long Term Retrieval involves retrieval of information that is tied to visual/spatial information and/or language. When retrieval is tied to both types of information, retrieval for Non-symbolic information such as the label “red” for the color red, and the other for Symbolic information (also known as orthographic e.g. the letters that represent the word “red”). How quickly one does this isn’t the issue, it is rather is the information available to the individual, period. Recall and Recognition of information fall into this ability. Deep thinker

Speed of Lexical Access or Cognitive Efficiency as the name implies has to do with speed of retrieval of stored information. We are interested with Orthographic processing speed because when this is significantly slow it is often associated with poor reading fluency (that is not due to poor phonological processing) and consistent with the orthographic sub-type of Dyslexia. If there is weakness for symbolic information there could be concern for Oral Language delays – Part 2

116

Cognitive conceptualization

117

From Larry P. Task Force Report 1989

Conceptualization is the process of using information in an increasingly complex and fluid manner. Fundamental units of information can be combined, rearranged, used in multi-step operations, used as in classification and class hierarchies, and can be used in multiple situations with necessary transformations. Information can also be used logically and as a basis for inferences, conclusions or judgment. This process occurs in all areas of academics when reasoning beyond rote performance is required.

118

Larry P. Task Force Report 1989 Cognitive Conceptualization Continued

Observational data may include information on:

- Ability to follow directions**
- Transfer and generalization of learned materials**
- Understanding meaning and details from materials heard or read**
- Understanding the meaning of mathematical operations**
- Demonstration of logical thought**
- Ability to make choices, inferences and conclusions**
- Ability to do multi-step activities**
- Ability to organize or understand hierarchical nature of materials**
- Ability to demonstrate reversibility of thought**

Supplemental assessment may include use of tests or tasks which provide information on concept development such as the Bracken Basic Concept Scale, or reasoning processes such as the Southern California Ordinal Scales of Development. The pupil may be able to provide invaluable information through discussion of the way he or she has thought about tasks and the strategies evidenced.

119

Ventura PSW says in COMPARES...

"Conceptualization

Conceptualization is the mental/psychological process of understanding or grasping the significance and meaning of increasingly complex information and ideas, including abstract thinking and reasoning. Conceptualization is also known as Fluid Reasoning (Gf) and Problem-Solving. See definition of "Fluid Reasoning" in the COMPARES Glossary."

120

Cognitive Conceptualization

Cognitive Conceptualization is the process of using information in an increasingly more complex and fluid manner. This is often called, abstract thinking, fluid reasoning, or simply reasoning, the ability to solve novel problems; that is, problems that cannot be solved solely by relying on previous situations or solutions. This processing area allows a person to make generalization or inferences. Being able to see the forest for the trees. It is comprised of General Sequential Reasoning - the ability to reason logically using established premises and principles and Induction - the ability to observe a problem and understand the underlying rules or principles that will govern the outcome; being able to generalize from specific situations to others. As well as Quantitative Reasoning – the ability to reason inductively or deductively with numbers - Part 1

121

Cognitive Conceptualization also includes Executive Function such as the ability to initiate, organize, plan, working memory and shift one's mindset. These abilities are also a required component of Cognitive Conceptualization. However, where fluid reasoning has more to do with specific types of problem solving, Executive Function has to do with coordinating various processes to problem solve, hold in working memory, where to start, and when to give up and try a different approach. – Part 2

122

Cognitive expression

123

Expression involves the process of organizing thought in a form which can be understood by others. This is the medium through which learning is usually evaluated through which a pupil may ask for help, and through which social discourse occurs for social learning. This process is an integral part of all academic evaluation, and care must be taken to differentiate between internal understanding and the encoding process through which this is expressed. Information from speech/language evaluations may be critical in separating these factors.

Observational data may include information on:

- Verbal or signing fluency
- Conversational skills
- Organization of thought
- Acquisition of vocabulary and syntax skills

Supplemental assessment may include language tests and language specialist's clinical information including language samples, comparative assessment between verbal and written expression, sentence completion tasks, and other activities which allow for alternative means of expression such as recognition versus recall formats.

124

Ventura PSW says in COMPARES...

Expression is the mental/psychological process of conveying the meaning of information to others via oral, written or gestural language. See "Language Processing" in the COMPARES Glossary

125

Cognitive Expression

- **Cognitive Expression** - Language is the ability to apply the breadth and depth of acquired knowledge, including language, culture, adaptive and academic skills. It can be viewed as a product of what an individual has had the opportunity to learn and how one can communicate it to others. Where expression has to do with communicating what one knows (e.g. talking, writing, nonverbal actions), association has to do with how efficiently that information is stored and is retrievable. Cognitive Expression also include areas of Executive Functioning as expressive communication requires sustained attention, Initiation, planning/organization and working memory in order to be effective.

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Overview of the COMPARES

Directions for use: The overview of the COMPARES document allows assessment teams a quick glance at the strength of the research link between the processing area and academic achievement area. Assessment teams need to examine the specific page number(s) (which are located directly to the right of the rating symbol) for the areas of question and take into consideration the other information provided within the COMPARES.

Processing Area	Processing Sub-Area	Basic Reading Skills (Decoding)	Reading Fluency	Reading Comprehension	Written Expression	Math Calculation	Math Problem-Solving	Listening Comprehension	Oral Expression
Auditory Processing	Phonological Processing	1 B11	3 B11	3 1 B11	2 B11	2 B18	2 B18	3 B23	3 B23
	Auditory Memory	1 B11	3 B11	1 B11	1 B11	1 B18	1 B18	1 B23	1 B23
	Auditory Processing Speed	* B11	* B11	* B11	* B11	* B18	* B18	3 B23	3 B23
	Auditory Processing	2 3 B12	* B12	3 B12	3 B12	0 B18	0 B18	3 B23	3 B23
Visual-Spatial Processing	Visual-Spatial Processing	2 B13	2 B13	2 3 B13	1 B13	2 3 B19	1 B19	1 2 B24	0 B24
	Orthographic Processing	1 B13	1 B13	2 B13	2 B13	2 B19	0 B19	0 B24	0 B24
	Visual Memory	2 B13	2 B13	1 B13	3 1 B13	1 B19	1 B19	0 B24	0 B24
	Visual Processing Speed	1 B13	1 B13	* B13	* B13	* B19	* B19	0 B24	0 B24
Cognitive Abilities	Association/Memory	1 B14	1 B14	1 B14	1 B14	1 B20	1 B20	3 1 B25	1 B25
	Rapid Naming Skills	1 B14	1 B14	2 B14	2 B14	3 B20	2 B20	0 B25	* B25
	Conceptualization and Fluid Reasoning/Problem-Solving	0 B14	0 B14	2 3 B14	2 3 B14	3 B20	1 B20	0 B25	0 B25
	Expression	3 B15	0 B15	1 B15	3 B15	0 B20	3 B20	3 B25	* B25
	Language Processing (Crystallized Knowledge)	1 B15	3 B15	3 B15	3 B15	2 B20	3 B20	* B25	* B25
	Processing Speed	1 B15	1 B15	3 B15	3 1 B15	1 B21	1 B21	3 B26	3 B26
Sensory-Motor Skills	Executive Functions	3 B16	2 3 B16	1 B16	3 B16	3 B21	3 B21	1 B26	1 B26
	Visual Motor, Fine Motor, Graphomotor, Sensorimotor	1 B17	0 B17	0 B17	3 B17	2 B22	1 B22	0 B27	0 B27
	Sensorimotor Memory	1 B17	0 B17	0 B17	0 B17	0 B22	0 B22	0 B27	0 B27
	Sensorimotor Speed	0 B17	0 B17	0 B17	* B17	0 B22	0 B22	0 B27	0 B27
	Oral Motor/Oral Motor Speed	2 B17	3 B17	0 B17	0 B17	0 B22	0 B22	0 B27	* B27
	Attention†	1 B17	1 2 B17	2 B17	2 B17	3 B22	2 B22	3 B28	1 B28

*Please reference the COMPARES for specific information.

Updated 11/2015

†Please refer to page B3 for additional information regarding Attention.

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Ventura PSW Page 82

Table 3 Psychological Processes Significantly Related With Types of Academic Learning

Basic Reading Skills	Reading Fluency	Reading Comprehension	Mathematics Calculation	Mathematics Problem Solving	Written Language	Oral Expression	Listening Comprehension
			Attention		Attention		
Auditory Processing		Auditory Processing			Auditory Processing		Auditory Processing
		Executive Functions	Executive Functions	Executive Functions	Executive Functions	Executive Functions	Executive Functions
					Fine Motor		
		Fluid Reasoning	Fluid Reasoning	Fluid Reasoning			
Verbal Long-Term Recall	Verbal Long-Term Recall	Verbal Long-Term Recall	Verbal Long-Term Recall	Verbal Long-Term Recall	Verbal Long-Term Recall	Verbal Long-Term Recall	
Visual-Spatial Long-Term Recall	Visual-Spatial Long-Term Recall	Visual-Spatial Long-Term Recall	Visual-Spatial Long-Term Recall	Visual-Spatial Long-Term Recall			
Oral Language		Oral Language		Oral Language	Oral Language	Oral Language	Oral Language
Phonological Processing	Phonological Processing				Phonological Processing	Phonological Processing	Phonological Processing
Processing Speed	Processing Speed		Processing Speed	Processing Speed	Processing Speed	Processing Speed	Processing Speed
			Visual-Spatial Processing				
Verbal Working Memory		Verbal Working Memory	Verbal Working Memory	Verbal Working Memory	Verbal Working Memory	Verbal Working Memory	Verbal Working Memory
		Visual-Spatial Working Memory	Visual-Spatial Working Memory	Visual-Spatial Working Memory			

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In line with CCR 3030 Basic Psychological processing

Basic Reading Skills	Reading Fluency	Reading Comprehension	Mathematics Calculation	Mathematics Problem Solving	Written Language	Oral Expression	Listening Comprehension
			Attention		Attention		
Auditory Processing		Auditory Processing			Auditory Processing		Auditory Processing
		Cognitive Concept. Executive Functions	Cognitive Concept. Executive Functions	Cognitive Concept. Executive Functions	Cognitive Concept. Executive Functions	Cognitive Concept. Executive Functions	Cognitive Concept. Executive Functions
					Sensory Motor Integration Fine Motor		
		Cognitive Concept. Fluid Reasoning	Cognitive Concept. Fluid Reasoning	Cognitive Concept. Fluid Reasoning			
Cognitive Association Verbal Long-Term Retrieval	Cognitive Association Verbal Long-Term Retrieval	Cognitive Association Verbal Long-Term Retrieval	Cognitive Association Verbal Long-Term Retrieval	Cognitive Association Verbal Long-Term Retrieval	Cognitive Association Verbal Long-Term Retrieval	Cognitive Association Verbal Long-Term Retrieval	
Cognitive Association Visual-Spatial Long-Term Retrieval Orthographic Processing	Cognitive Association Visual-Spatial Long-Term Retrieval Orthographic Processing	Cognitive Association Visual-Spatial Long-Term Retrieval Orthographic Processing	Cognitive Association Visual-Spatial Long-Term Retrieval Orthographic Processing	Cognitive Association Visual-Spatial Long-Term Retrieval Orthographic Processing			
Cognitive Expression Oral Language		Cognitive Expression Oral Language		Cognitive Expression Oral Language	Cognitive Expression Oral Language	Cognitive Expression Oral Language	Cognitive Expression Oral Language
Phonological Processing	Phonological Processing				Phonological Processing	Phonological Processing	Phonological Processing
Cognitive Association Processing Speed	Cognitive Association Processing Speed		Cognitive Association Processing Speed	Cognitive Association Processing Speed	Cognitive Association Processing Speed	Cognitive Association Processing Speed	Cognitive Association Processing Speed
			Visual-Spatial Processing				
Cognitive Concept. Verbal Working Memory		Cognitive Concept. Verbal Working Memory	Cognitive Concept. Verbal Working Memory	Cognitive Concept. Verbal Working Memory	Cognitive Concept. Verbal Working Memory	Cognitive Concept. Verbal Working Memory	Cognitive Concept. Verbal Working Memory
		Cognitive Concept. Visual-Spatial Working Memory	Cognitive Concept. Visual-Spatial Working Memory	Cognitive Concept. Visual-Spatial Working Memory			

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Can a processing area be a strength and a weakness at the same time?

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Let's look at Cognitive Association

Long Term Retrieval may be well within the average range for associative memory Glr (MA), however naming facility Glr (NA)/OR may be poor. It's all Glr or Cognitive Association, but aspect of it is causing problems and possibly the cause of a student's reading difficulty (orthographically based Dyslexia).

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Maybe looking at it from another angle...

Phonological Processing is part of auditory processing. The fact that CCR 3030(b)(10) spells it out as a separate basic processing area doesn't change that fact. However, we report specifically on phonological processing as a separate processing area. There is nothing that says within these processing areas there may be a strengths and weaknesses within them. In fact, the problem for the student may be that because all other factors associated with this processing area are functioning more capably, this specific weakness is causing this student disproportionately more difficulty.

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Free for All. Let's address all your questions.

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If you have additional questions, please feel free to contact me through my website jameshiramoto.com go to the contact me tab and fill out your question there or email me directly at help@jameshiramoto.com

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