SLD Eligibility using A Pattern of Strengths and Weaknesses: A Simple Solution

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Disclosures

Resources

FOR MORE INFORMATION
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The BIG picture

- The comprehensive assessments we provide can alter the course of a student's life; making this one of the most important tasks we have.
- We want Intellectual assessment that
  - Is consistent with IDEA and state regulations regarding SLD determination
  - Helps us understand WHY a student fails
  - Informs us about academic strengths & weaknesses and interventions
  - Is fair for students from diverse populations
- These goals can be achieved if we use second-generation intelligence tests that measure the way students THINK to LEARN
  - The definition of THINKING should be based on BRAIN function
  - PASS theory is a way of defining THINKING
  - Use the Cognitive Assessment System-2nd Edition to measure a student's ability to think

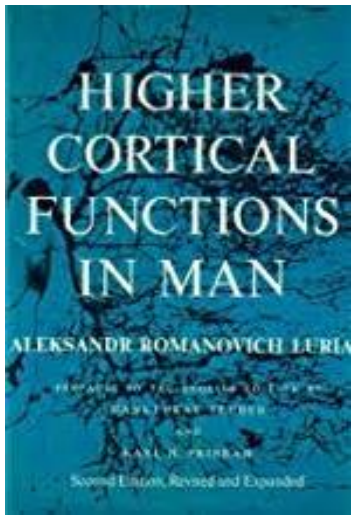
Introduction

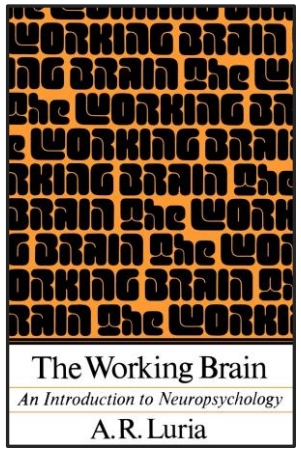
- Interest in
  - How people learn
  - Why some people learn better than others
  - Which is often described of a cognitive ability and
- Experiences as a school Psychologist brought me to develop my PASS theory of intelligence and a way to measure the theory called the Cognitive Assessment System
- **Because we change lives**

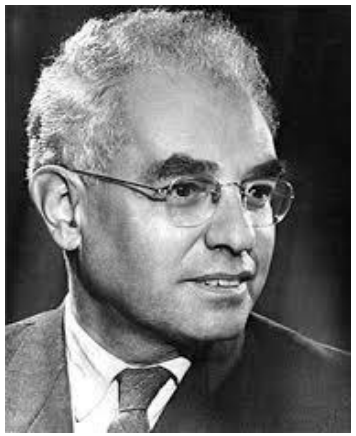
Intelligence as Neurocognitive Functions

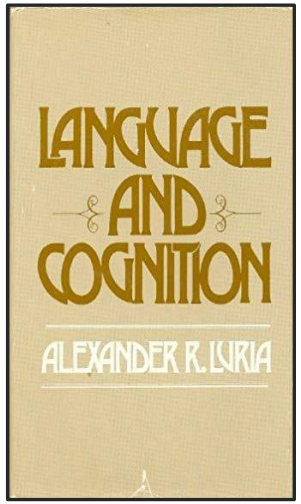
- In my first working meeting with JP Das (February 11, 1984) we proposed that intelligence was better REinvented as neurocognitive processes andwe began development of the **C**ognitive **A**ssessment **S**ystem (Naglieri & Das, 1997).
- We conceptualized intelligence as Planning, Attention, Simultaneous, and Successive (PASS) neurocognitive processes based on Luria's concepts of brain function.

PASS Neurocognitive Theory









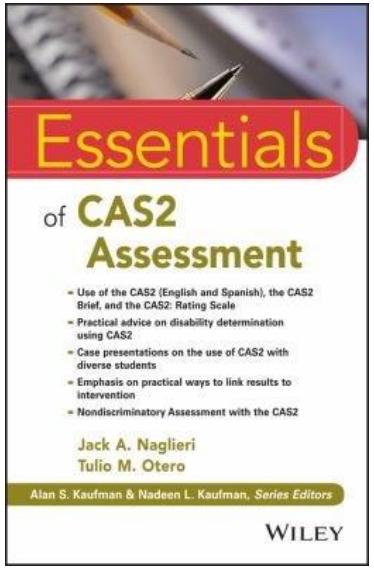
- **P**lanning = THINKING ABOUT HOW YOU DO WHAT YOU DECIDE TO DO
- **A**ttention = BEING ALERT AND RESISTING DISTRACTIONS
- **S**imultaneous = GETTING THE BIG PICTURE
- **S**uccessive = FOLLOWING A SEQUENCE

PASS = 'basic psychological processes'

NOTE: Easy to understand concepts!

CAS2, CAS2-Espanol, CAS2: Brief & CAS2 Rating Scale

- This book is the most complete discussion of PASS theory and its measurement
- Chapters cover all versions of the CAS2 as well as the online scoring and report writer
- Administration, scoring, interpretation
- Reliability, validity (PASS profiles, evidence of test fairness,
- Discrepancy Consistency Method for SLE
- Intervention planning and clinical case studies



PASS Comprehensive System

(Naglieri, Das, & Goldstein, 2014)

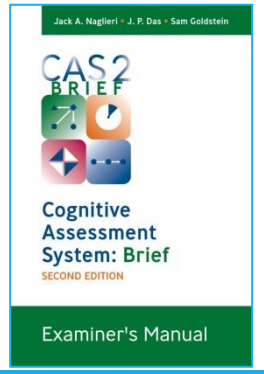
- **CAS2 Core & Extended English & Spanish** for comprehensive Assessment
- **CAS2 Brief** for re-evaluations, instructional planning, gifted screening
- **CAS2 Rating Scale** for teacher ratings

CAS2 Rating Scale
(4 subtests)

Total Score
Planning
Simultaneous
Attention
Successive

CAS2 Brief
(4 subtests
20 minutes)

Total Score
Planning
Simultaneous
Attention
Successive

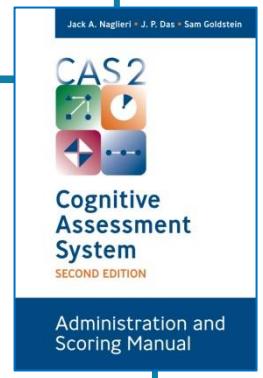


CAS2 Core
(8 subtests
40 minutes)

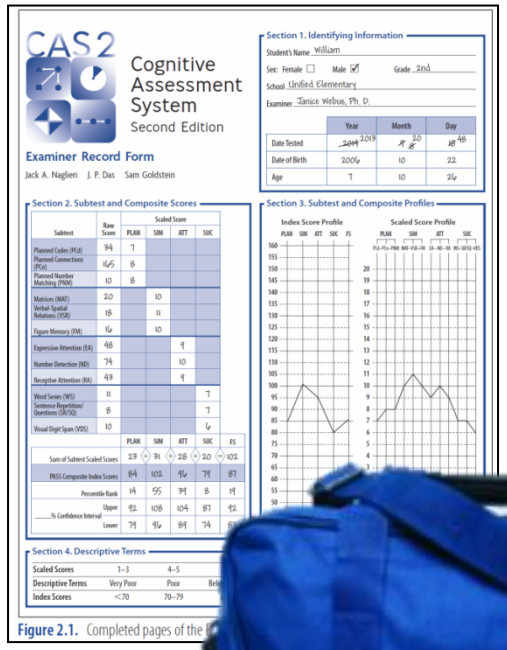
Full Scale
Planning
Simultaneous
Attention
Successive

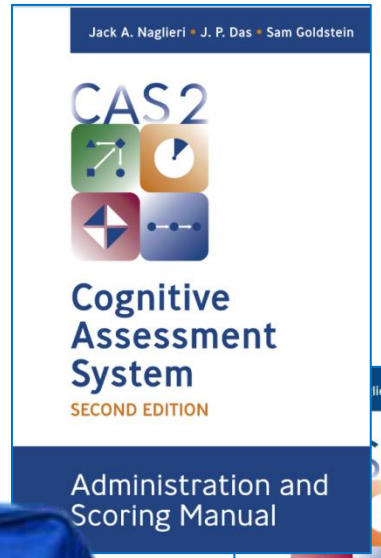
CAS2 Extended
(12 subtests
60 minutes)

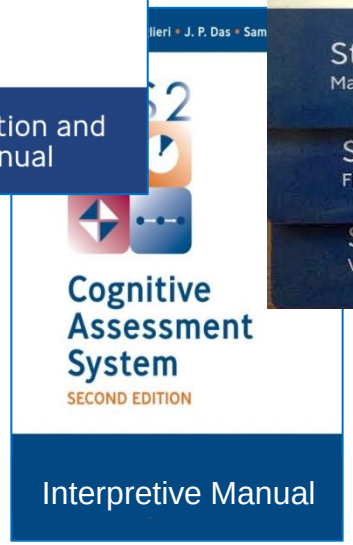
Full Scale
Planning
Simultaneous
Attention
Successive
Supplemental Scales
Executive Function
Working Memory
Verbal / Nonverbal
Visual / Auditory
Speed / Fluency

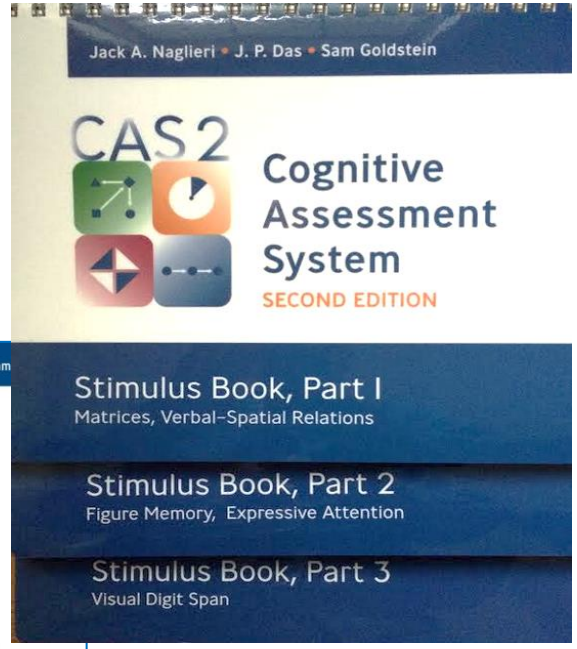


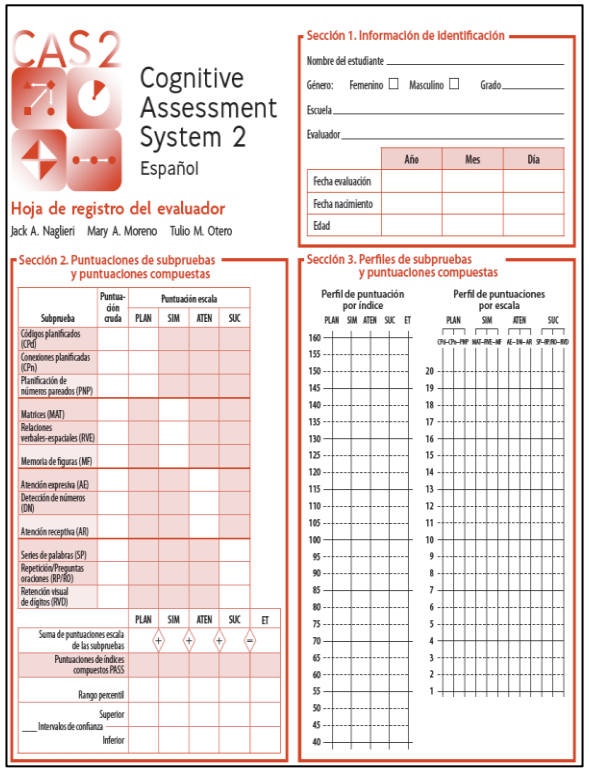
CAS2 for (Ages 5-18 yrs.)





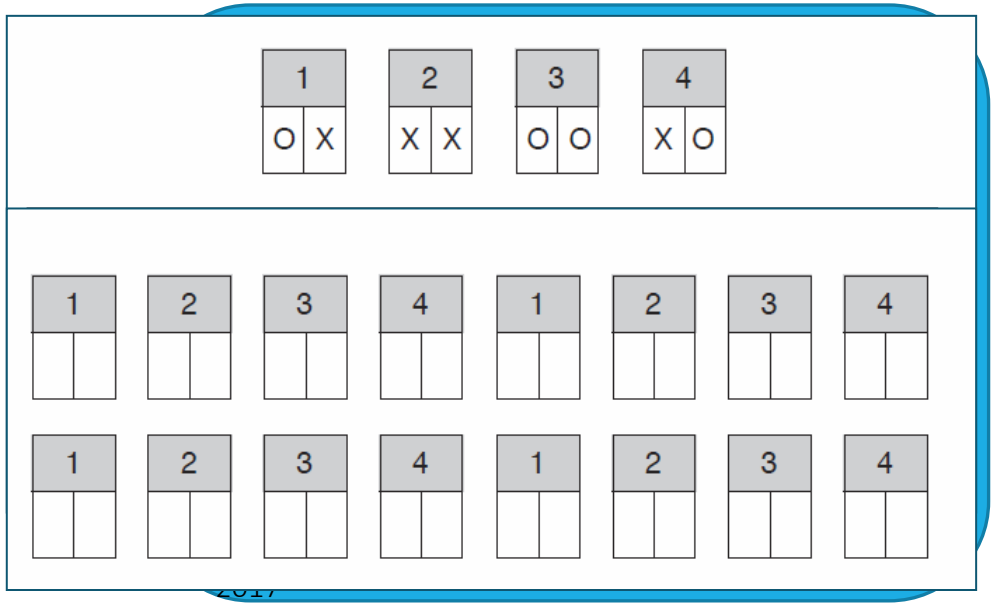






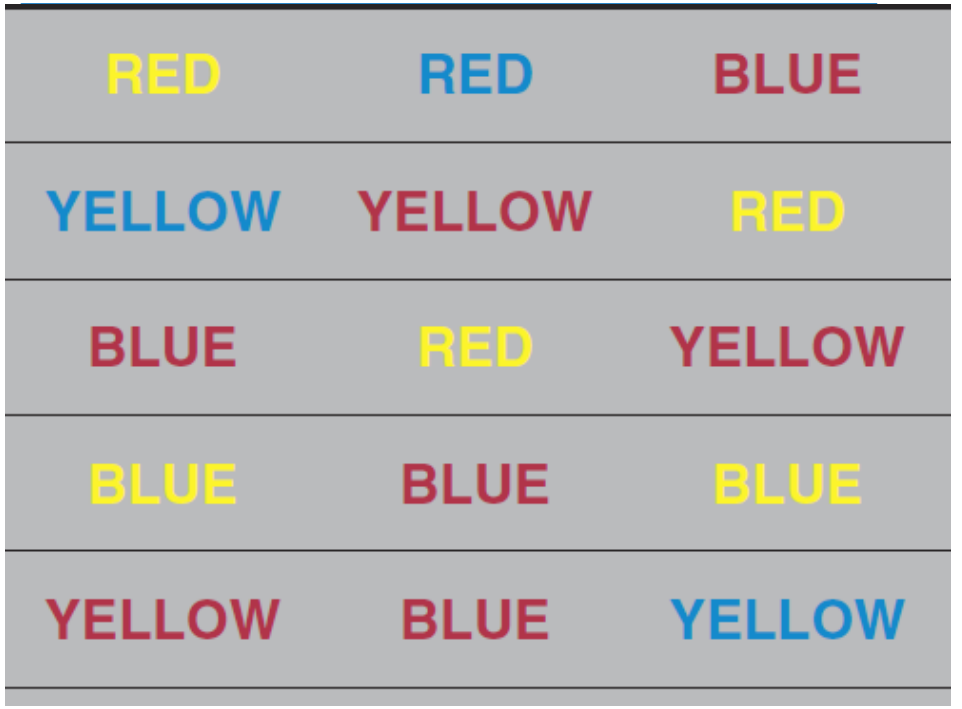
PASS Theory: Planning

- Planning is a term used to describe a neurocognitive function similar to metacognition and executive function
- Planning is needed for setting goals, making decisions, predicting the outcome of one's own and others actions, impulse control, strategy use and retrieval of knowledge
- Planning helps us make decisions about how to solve any kind of a problem from academics to social situations and life in general



PASS Theory: Attention

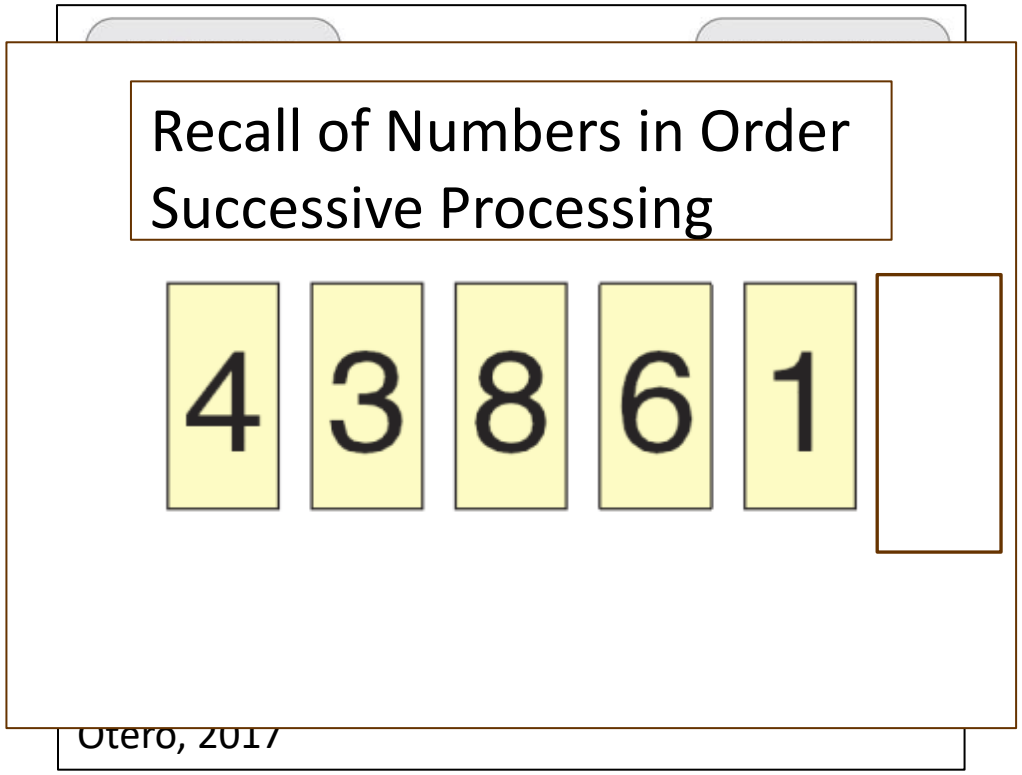
- Attention is a basic psychological process we use to
  - selectively attend to some stimuli and ignores others
  - Focus our cognitive activity
  - Selective attention
  - Resistance to distraction
  - Listening, as opposed to hearing



PASS Theory: Successive

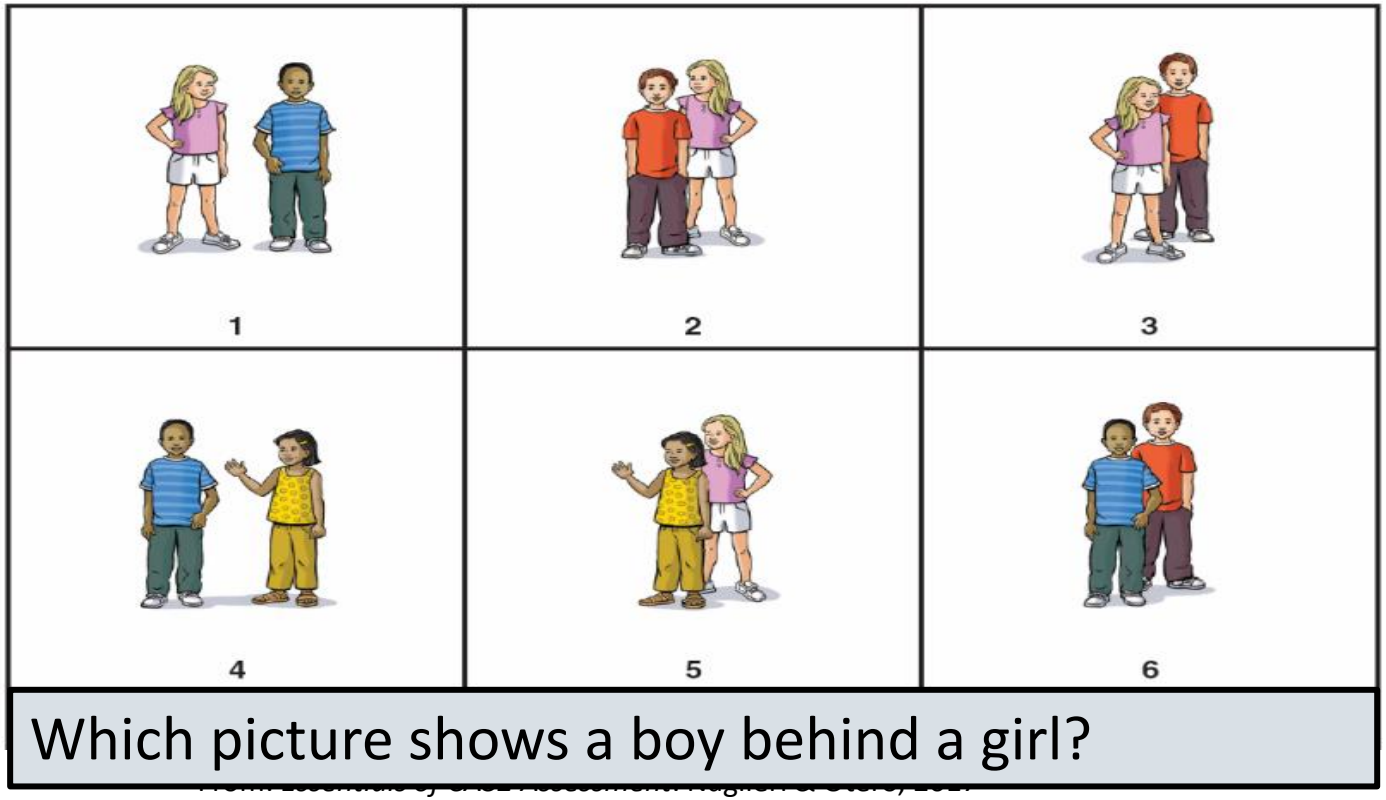
- **Successive** processing is a basic psychological process we use to manage stimuli in a specific serial order
  - Stimuli form a chain-like progression
  - Word Series
  - Sentence Repetition & Questions

- **Academic tasks**
  - Decoding words
  - Letter-sound correspondence
  - Phonological tasks
  - Understanding the syntax of sentences
  - Sequence of words, sentences, paragraphs
  - Remembering the sequence of events
  - Learning motor movements



PASS Theory: Simultaneous

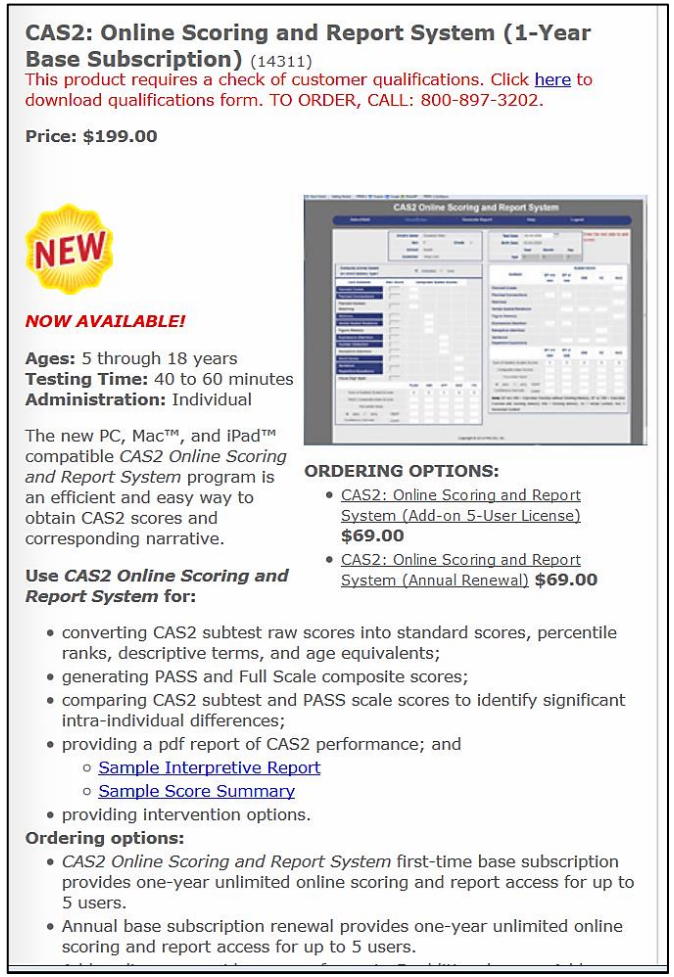
- **Simultaneous** processing is used to integrate stimuli into groups
  - Each piece must be related to the other
  - Stimuli are seen as a whole
- Academics:
  - Reading comprehension
  - geometry
  - math word problems
  - whole language
  - verbal concepts



CAS2 Online Score & Report

http://www.proedinc.com/customer/ProductView.aspx?ID=7277

- Enter data at the subtest level or enter subtest raw scores
- Online program converts raw scores to standard scores, percentiles, etc. for all scales.
- A narrative report with graphs and scores is provided



CAS2: Online Scoring and Report System (1-Year Base Subscription) (14311)

This product requires a check of customer qualifications. Click here to download qualifications form. TO ORDER, CALL: 800-897-3202.

Price: $199.00

NEW

NOW AVAILABLE!

Ages: 5 through 18 years
Testing Time: 40 to 60 minutes
Administration: Individual

The new PC, Mac™, and iPad™ compatible *CAS2 Online Scoring and Report System* program is an efficient and easy way to obtain CAS2 scores and corresponding narrative.

ORDERING OPTIONS:

- CAS2: Online Scoring and Report System (Add-on 5-User License) **$69.00**
- CAS2: Online Scoring and Report System (Annual Renewal) **$69.00**

Use *CAS2 Online Scoring and Report System* for:

- converting CAS2 subtest raw scores into standard scores, percentile ranks, descriptive terms, and age equivalents;
- generating PASS and Full Scale composite scores;
- comparing CAS2 subtest and PASS scale scores to identify significant intra-individual differences;
- providing a pdf report of CAS2 performance; and
  - Sample Interpretive Report
  - Sample Score Summary
- providing intervention options.

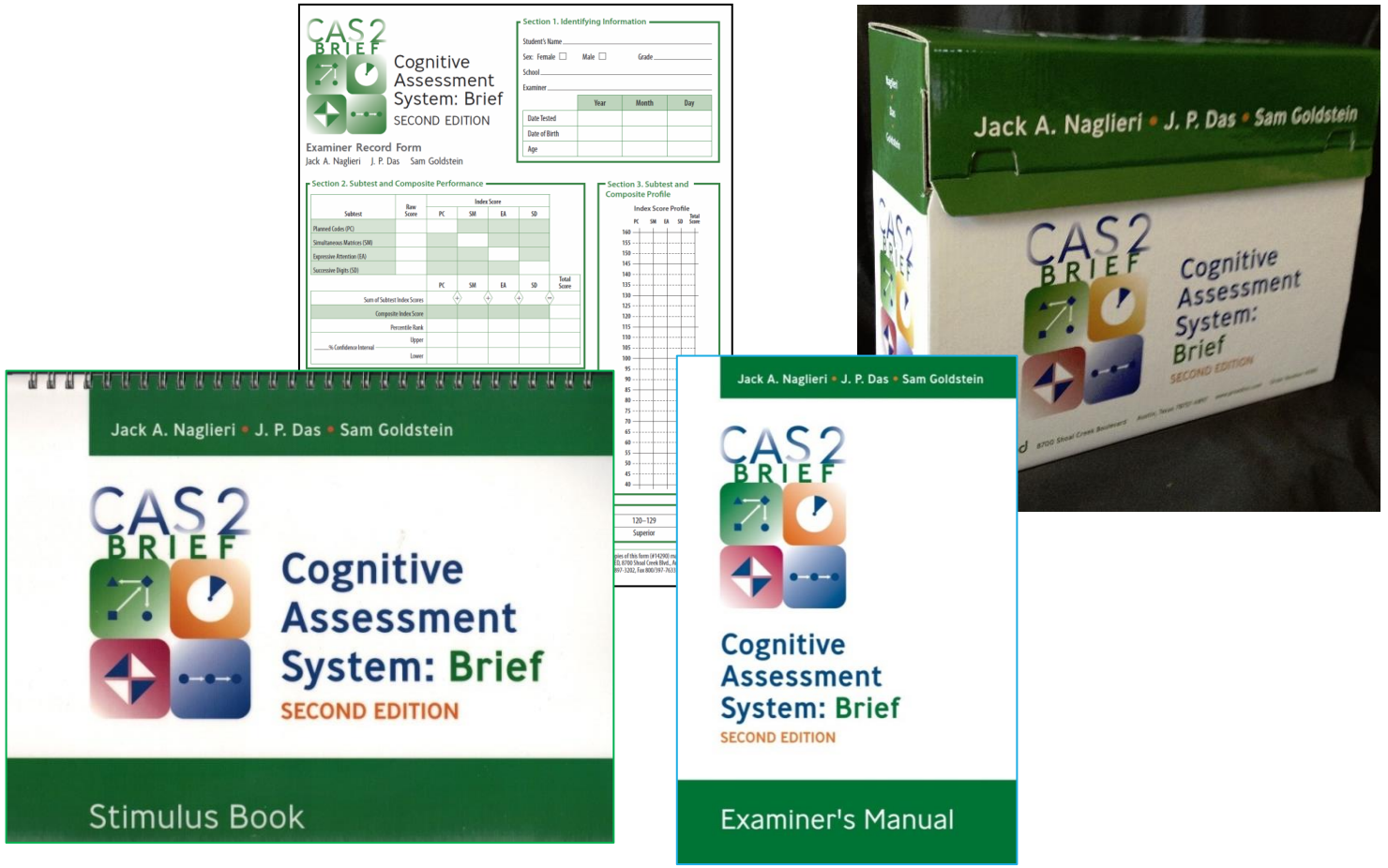
Ordering options:

- *CAS2 Online Scoring and Report System* first-time base subscription provides one-year unlimited online scoring and report access for up to 5 users.
- Annual base subscription renewal provides one-year unlimited online scoring and report access for up to 5 users.

CAS2: Brief for Ages 4-18 years

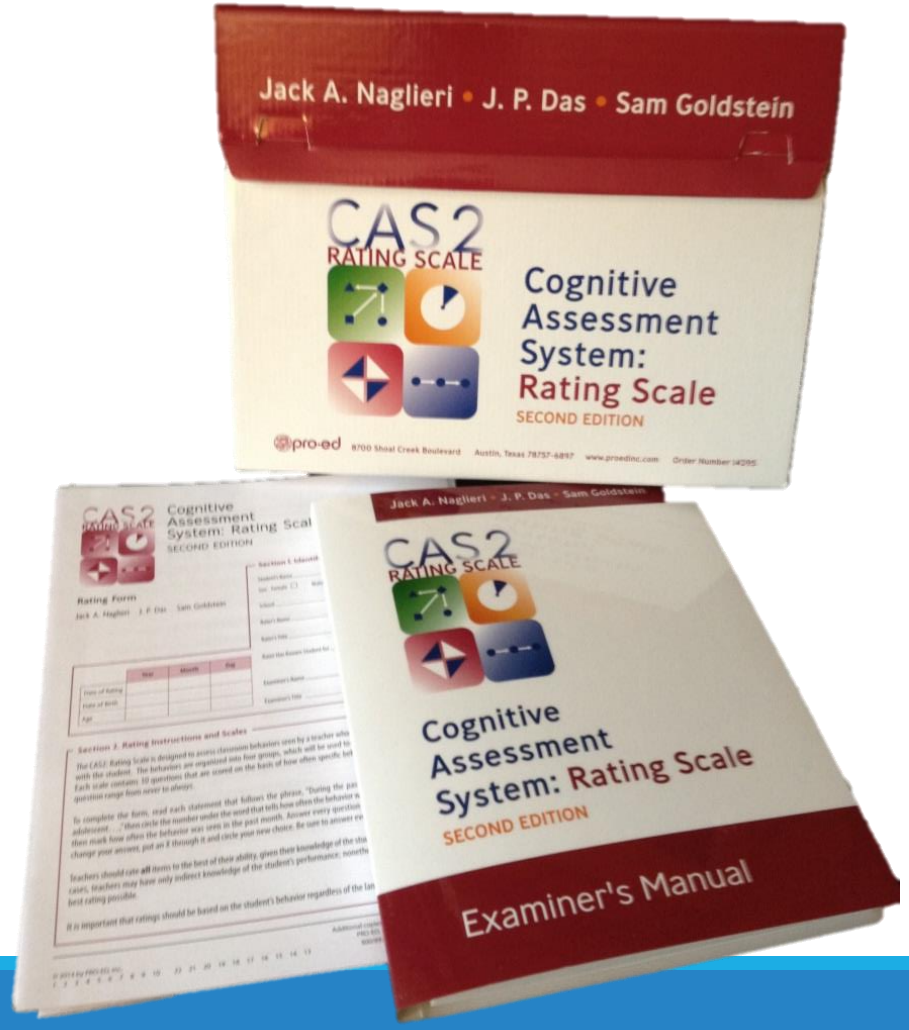
For special educators and others with some assessment training

- 4 subtests (20 minutes)
- PASS and Total Scales provided



CAS2 Rating Scales (Ages 4-18 yrs.)

- The CAS2: Rating measures behaviors associated with PASS constructs
- Completed by teachers and can be used by psychologists, special educators and regular educators



SLD Methods: Old and New

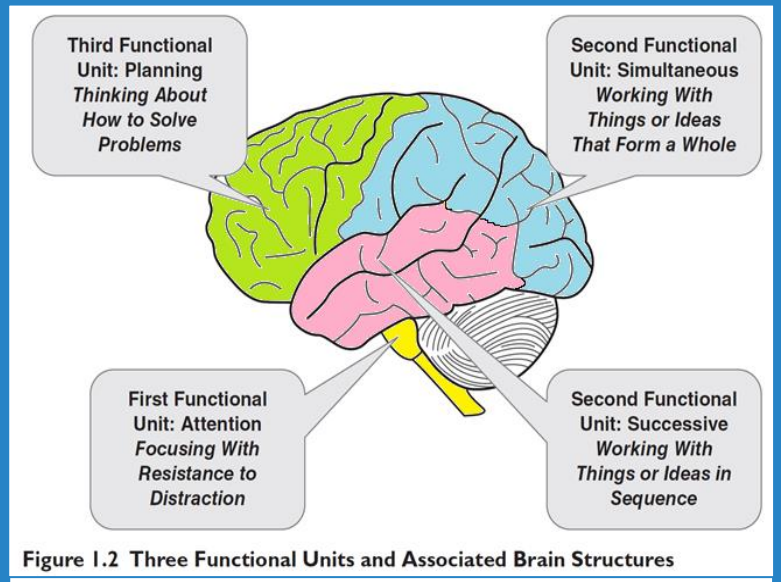


Figure 1.2 Three Functional Units and Associated Brain Structures

From: *Essentials of CAS2 Assessment*. Naglieri & Otero, 2017

A PSW Method for SLD

Discrepancy Consistency Method (DCM)

Why CAS2 & PASS with DCM

- Research Update on ‘g’
- Fair Assessment as a Social Justice Issue
- Intervention

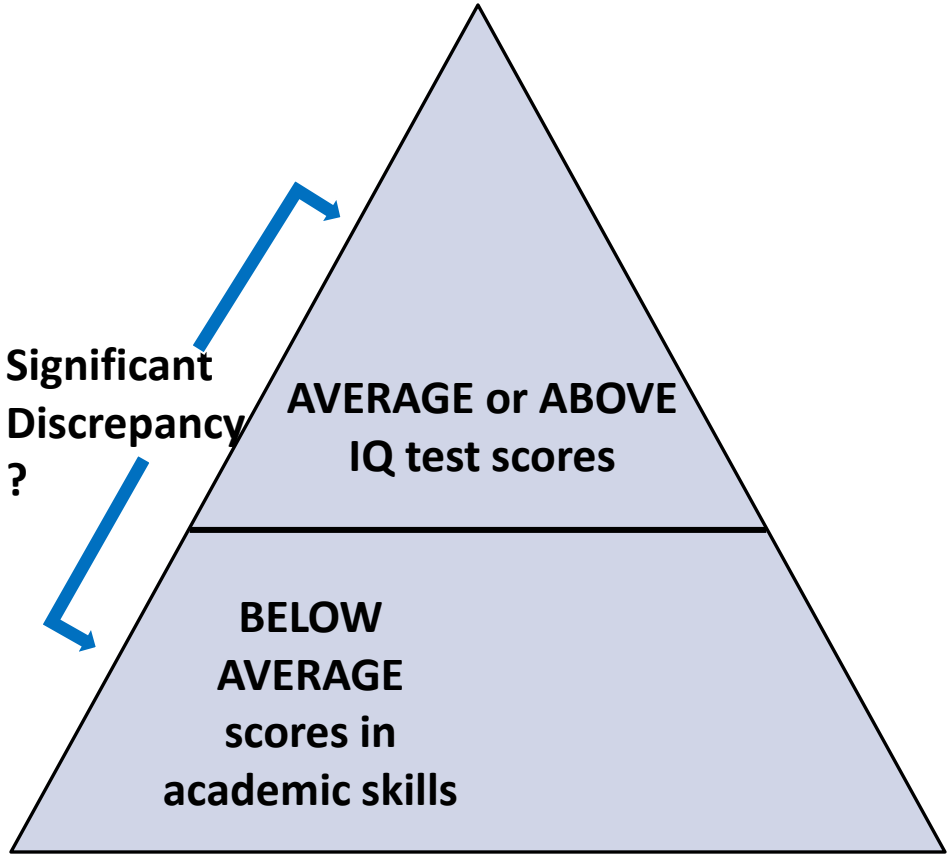
Case of Paul: 4th grade referral (Steve Feifer)

- **Case of Paul -**A 9-year-old in 4th grade
  - Problems in reading and math
  - Can't remember the sequence of steps when doing math and math facts
  - Good memory for details
  - Can't sound out words
  - Poor spelling
  - Poor reading comprehension

Paul – age 9 years

WISCV	SCORE
Verbal Comprehension	89
Visual Spatial	84
Fluid Reasoning	82
Working Memory	72
Processing Speed	76
FULL SCALE SCORE	81
WIAT III Reading	87
WIAT III Math	86
WIAT III Writing	94

- **Presenting Concerns: Reading, Math Word Problems, Anxiety**
- **Discrepancy?** IQ and achievement test scores similar
- Paul does not qualify as SLD



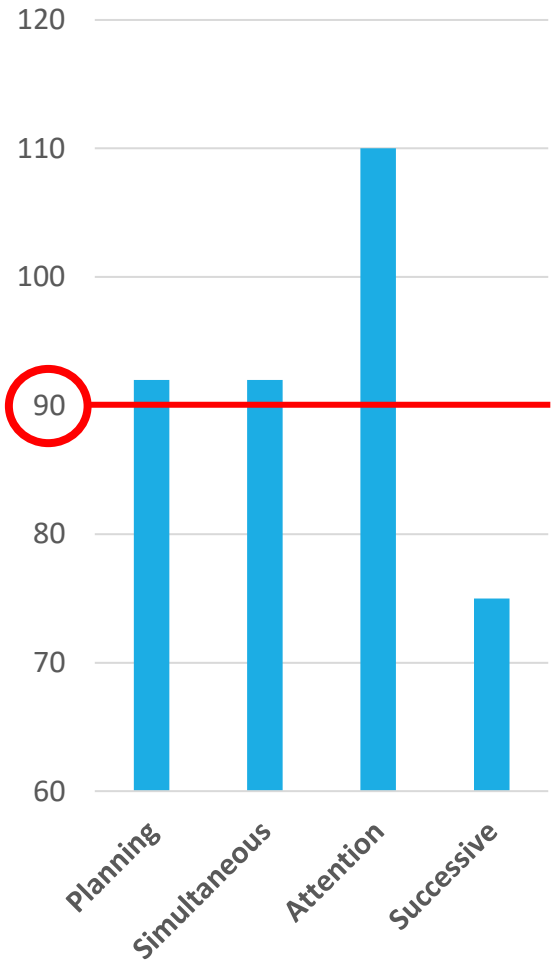
Paul – age 9 years

CAS-2	STANDARD SCORE	Classification	
Planning	92	Average	
Simultaneous	92	Average	
Attention	110	Average	
Successive	75	Very Low	

Differences Between PASS Scale Standard Scores and the Student's Average PASS Score Required for Significance for the CAS2 12-Subtest EXTENDED battery AGES 8-18 Years.

Ages 8-18 YEARS

Cognitive Assessment System - 2		Difference from PASS Mean of:	Significantly Different (at $p < .05$) from	Strength or Weakness	
PASS Scales	Standard Score	92.3			
Planning	92	-0.3	no		
Simultaneous	92	-0.3	no		
Attention	110	17.8	yes	Strength	
Successive	75	-17.3	yes		Weakness



Achievement and PASS Processes

Requires Successive Processing

FAR index	Standard score (95% CI)	Percentile	Qualitative descriptor
Phonological Index	75	5%	Moderately Below Average
Fluency Index	92	30%	Average
Mixed Index	81	10%	Below Average
Comprehension Index	97	42%	Average
FAR Total Index	**84**	**14%**	**Below Average**

Requires Successive Processing

Requires Simultaneous Processing

KEY INTERPRETATION	Score	Percentile	Descriptor
Nonsense Word Decoding – requires the student to decode a series of nonsense words presented in order of increasing difficulty .	71	3%	Moderately Below Average
Irregular Word Reading Fluency – the student reads a list of phonologically irregular words arranged in order of increasing difficulty in 60 seconds.	95	37%	Average

Discrepancy Consistency Method (Naglieri & Otero, 2017)

1. Determine if the PASS scores vary significantly from the examinee's average PASS score and the lowest score is below average (<90) (Table 3.5)
2. Determine if the high PASS scores are significantly different from the low achievement scores (Appendix A-F)
3. Determine if the LOW PASS score is or is not significantly different from the low achievement scores (Appendix A-F)

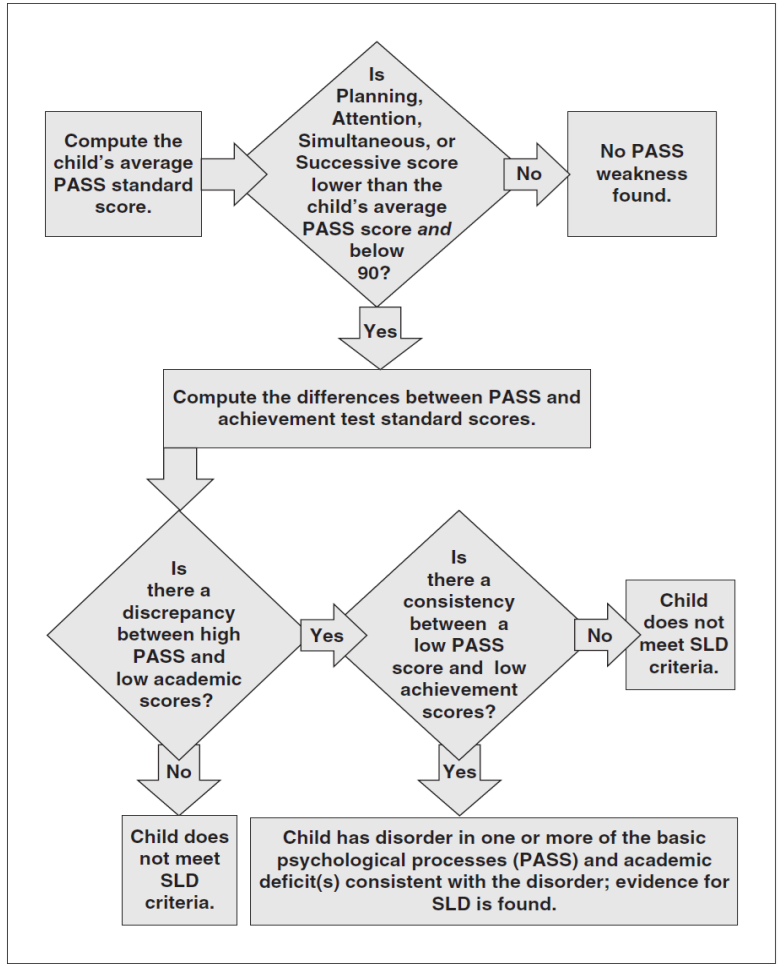
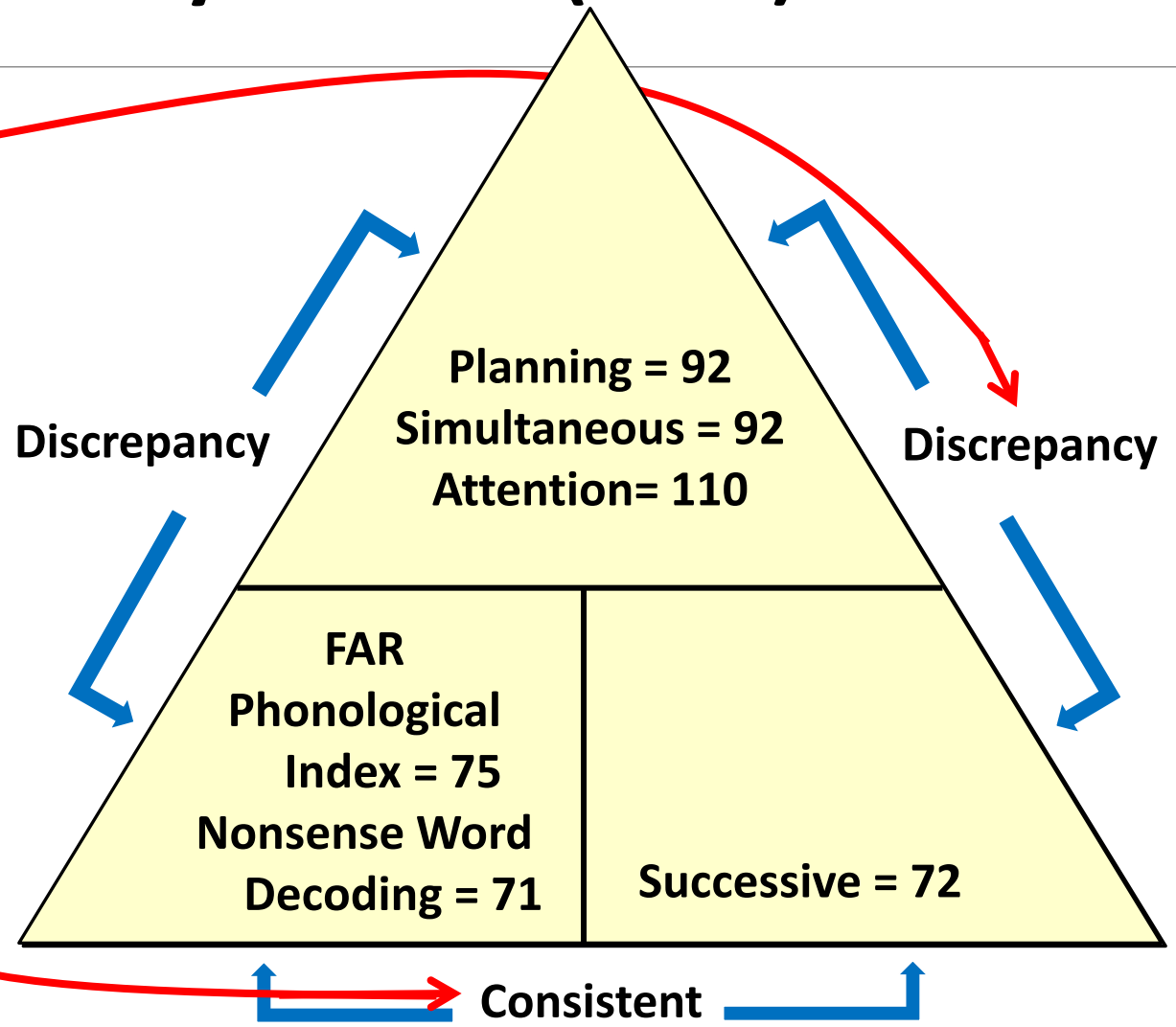
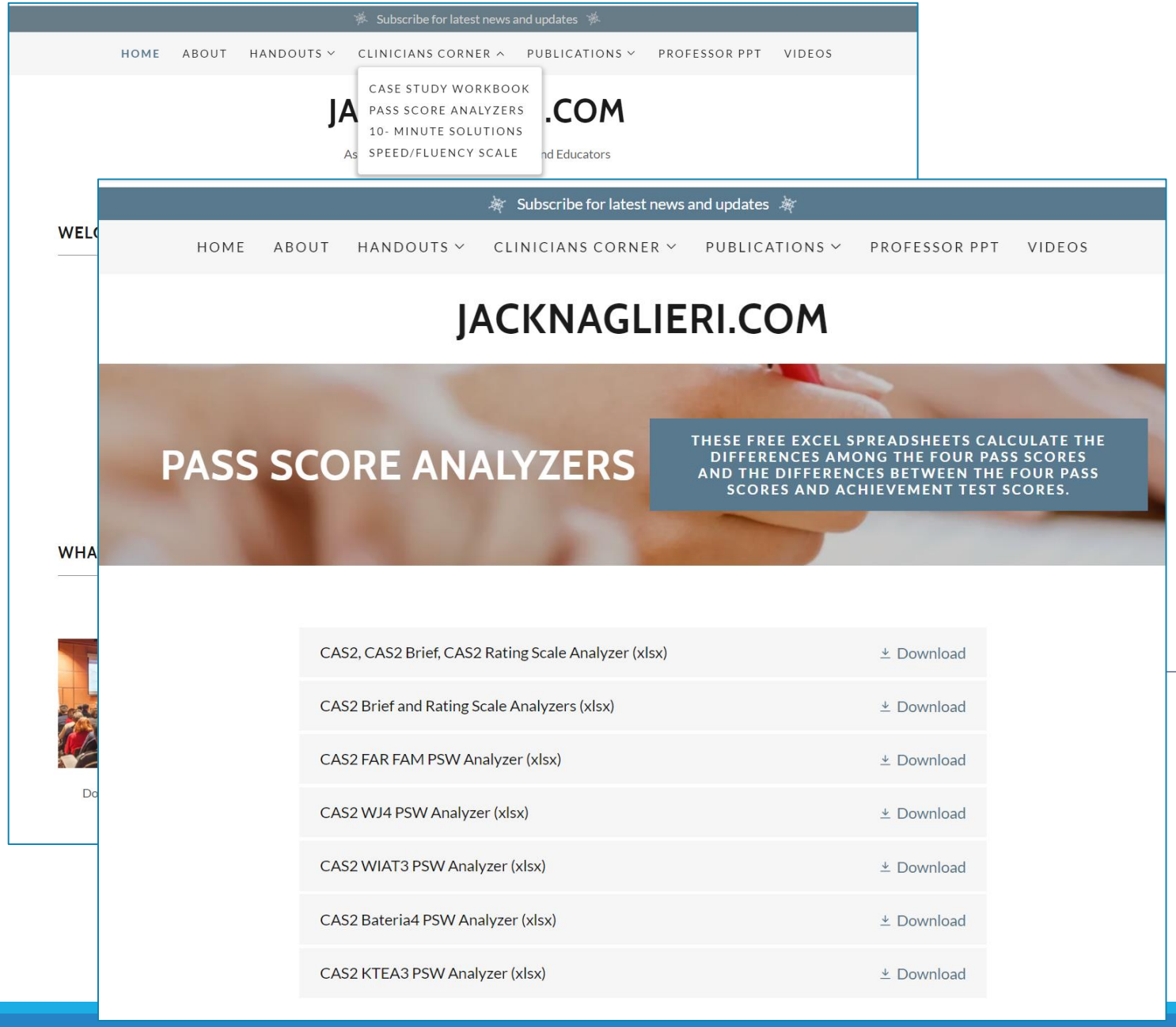


Figure 3.2 Steps for Using the Discrepancy/Consistency Method

Discrepancy Consistency Method (DCM)

- **Discrepancy** between high and low processing scores
- **Discrepancy** between high processing and low achievement
- **Consistency** between low processing and low achievement





PASS Score Analyzers (free)

CAS2 FAR Analyzer Shows PSW for Paul

CAS2 12-Subtest Extended Battery

BOX #1 Is there a PASS Pattern of Strenghts and Weaknesses (Discrepancy 1)?

Differences Between PASS Scale Standard Scores and the Student's Average PASS Score (p = .05) for the CAS2 12-Subtest EXTENDED battery.

Cognitive Assessment System-2		PASS Mean & Differences:	Significantly Different (at p = .05) from PASS Mean?	Strength or Weakness	
PASS Scales	Standard Score	92.3			
Planning	92	-0.3	no		
Simultaneous	92	-0.3	no		
Attention	110	17.8	yes	Strength	
Successive	75	-17.3	yes		Weakness

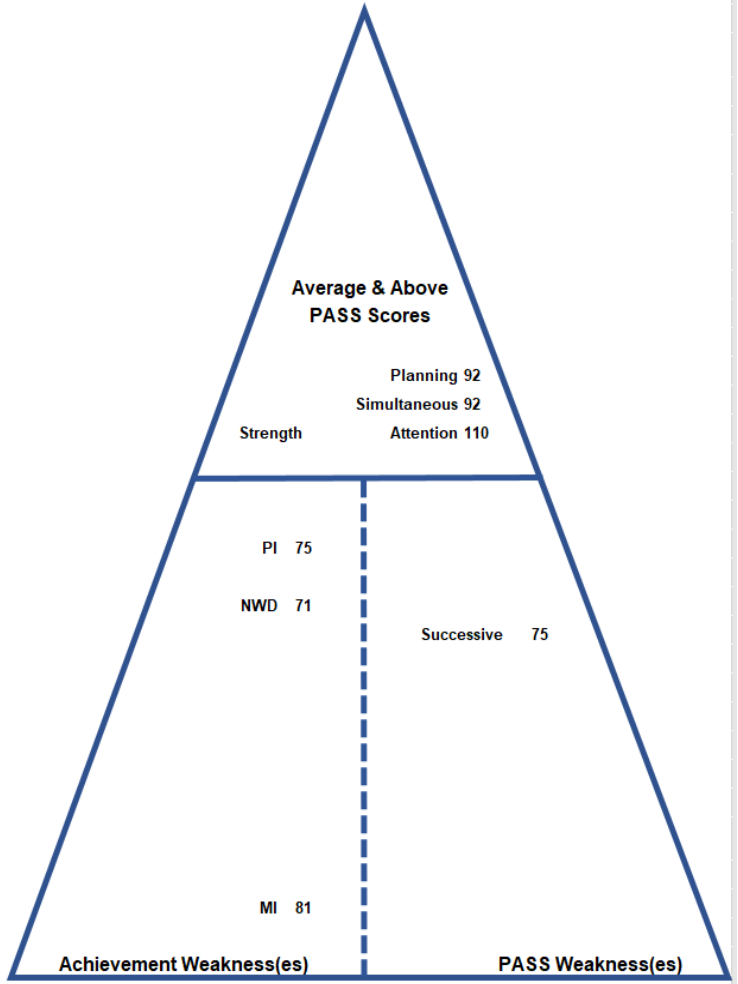
Notes

1. A Weakness is defined as PASS standard score that is significantly below the child's average PASS score (ipsative comparison at the .05 level) *and* the PASS score is below 90 (i.e. below the Average range).
2. A Strength is defined as PASS standard score that is significantly above the child's average PASS score (ipsative comparison at the .05 level) and the PASS score is above 109 (i.e. above the Average range).
3. See Essentials of CAS2 Assessment Interpretation Chapter for more details and examples.

Note: Comparisons at p = .05

BOX #2 Are high PASS scores significantly different from low achievement scores (Discrepancy 2)? Are low PASS scores similar to low achievement scores (Consistency)?

			PASS Scores from CAS2			
			Planning	Simultaneous	Attention	Successive
			92	92	110	75
Feifer Assessment of READING						
Standard Scores						
75	PI	**Phonological Index**	Discrepant	Discrepant	Discrepant	Consistent
	PA	Phonemic Awareness				
71	NWD	Nonsense Word Decoding	Discrepant	Discrepant	Discrepant	Consistent
	ISO	Isolated Word Reading Fluency				
	ORF	Oral Reading Fluency				
	PS	Positiong Sounds				
92	FI	**Fluency Index**				
	RAN	Rapid Automatic Naming				
	VF	Verbal Fluency				
	VP	Visual Perception				
95	IRR	Irregular Word Reading Fluency				
	OP	Orthographical Processing				
81	MI	**Mixed Index**	Discrepant	Discrepant	Discrepant	Consistent
97	CI	**Comprehension Index**				
	SC	Semantic Concepts				
	WR	Word Recall				
	PK	Print Knowledge				
	MP	Morphological Processing				
	MP	Silent Reading Fluency: Comprehension				
84	MP	**Total Index**			Discrepant	Consistent



Page 1 Instructions | Page 2 CAS2 Ext w FAR | Page 3 CAS2 Core w FAR | Page 4 CAS2 Ext w FAM | Page 5 CAS2 Core w FAM | Page 6 PASS w FAR | Page 7 PASS w FAM | Tech Info

Intervention Protocol (Naglieri & Kryza, 2019)

1. Help the student understand their PASS strengths and challenges (be intentional & transparent)
2. Encourage Motivation & Persistence (student's mindset)
3. Encourage strategy use (build skill sets)
4. Encourage independence and self efficacy (metacognition, self assessment & self correction)

PASS Scales	Standard Score
Planning	92
Simultaneous	92
Attention	110
Successive	75

Intervention Plan for Paul

1. Be Intentional and Transparent
   - Teach him about his brain and his PASS strengths and challenges
2. Encourage Motivation and Persistence (Mindsets)
   - Teach him about Growth Mindsets.
   - Discuss what will he say to himself when learning gets hard.
3. Strategies to Build on His Strengths to Manage Challenges (Skill Sets)
   - Use his Attention, Planning and Simultaneous Strengths to support his learning challenges
   - Develop strategies to manage challenges in Successive processing
4. Encourage independence and self-efficacy
   - Have him self assess regularly and note what's working and what he needs to do differently.

PASS Scales	Standard Score
Planning	92
Simultaneous	92
Attention	110
Successive	75

How to Be Smart: Planning

When we say people are smart, we usually mean that they know a lot of information. But being smart also means that someone has a lot of ability to learn new things. Being smart at learning new things includes knowing and using your *thinking abilities*. There are ways you can use your abilities *better* when you are learning.

What Does Being Smart Mean?

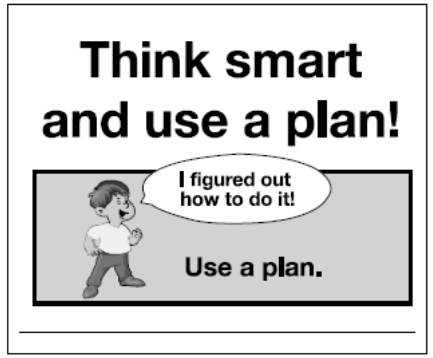
One ability that is very important is called *Planning*. The ability to *plan* helps you figure out *how to do things*. When you don't know how to solve a problem, using Planning ability will help you figure out how to do it. This ability also helps you control what you think and do. It helps you to stop before doing something you shouldn't do. Planning ability is what helps you wait until the time is right to act. It also helps you make good decisions about what to say and what to do.

How Can You Be Smarter?

You can be smarter if you PLAN before doing things. Sometimes people say, "Look before you leap," "Plan your work and work your plan," or "Stop and think." These sayings are about using the ability to plan. When you stop and think about *how* to study, you are using your ability to plan.

You will be able to do more if you remember to use a plan. An easy way to remember to use a plan is to look at the picture "Think smart and use a plan!" (Figure 1). You should always use a plan for reading, vocabulary, spelling, writing, math problem solving, and science.

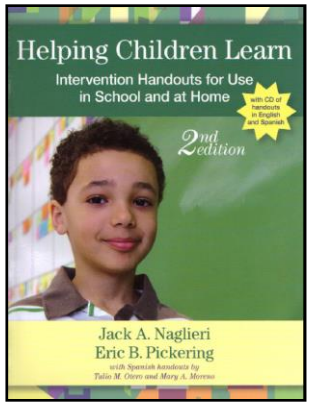
Do you have a favorite plan for learning spelling words? Do you use flashcards or go on the Internet to learn? Do you ask the teacher or another student for help? You can learn more by using a plan for studying that works best for you.

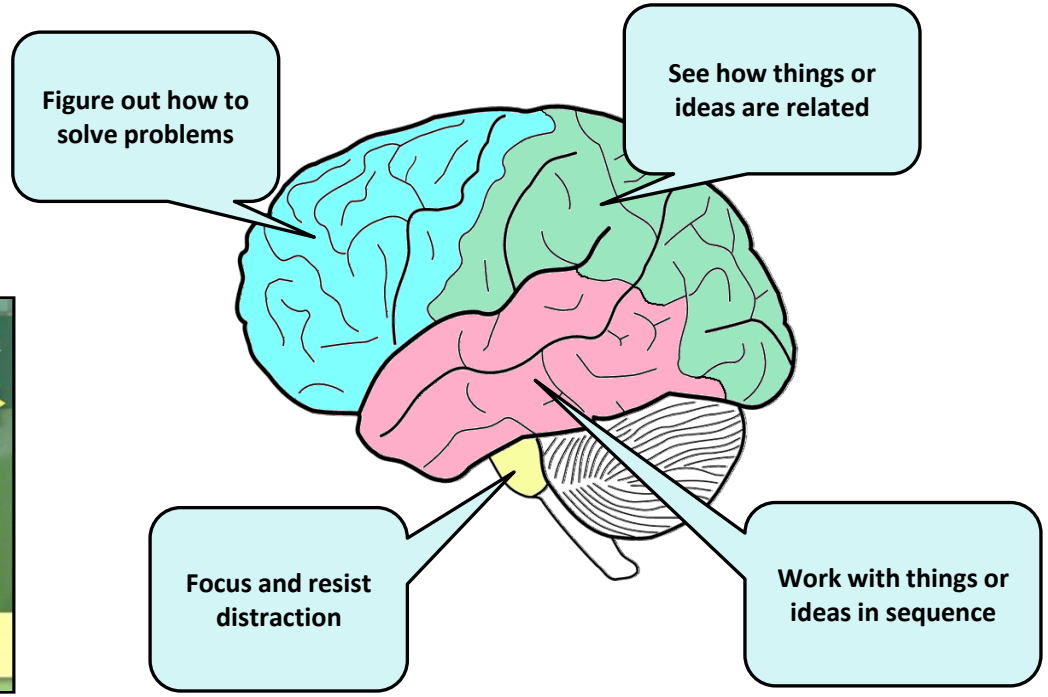


It is smart to have a plan for doing all schoolwork. When you read, you should have a plan. One plan is to look at the questions you have to answer about the story first. Then read the story to find the answers. Another plan is to make a picture of what you read so that you can see all the parts of the story. When you write you should also have a plan. Students who are good at writing plan and organize their thoughts first. Then they think about what they are doing as they write. Using a plan is a good way to be smarter about your work!

Figure 1. Picture reminder for using a plan.

Teach Students to Think Smart !





- Helping Children Learn
  Intervention Handouts for Use in School and at Home, *Second Edition*
  By Jack A. Naglieri, Ph.D., & Eric B. Pickering, Ph.D.,
- Spanish handouts by Tulio Otero, Ph.D., & Mary Moreno, Ph.D.

Be Intentional and Transparent

- Give Paul the PASS handouts from Helping Children Learn
- Explain Strengths
  - We're going to work on using your strengths in Attention, Planning, and Simultaneous processing to help you manage tasks that demand sequencing
- Explain Weakness
  - The part of your brain that makes learning challenging for you is the part that is needed for *recognizing sequences. (Successive Processing)*

PASS Scales	Standard Score
Planning	92
Simultaneous	92
Attention	110
Successive	75

Intervention Protocol (Naglieri & Kryza, 2019)

- Use Strengths in Planning and Simultaneous

Using Plans to Overcome Anxiety

Some children feel very anxious when they approach a new situation, and they are not sure what to do. Anxiety is a very common emotion for anyone, especially children, and it can be particularly

Graphic Organizers for Connecting and Remembering Information

Remembering and relating information is a common part of learning and daily life. Students are often expected to learn large amounts of new and unfamiliar information. Learning facts requires the student to see how information is connected or related. Students often remember this information better if they see it graphically and understand how it relates to knowledge they already have. Graphic organizers are designed to help students (and teachers) present and organize information so it is easier to understand and remember.

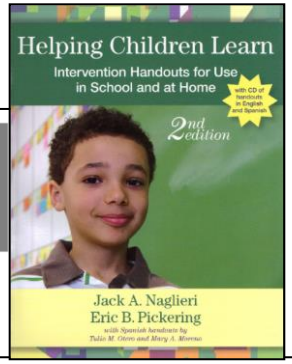
Graphic Organizers

New information is better remembered if it is connected to information the students already know. Graphic organizers are visual representations of information that shows the links of new information to other new and existing information. This makes the new information easier to understand and learn. Furthermore, the visual nature of graphic organizers and the links they make help students understand the connections between information parts. For example, a graphic organizer might be used to teach young children about different animals. A child learning about different kinds of animals might already know what a fish is. This knowledge can be used to graphically organize whales, sharks, and dolphins. They all live underwater, but sharks have gills and are fish. (Whales and dolphins have blowholes and breathe air, so they are not fish.) Figure 1 represents one way to map this graphically.

Ocean

Another type of graphic organizer is a Venn diagram, which

- To overcome problems with tasks that demand sequencing (Successive processing)



Segmenting Words for Reading/Decoding and Spelling

Decoding a written word requires the person to make sense out of printed letters and words and to translate letter sequences into sounds. This demands understanding the sounds that letters

Chunking for Reading/Decoding

Reading/decoding requires the student to look at the sequence of the letters in words and understand the organization of specific sounds in order. Some students have difficulty with long sequences of letters and may benefit from instruction that helps them break the word into smaller, more manageable units, called *chunks*. Sometimes the order of the sounds in a word is more easily organized if the entire word is broken into these units. These chunks can be combined into units for accurate decoding. Chunking for reading/decoding is a strategy designed to do that.

How to Teach Chunking for Reading/Decoding

Teachers should first teach the children what it means to chunk or group information so that it can

Ideas to Consider

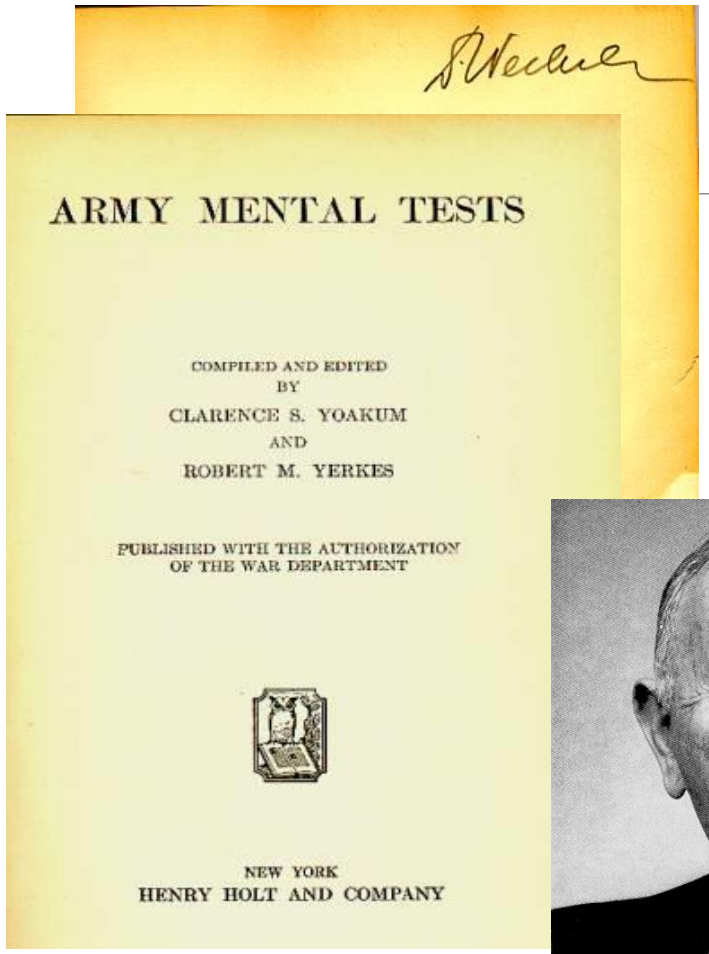
A PSW Method for SLD

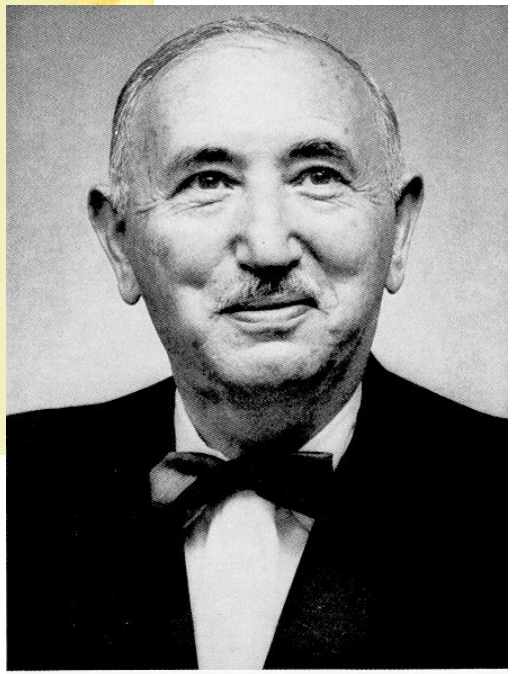
- Discrepancy Consistency Method (DCM)

Why CAS2 & PASS with DCM

- Research Update on ‘g’
- Fair Assessment as a Social Justice Issue
- Intervention

Wechsler (1939)



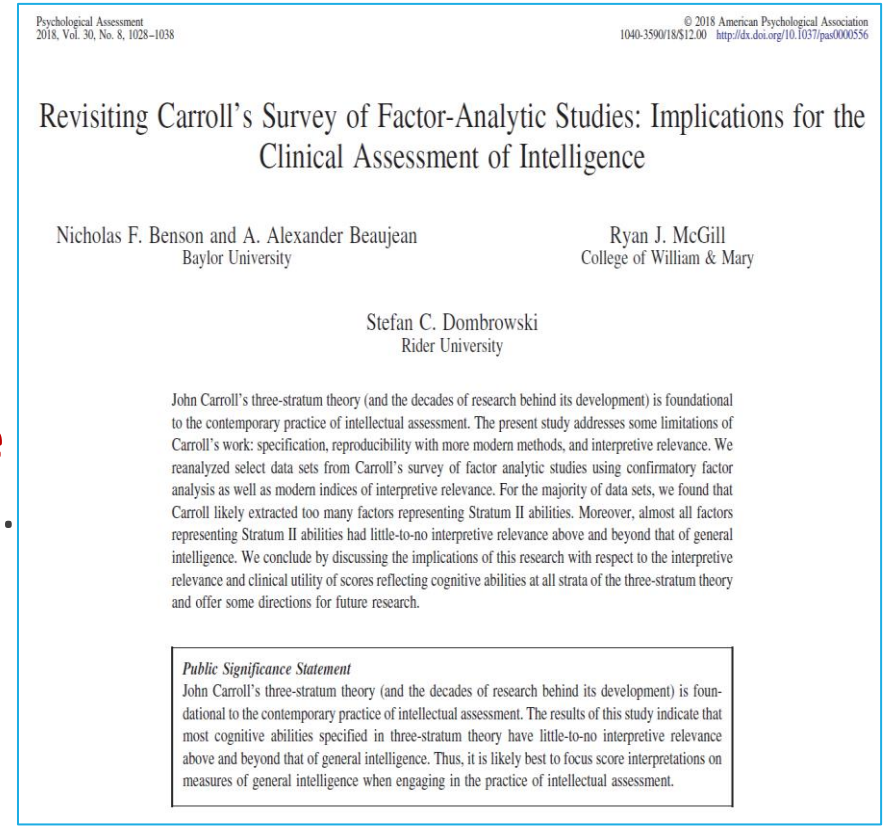


David Wechsler, Ph.D.

- His definition of intelligence does not mention verbal or nonverbal *abilities*:
  - **"The aggregate or global capacity of the individual to act purposefully, to think rationally, and to deal effectively with his environment (1939)"**

Support for ‘g’: Research on CHC

- John Carroll’s three-stratum theory … is foundational to the contemporary practice of intellectual assessment.
- **The results of this study indicate that most cognitive abilities specified in three-stratum theory have little-to-no interpretive relevance above and beyond that of general intelligence.**
- Thus, it is likely **best to focus score interpretations on measures of *general intelligence* when engaging in the practice of intellectual assessment.**



Psychological Assessment
2018, Vol. 30, No. 8, 1028–1038

1040-3590/18/$12.00 http://dx.doi.org/10.1037/pas0000556

Revisiting Carroll’s Survey of Factor-Analytic Studies: Implications for the Clinical Assessment of Intelligence

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Baylor University

Ryan J. McGill
College of William & Mary

Stefan C. Dombrowski
Rider University

John Carroll’s three-stratum theory (and the decades of research behind its development) is foundational to the contemporary practice of intellectual assessment. The present study addresses some limitations of Carroll’s work: specification, reproducibility with more modern methods, and interpretive relevance. We reanalyzed select data sets from Carroll’s survey of factor analytic studies using confirmatory factor analysis as well as modern indices of interpretive relevance. For the majority of data sets, we found that Carroll likely extracted too many factors representing Stratum II abilities. Moreover, almost all factors representing Stratum II abilities had little-to-no interpretive relevance above and beyond that of general intelligence. We conclude by discussing the implications of this research with respect to the interpretive relevance and clinical utility of scores reflecting cognitive abilities at all strata of the three-stratum theory and offer some directions for future research.

Public Significance Statement
John Carroll’s three-stratum theory (and the decades of research behind its development) is foundational to the contemporary practice of intellectual assessment. The results of this study indicate that most cognitive abilities specified in three-stratum theory have little-to-no interpretive relevance above and beyond that of general intelligence. Thus, it is likely best to focus score interpretations on measures of general intelligence when engaging in the practice of intellectual assessment.

Research Supports ‘g’ but little More

Benson, N. F., Beaujean, A. A., McGill, R. J, & Dombrowski, S. C. (2018). Revisiting **Carroll’s Survey of Factor-Analytic Studies**: Implications for the Clinical Assessment of Intelligence. *Psychological Assessment,* 30, 8, 1028–1038.

Canivez, G. L., Watkins, M. W., & Dombrowski, S. C. (2017). Structural validity of the **Wechsler Intelligence Scale for Children–Fifth Edition:** Confirmatory factor analyses with the 16 primary and secondary subtests. *Psychological Assessment, 29,* 458-472.

Canivez, G. L., & McGill, R. J. (2016). Factor structure of the **Differential Ability Scales–Second Edition**: Exploratory and hierarchical factor analyses with the core subtests. *Psychological Assessment, 28,* 1475-1488. http://dx.doi.org/10.1037/pas0000279

Canivez, G. L., & McGill, R. J. (2016). Factor structure of the **Differential Ability Scales-Second Edition**: Exploratory and hierarchical factor analyses with the core subtests. Psychological Assessment, 28, 1475–1488. https://doi.org/10.1037/pas0000279

Canivez, G. L. (2008). Orthogonal higher order factor structure of the **Stanford-Binet Intelligence Scales-Fifth Edition** for children and adolescents. School Psychology Quarterly, 23, 533–541.

Dombrowski, S. C., **Canivez, G. L.,** & Watkins, M. W. (2017, May). Factor structure of the 10 **WISC–V** primary subtests across four standardization age groups. *Contemporary School Psychology.* Advance online publication.

Dombrowski, S. C., McGill, R. J., & Canivez, G. L. (2017). Exploratory and hierarchical factor analysis of the **WJ IV Cognitive** at school age. *Psychological Assessment, 29,* 394-407.

McGill, R. J., & **Canivez, G. L.** (2017, October). Confirmatory factor analyses of the **WISC–IV Spanish** core and supplemental Subtests: Validation evidence of the Wechsler and CHC models. *International Journal of School and Educational Psychology*. Advance online publication.

Watkins, M. W., Dombrowski, S. C., & **Canivez, G. L.** (2017, October). Reliability and factorial validity of the **Canadian Wechsler Intelligence Scale for Children–Fifth Edition**. *International Journal of School and Educational Psychology*.

Implications of … only measure ‘g’

- The Scales on our intelligence tests (with one exception) are irrelevant!
  - That is, because ‘g’ is the only empirically supported score, we should not interpret the different scales on the WISC-V nor on the WJ, DAS, SB5
  - WHY do we have this problem?
    - The tests we use are based on 100 year-old concept of Alpha and Beta
    - THERE WAS and REMAINS NO THEORETICAL conceptualization that drove the creation of traditional intelligence tests

Support for PASS Scales

School Psychology Quarterly
2011, Vol. 26, No. 4, 305–317

1045-3830/11/$12.00 DOI: 10.1037/a0025973

Hierarchical Factor Structure of the Cognitive Assessment System: Variance Partitions From the Schmid–Leiman (1957) Procedure

Gary L. Canivez
Eastern Illinois University

Orthogonal higher-order factor structure of the Cognitive Assessment System (CAS; Naglieri & Das, 1997a) for the 5–7 and 8–17 age groups in the CAS standardization sample is reported. Following the same procedure as recent studies of other prominent intelligence tests (Dombrowski, Watkins, & Brogan, 2009; Canivez, 2008; Canivez & Watkins, 2010a, 2010b; Nelson & Canivez, 2011; Nelson, Canivez, Lindstrom, & Hatt, 2007; Watkins, 2006; Watkins, Wilson, Kotz, Carbone, & Babula, 2006), three- and four-factor CAS exploratory factor extractions were analyzed with the Schmid and Leiman (1957) procedure using MacOrtho (Watkins, 2004) to assess the hierarchical factor structure by sequentially partitioning variance to the second- and first- order dimensions as recommended by Carroll (1993, 1995). Results showed that greater portions of total and common variance were accounted for by the second-order, global factor, but compared to other tests of intelligence CAS subtests measured less second-order variance and greater first-order Planning, Attention, Simultaneous, and Successive (PASS) factor variance.

Keywords: CAS, construct validity, hierarchical exploratory factor analysis, Schmid–Leiman higher-order analysis, structural validity

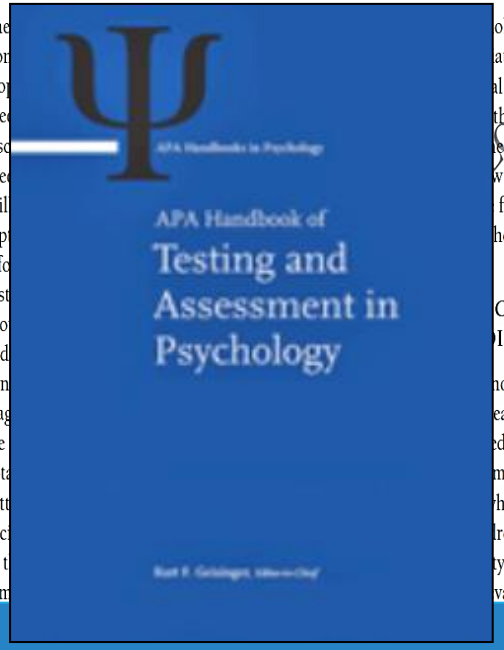
- "…compared to the WISC–IV, WAIS–IV, SB–5, RIAS, WASI, and WRIT, the CAS subtests had less variance apportioned to the higher-order general factor (g) and *greater proportions of variance apportioned to first-order (PASS…) factors*.
- This is consistent with the subtest selection and construction in an attempt to measure PASS dimensions linked to PASS theory … and neuropsychological theory (Luria)." (p. 311)

PASS Scales can be Interpreted and SHOULD be: Profiles

CHAPTER 1

PSYCHOLOGICAL ASSESSMENT BY SCHOOL PSYCHOLOGISTS: OPPORTUNITIES AND CHALLENGES OF A CHANGING LANDSCAPE

Jack A. Naglieri

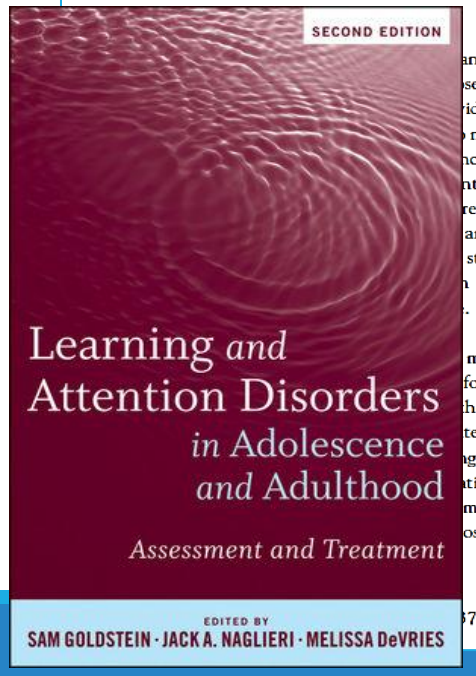


CHAPTER

6

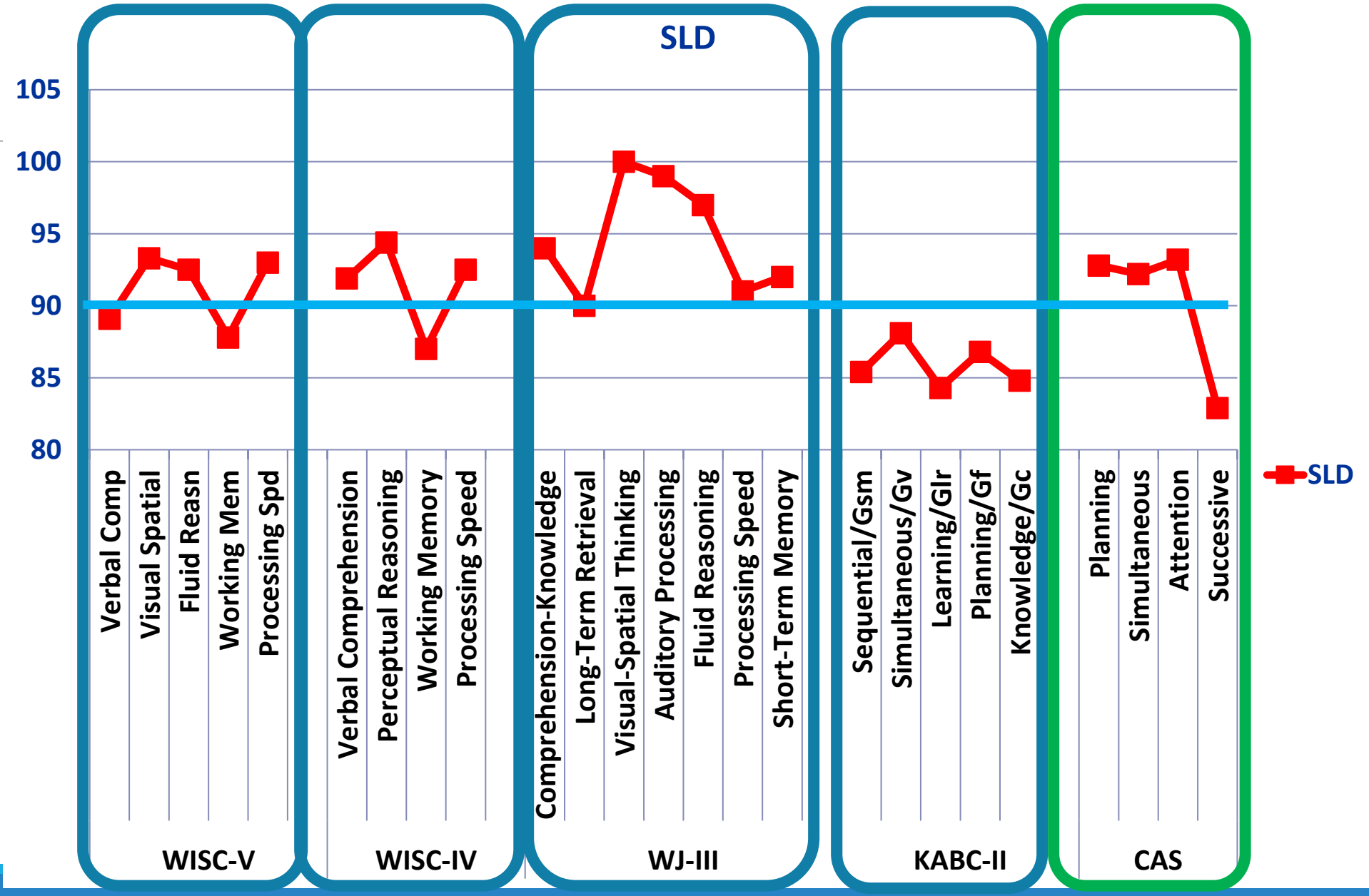
Assessment of Cognitive and Neuropsychological Processes

JACK A. NAGLIERI
SAM GOLDSTEIN

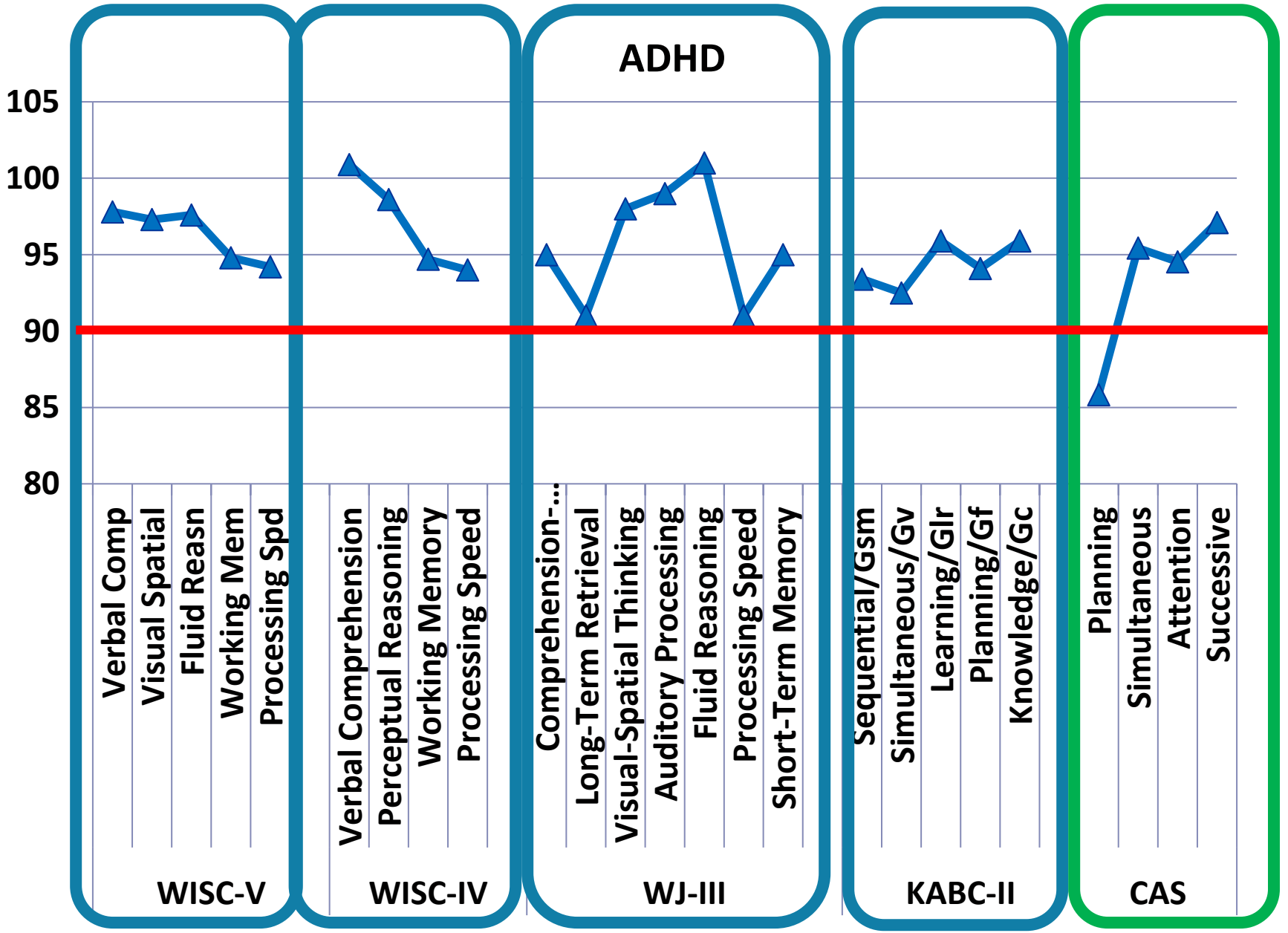


Profiles for SLD (reading decoding)

Profiles on all these widely used ability tests show that PASS scores from the CAS are sensitive to the cognitive component that underlies READING DECODING failure (Successive Processing)

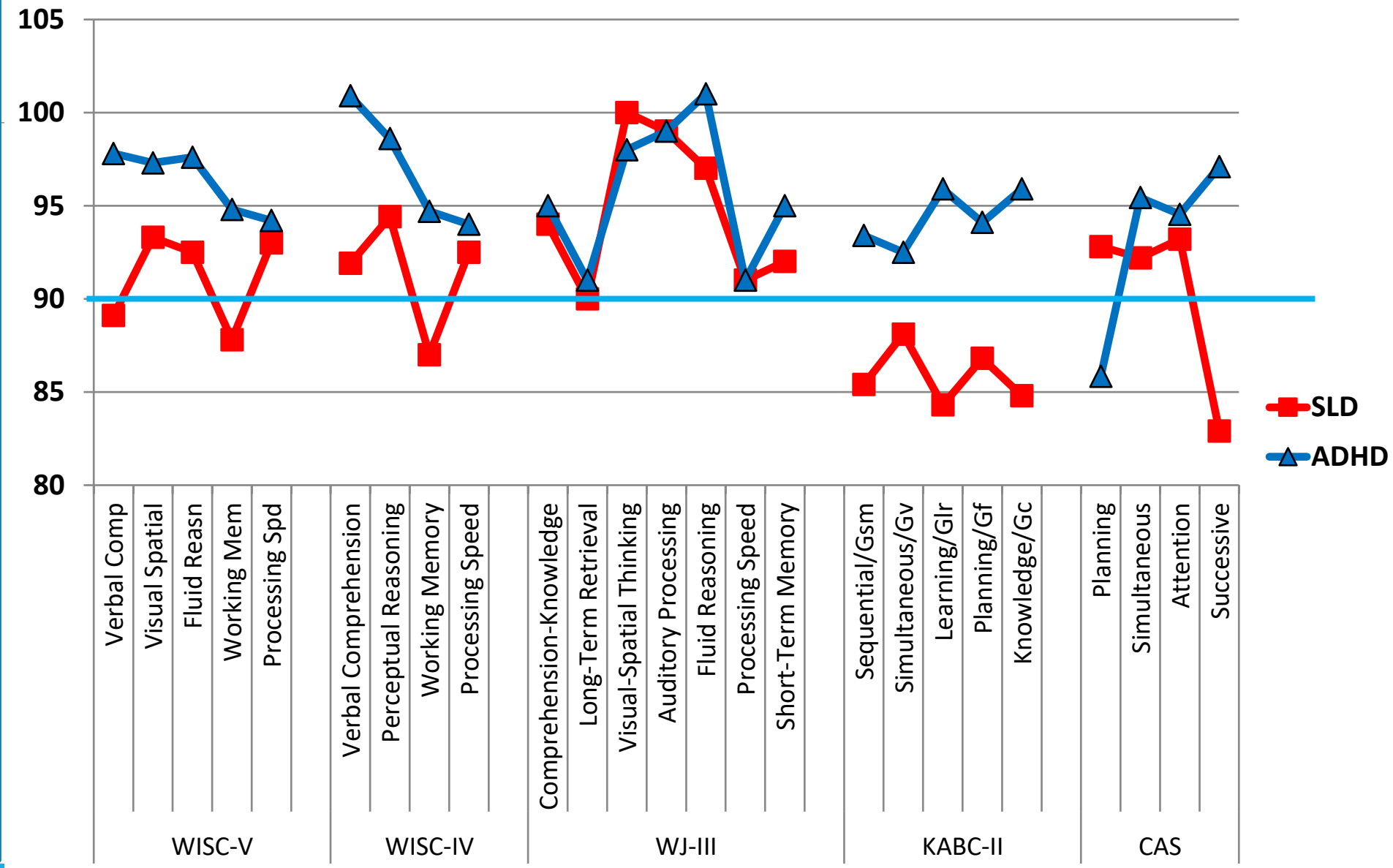


Profiles on all these widely used ability tests show that PASS scores from the CAS are sensitive to the cognitive component of ADHD Hyperactive / Combined Type (Planning)



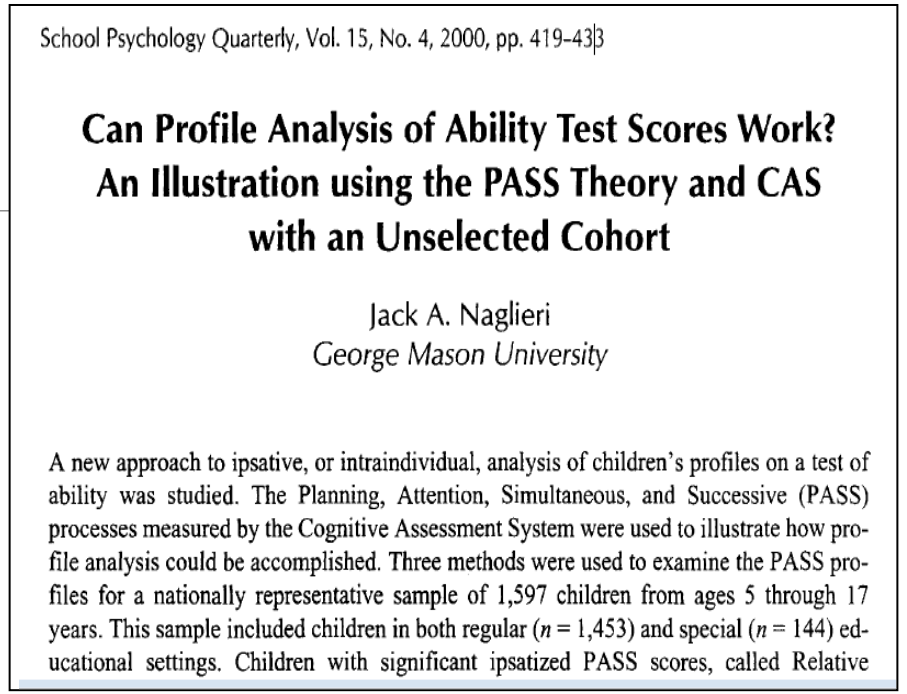
Profiles for SLD (reading decoding) & ADHD

Looking at SLD and ADHD profiles on all these tests is very revealing…PASS works



Research on PASS Profiles

Students receiving special education were more than four times as likely to have at least one PASS weakness and a comparable academic weakness than those in regular education

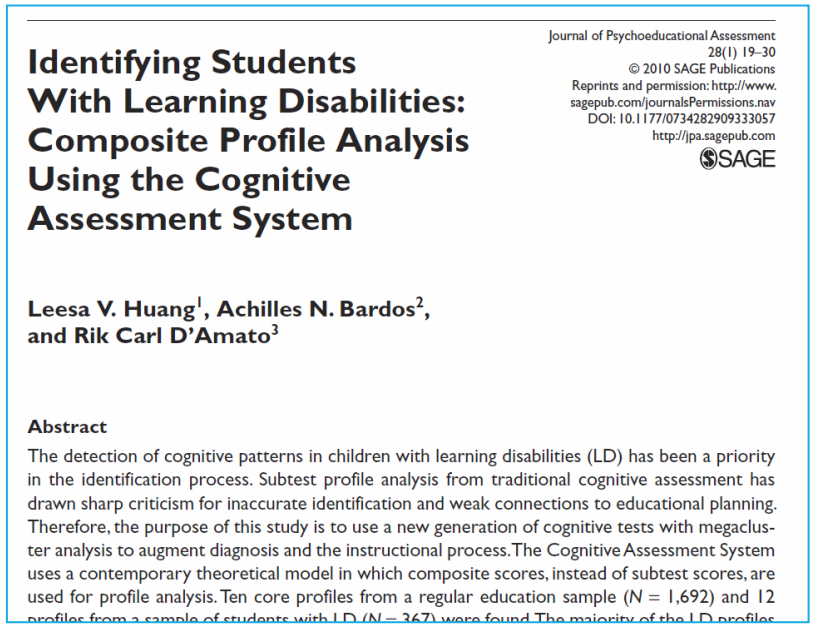


School Psychology Quarterly, Vol. 15, No. 4, 2000, pp. 419-433

Can Profile Analysis of Ability Test Scores Work? An Illustration using the PASS Theory and CAS with an Unselected Cohort

Jack A. Naglieri
George Mason University

A new approach to ipsative, or intraindividual, analysis of children's profiles on a test of ability was studied. The Planning, Attention, Simultaneous, and Successive (PASS) processes measured by the Cognitive Assessment System were used to illustrate how profile analysis could be accomplished. Three methods were used to examine the PASS profiles for a nationally representative sample of 1,597 children from ages 5 through 17 years. This sample included children in both regular (n = 1,453) and special (n = 144) educational settings. Children with significant ipsatized PASS scores, called Relative



Identifying Students With Learning Disabilities: Composite Profile Analysis Using the Cognitive Assessment System

Journal of Psychoeducational Assessment
28(1) 19–30

DOI: 10.1177/0734282909333057
http://jpa.sagepub.com
SAGE

Leesa V. Huang[1], Achilles N. Bardos[2], and Rik Carl D'Amato[3]

Abstract

The detection of cognitive patterns in children with learning disabilities (LD) has been a priority in the identification process. Subtest profile analysis from traditional cognitive assessment has drawn sharp criticism for inaccurate identification and weak connections to educational planning. Therefore, the purpose of this study is to use a new generation of cognitive tests with megacluster analysis to augment diagnosis and the instructional process. The Cognitive Assessment System uses a contemporary theoretical model in which composite scores, instead of subtest scores, are used for profile analysis. Ten core profiles from a regular education sample (N = 1,692) and 12 profiles from a sample of students with LD (N = 367) were found. The majority of the LD profiles

"Ten core profiles from a regular education sample (N = 1,692) and 12 profiles from a sample of students with LD (N = 367) were found.

Evidence:
We CAN
do BETTER

A PSW Method for SLD

- Discrepancy Consistency Method (DCM)

Why CAS2 & PASS with DCM

- Research Update on ‘g’
- Fair Assessment as a Social Justice Issue
- Intervention

Cognitive Assessment as a Social Justice Issue

- According to the *Standards for Educational and Psychological Testing* (AERA, APA, NCME, 2014), if a person has had limited opportunities to learn the content in a test of intelligence, *that test may be considered unfair* if it penalizes students for not knowing the answers **even if the norming data do not demonstrate test bias.**
- Neurocognitive processing tests that do not rely on knowledge are much preferred to traditional IQ because **they measure thinking rather than knowing**

PASS Scores for Hispanic Students

Available online at www.sciencedirect.com
ScienceDirect
ELSEVIER
INTELLIGENCE
Intelligence 35 (2007) 568–579

Hispanic and non-Hispanic children's performance on PASS cognitive processes and achievement☆

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Available online 8 January 2007

Abstract

Hispanics have become the largest minority group in the United States. Hispanic children typically come from working class homes with parents who have limited English language skills and educational training. This presents challenges to psychologists who assess these children using traditional IQ tests because of the considerable verbal and academic (e.g., quantitative) content. Some researchers have suggested that intelligence conceptualized on the basis of psychological processes may have utility for assessment of children from culturally and linguistically diverse populations because verbal and quantitative skills are not included. This study examined Hispanic children's performance on the Cognitive Assessment System (CAS; [Naglieri, J.A., and Das, J.P. (1997). Cognitive Assessment System. Itasca, IL: Riverside.]) which is based on the Planning, Attention, Simultaneous, and Successive (PASS) theory of intelligence. The scores of Hispanic (N=244) and White (N=1956) children on the four PASS processes were obtained and the respective correlations between PASS and achievement compared. Three complementary sampling methodologies and data analysis strategies were chosen to compare the Ethnic group[illegible]ple size was maximized using nationally representative groups and demographic group differences were minimized us[illegible]hed samples. Small differences

Hispanic White difference on CAS Full Scale of 4.8 standard score points (matched)

Bilingual Hispanic Children's Performance on the English and Spanish Versions of the Cognitive Assessment System

Jack A. Naglieri
George Mason University
Tulio Otero
Columbia College, Elgin Campus
Brianna DeLauder
George Mason University
Holly Matto
Virginia Commonwealth University

This study compared the performance of referred bilingual Hispanic children on the Planning, Attention, Simultaneous, Successive (PASS) theory as measured by English and Spanish versions of the Cognitive Assessment System (CAS; Naglieri & Das, 1997a). The results suggest that students scored similarly on both English and Spanish versions of the CAS. Within each version of the CAS, the bilingual children earned their lowest scores in Successive processing regardless of the language used during test administration. Small mean differences were noted between the means of the English and Spanish versions for the Simultaneous and Successive processing scales; however, mean Full Scale scores were similar. Specific subtests within the Simultaneous and Successive scales were found to contribute to the differences between the English and Spanish versions of the CAS. Comparisons of the children's profiles of cognitive weakness on both versions of the CAS showed that these children performed consistently despite the language difference.

Keywords: bilingual assessm[illegible]lligence, PASS Theory, Cognitive Assessment System, non-biased assessmen

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DOI: 10.1080/21622965.2012.670547
Psychology Press

The Neurocognitive Assessment of Hispanic English-Language Learners With Reading Failure

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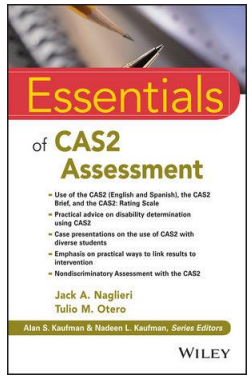
Lauren Gonzales
George Mason University, Fairfax, Virginia
Jack A. Naglieri
University of Virginia, Fairfax, Virginia

This study examined the performance of referred Hispanic English-lan[illegible] (N = 40) on the English and Spanish versions of the *Cognitive Assessment* [illegible] Naglieri & Das, 1997). The CAS measures basic neuropsychological proc[illegible] the Planning, Attention, Simultaneous, and Successive (PASS) theory (N[illegible] 1997; Naglieri & Otero, 2011c). Full Scale (FS) scores as well as PASS p[illegible] scores were compared, and no significant differences were found in FS sco[illegible] the PASS processes. The CAS FS scores on the English (M = 86.4, SD = 8.7[illegible] (M = 87.1, SD = 7.94) versions correlated .94 (uncorrected) and .99 (corr[illegible] restriction). Students earned their lowest scores in Successive processing re[illegible] language in which the test was administered. PASS cognitive profiles w[illegible] English and Spanish versions of the PASS scales. These findings sugges[illegible] scored similarly on both versions of the CAS and that the CAS may be a [illegible] of these four abilities for Hispanic children with underdeveloped English-language proficiency.

Both studies had very similar PASS and Full Scale scores obtained on the English and Spanish CAS versions AND there was at least 90% agreement between PASS weakness & strengths using English and Spanish versions of the CAS

Race & IQ

- Neurocognitive tests yield smaller differences
- CAS and CAS2 have the smallest differences



Mean Score Differences in Total scores by Race by Intelligence Test.

Traditional IQ tests	
SB-IV (matched samples)	12.6
WISC-V (normative sample)	11.6
WISC–IV (normative sample)	11.5
WJ- III (normative sample)	10.9
WISC–IV (matched samples)	10.0
WISC-V (statistical controls normative sample)	8.7
RIAS-2 (normative sample)	8.0
Second Generation Intelligence Tests	
K-ABC (normative sample)	7.0
K-ABC (matched samples)	6.1
KABC-2 (matched samples)	5.0
CAS-2 (normative sample)	6.3
CAS (statistical controls normative sample)	4.8
CAS-2 (statistical controls normative sample)	4.3

Note: The data for these results are reported for the Stanford-Binet IV from Wasserman (2000); Woodcock-Johnson III from Edwards & Oakland (2006); Kaufman Assessment Battery for Children from Naglieri (1986); Kaufman Assessment Battery for Children-II from (Lichenberger, Sotelo-Dynega & Kaufman, 2009); CAS from Naglieri, Rojahn, Matto & Aquilino (2005); CAS-2 from Naglieri, Das & Goldstein, 2014; Wechsler Intelligence Scale for Children – IV (WISC-IV) from O'Donnell (2009), WISC-V from Kaufman, Raiford & Coalson (2020), Reynolds Intellectual Assessment Scale -2 Reynolds, C. R., & Kamphaus, R. W. (2015)

IQ Tests That Demand Knowledge

- Stanford-Binet 5
  - Verbal, Knowledge, Quantitative
- WISC-V
  - Verbal Comprehension: Vocabulary, Similarities, Information & Comprehension
  - Fluid Reasoning: Figure Weights, Picture Concepts, Arithmetic
- WJ-IV and Batería-IV (including Cross Battery)
  - Comprehension Knowledge: Vocabulary & General Information
  - Fluid Reasoning: Number Series & Concept Formation
  - Auditory Processing: Phonological Processing
- K-ABC-II
  - Knowledge / GC: Riddles, Expressive Vocabulary, Verbal Knowledge

Main question: Does the District's gifted program unlawfully discriminate against Hispanic Students?

IN THE UNITED STATES DISTRICT COURT
FOR THE NORTHERN DISTRICT OF ILLINOIS
EASTERN DIVISION

DANIEL, DINAH and DEANNA MCFADDEN, minors, by their parent and next friend, Tracy McFadden; KAREN, RODOLFO and KIARA TAPIA, minors, by their parent and next friend, Mariela Montoya; JOCELYN BURCIAGA, minor, by her parent and next friend, Griselda Burciaga; and KASHMIR IVY, minors, by their parent and next friend, Beverly Ivy; KRISTIANNE SIFUENTES, minors, by her parent and next friend, Irma Sifuentes,

Plaintiffs,

v.

BOARD OF EDUCATION FOR ILLINOIS SCHOOL DISTRICT U-46,

Defendant.

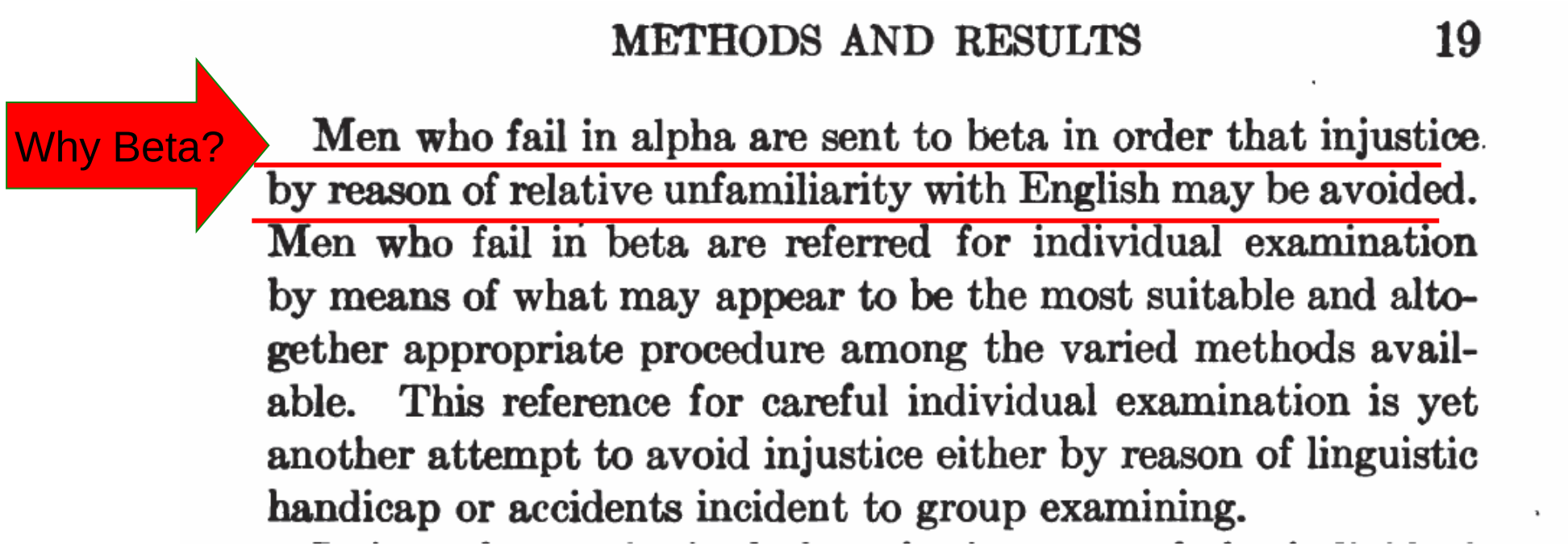
No. 05 C 0760

Judge Robert W. Gettleman

On July 11, 2013, Judge Robert Gettlemen issued a decision holding that District U-46 *intentionally* discriminated against Hispanic students specific in their gifted programming (placement), and found problems with policies and instruments for students – Hispanic and Black students for SWAS. Judge Gettlemen found discrimination regarding (a) tests for screening and for identification, (b) designated cutoff scores for screening and identification, (c) use of both verbal and math scores at arbitrary designated levels for screening and for identification, (d) use of weighted matrix, as well as content and criteria in weighted matrices that favored achievement and traditional measures, (e) too little reliance on a nonverbal test (Naglieri Nonverbal Ability Test) for admission to SWAS, (f) re-testing Hispanic students for middle school gifted program, (g) timing of testing, (h) use of parental referrals, and (i) use of teacher referrals (see Table 2).

1920 Army Testing (Yoakum & Yerkes)

Verbal (Alpha) tests were problematic but Nonverbal (Beta) tests were important – **it was a social justice issue.**



METHODS AND RESULTS 19

Why Beta?

Men who fail in alpha are sent to beta in order that injustice by reason of relative unfamiliarity with English may be avoided. Men who fail in beta are referred for individual examination by means of what may appear to be the most suitable and altogether appropriate procedure among the varied methods available. This reference for careful individual examination is yet another attempt to avoid injustice either by reason of linguistic handicap or accidents incident to group examining.

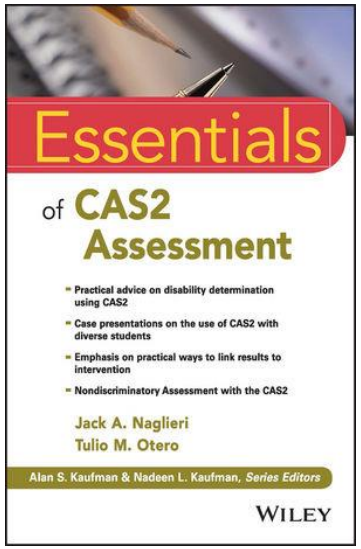
The Myth of
"Verbal Intelligence"

Do we NEED Verbal Tests ?

- The lack of a clear distinction between ability and achievement tests has corrupted the very concept of intelligence as measured using traditional tests
- A child who has not had an adequately enriched educational experience (ELL, SLD, etc.) will be at disadvantage when assessed with "ability" tests that demand knowledge

Correlations: We can do better!

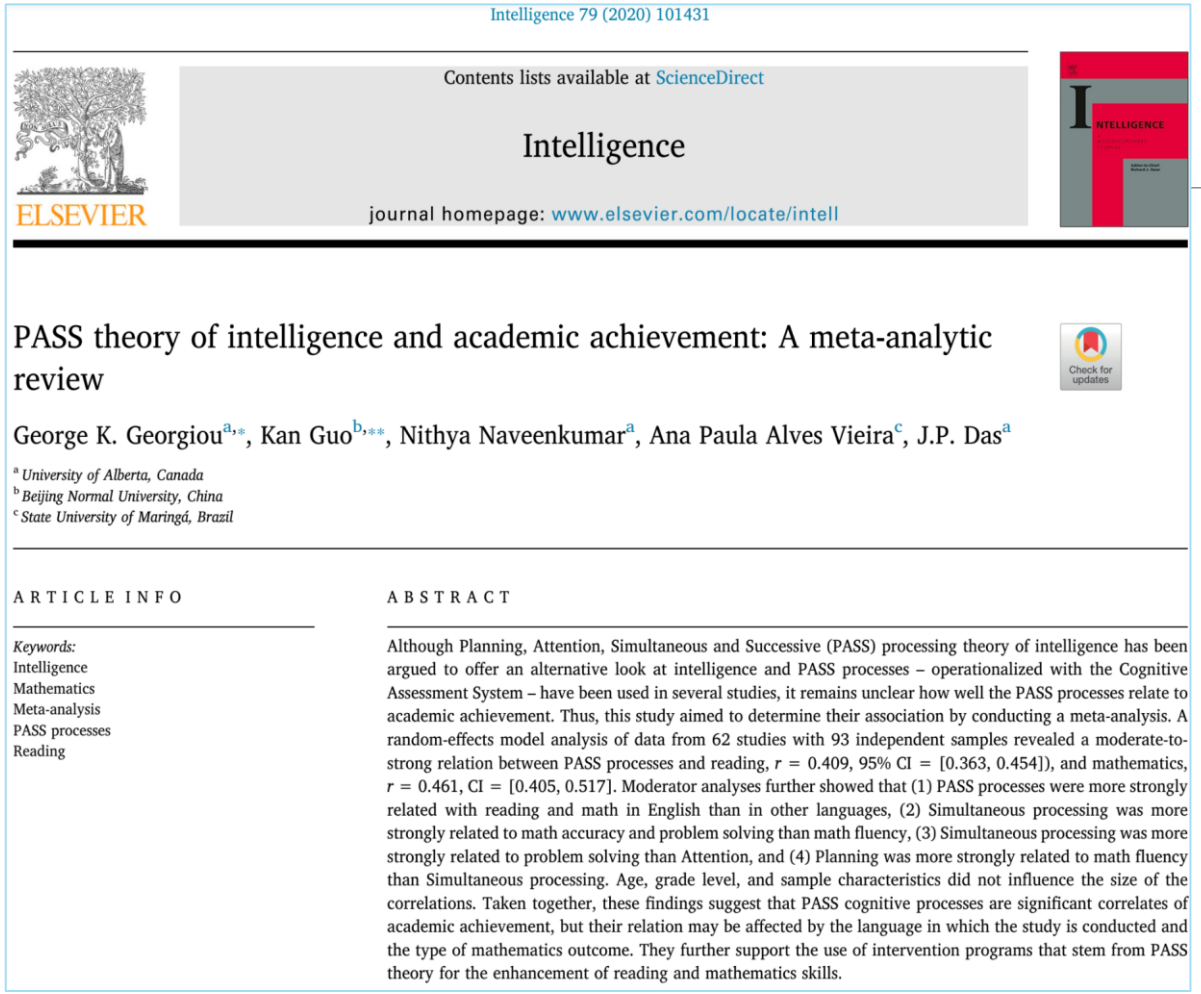
Average correlations between IQ Scales with total achievement scores from *Essentials of CAS2 Assessment* Naglieri & Otero (2017)



Correlations Between Ability and Achievement Test Scores			Average Correlation: All Scales	Average Correlation: Scales without achievement
WISC-V	Verbal Comprehension	.74		
WIAT-III	Visual Spatial	.46		
N = 201	Fluid Reasoning	.40		
	Working Memory	.63		
	Processing Speed	.34	.53	.47
WJ-IV COG	Comprehension Knowledge	.50		
WJ-IV ACH	Fluid Reasoning	.71		
N = 825	Auditory Processing	.52		
	Short Term Working Memory	.55		
	Cognitive Processing Speed	.55		
	Long-Term Retrieval	.43		
	Visual Processing	.45	.54	.50
KABC	Sequential/Gsm	.43		
WJ-III ACH	Simultaneous/Gv	.41		
N = 167	Learning/Glr	.50		
	Planning/Gf	.59		.48
	Knowledge/GC	.70	.53	
CAS	Planning	.57		
WJ-III ACH	Simultaneous	.67		
N=1,600	Attention	.50		
	Successive	.60		.59

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

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



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PASS theory of intelligence and academic achievement: A meta-analytic review

George K. Georgiou[a,*], Kan Guo[b,**], Nithya Naveenkumar[a], Ana Paula Alves Vieira[c], J.P. Das[a]

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ABSTRACT

Although Planning, Attention, Simultaneous and Successive (PASS) processing theory of intelligence has been argued to offer an alternative look at intelligence and PASS processes – operationalized with the Cognitive Assessment System – have been used in several studies, it remains unclear how well the PASS processes relate to academic achievement. Thus, this study aimed to determine their association by conducting a meta-analysis. A random-effects model analysis of data from 62 studies with 93 independent samples revealed a moderate-to-strong relation between PASS processes and reading, $r = 0.409$, 95% CI = [0.363, 0.454]), and mathematics, $r = 0.461$, CI = [0.405, 0.517]. Moderator analyses further showed that (1) PASS processes were more strongly related with reading and math in English than in other languages, (2) Simultaneous processing was more strongly related to math accuracy and problem solving than math fluency, (3) Simultaneous processing was more strongly related to problem solving than Attention, and (4) Planning was more strongly related to math fluency than Simultaneous processing. Age, grade level, and sample characteristics did not influence the size of the correlations. Taken together, these findings suggest that PASS cognitive processes are significant correlates of academic achievement, but their relation may be affected by the language in which the study is conducted and the type of mathematics outcome. They further support the use of intervention programs that stem from PASS theory for the enhancement of reading and mathematics skills.

Georgiou, G., Guo, K., Naveenkumar, N., Vieira, A. P. A., & Das, J. P. (2019) PASS theory of intelligence and academic achievement: A meta-analytic review. *In press Intelligence.*

PASS Research

- **"The correlations are significantly stronger … than the correlations reported in previous meta-analysis for other measures of intelligence…"**
- "if we conceptualize intelligence as … cognitive processes that are linked to the functional organization of the brain" it leads to significantly higher relations with academic achievement."
  - "…and [Pass] processes have direct implications for instruction and intervention…"

Evidence:
We CAN
do BETTER

A PSW Method for SLD

- Discrepancy Consistency Method (DCM)

Why CAS2 & PASS with DCM

- Research Update on ‘g’
- Fair Assessment as a Social Justice Issue
- Intervention

Planning Research

Planning Facilitation for Math Calculation

Math calculation is a complex activity that involves recalling basic math facts, following procedures, working carefully, and checking one's work. Math calculation requires a careful (i.e., planful) approach to follow all of the necessary steps. Children who are good at math calculation can move on to more difficult math concepts and problem solving with greater ease than those who are having problems in this area. For children who have trouble with math calculation, a technique that helps them approach the task planfully is likely to be useful. Planning facilitation is such a technique.

Planning facilitation helps students develop useful strategies to carefully complete math problems through discussion and shared discovery. It encourages students to think about how they solve problems, rather than just think about whether their answers are correct. This helps them develop careful ways of doing math.

How to Teach Planning Facilitation

Planning facilitation is provided in three 10-minute time periods: 1) 10 minutes of math, 2) 10 minutes of discussion, and 3) 10 more minutes of math. These steps can be described in more detail:

Step 1: The teacher should provide math worksheets for the students to complete in the first 10-minute session. This gives the children exposure to the problems and ways to solve them. The teacher gives each child a worksheet and says, "Here is a math worksheet for you to do. Please try to get as many of the problems correct as you can. You will have 10 minutes." Slight variations on this instruction are okay, but do not give any additional information.

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SAGE

A Cognitive Strategy Instruction to Improve Math Calculation for Children With ADHD and LD: A Randomized Controlled Study

Jackie S. Iseman[1] and Jack A. Naglieri[1]

Abstract

The authors examined the effectiveness of cognitive strategy instruction based on PASS (Planning, Attention, Simultaneous, Successive) given by special education teachers to students with ADHD randomly assigned by classroom. Students in the experimental group were exposed to a brief cognitive strategy instruction for 10 days, which was designed to encourage development and application of effective planning for mathematical computation, whereas the comparison group received-standard math instruction. Standardized tests of cognitive processes and math achievement were given at pretest. All students completed math worksheets throughout the experimental phase. Standardized achievement tests (*Woodcock-Johnson Tests of Achievement, Third Edition*, Math Fluency and *Wechsler Individualized Achievement Test, Second Edition*, Numerical Operations) were administered pre- and postintervention, and Math Fluency was also administered at 1 year follow-up. Large pre–post effect sizes were found for students in the experimental group but not the comparison group on math worksheets (0.85 and 0.26), Math Fluency (1.17 and 0.09), and Numerical Operations (0.40 and –0.14, respectively). At 1 year follow-up, the experimental group continued to outperform the comparison group. These findings suggest that students with ADHD evidenced greater improvement in math worksheets, far transfer to standardized tests of math (which measured the skill of generalizing learned strategies to other similar tasks), and continued advantage 1 year later when provided the PASS-based cognitive strategy instruction.

Instructional Sessions

- Math lessons were organized into "instructional sessions" delivered over 13 consecutive days
- Each instructional session was 30-40 minutes
- Each instructional session was comprised of three segments as shown below

10 minutes	10-20 minutes	10 minutes
10 minute math worksheet	Planning Facilitation or Normal Instruction	10 minute math worksheet

Experimental Group

19 worksheets with Planning Facilitation

Vs.

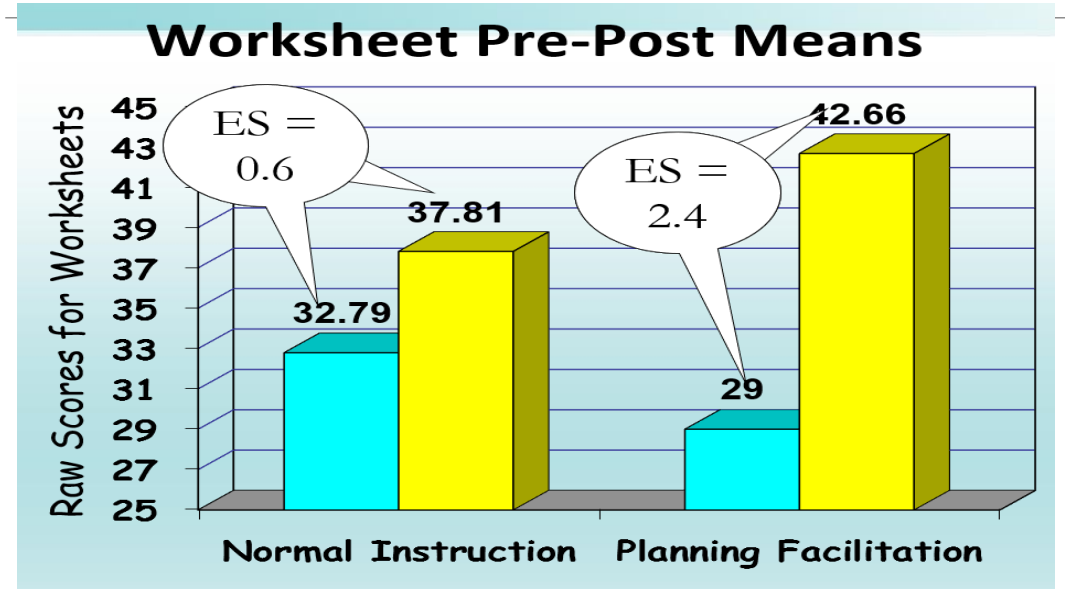
Control Group

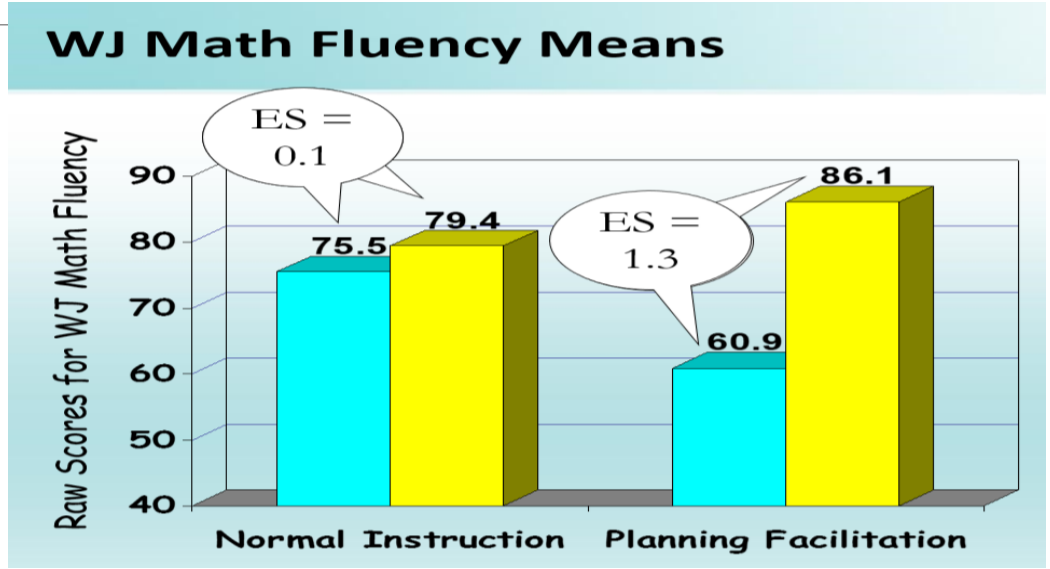
19 worksheets with Normal Instruction

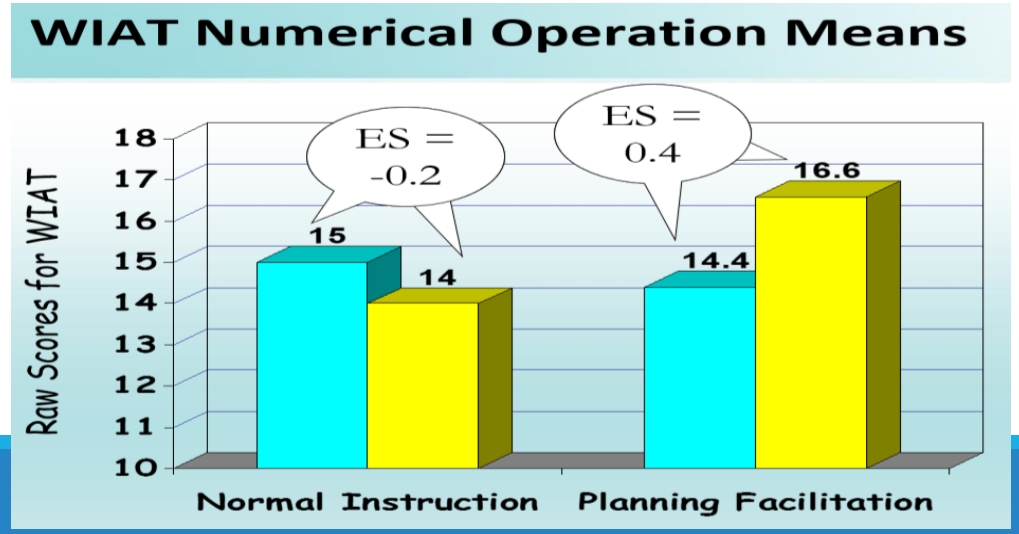
Planning (Metacognitive) Strategy Instruction

- Teachers *facilitated* discussions to help students become more self-reflective about use of strategies
- Teachers asked questions like:
  - What was your goal?
  - Where did you start the worksheet?
  - What strategies did you use?
  - How did the strategy help you reach your goal?
  - What will you do again next time?
  - What other strategies will you use next time?

Pre-Post Means and Effect Sizes for the Students with LD and ADHD

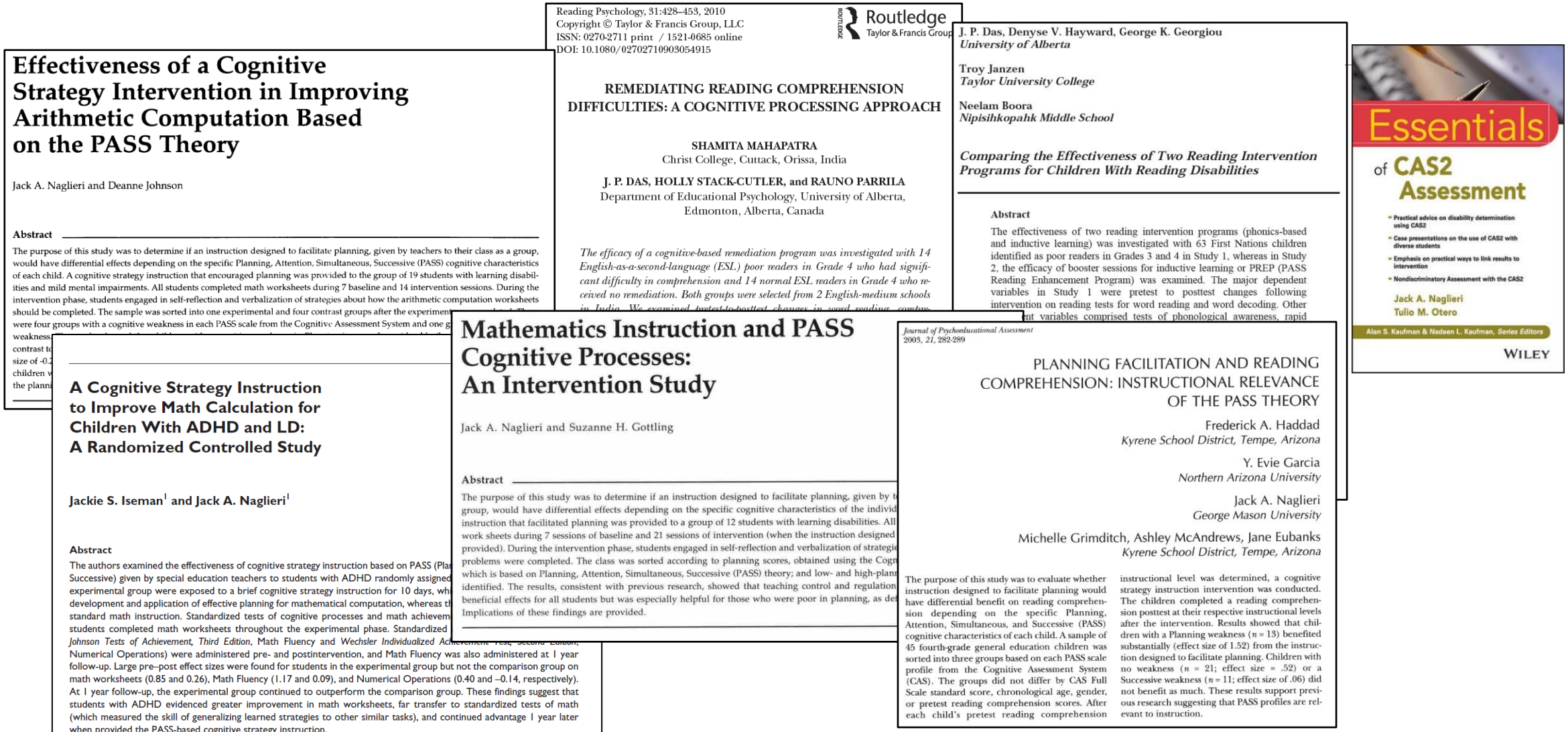






At 1-year follow-up, 27 of the students were retested on the WJ-III ACH Math Fluency subtest as part of the school's typical yearly evaluation of students. This group included 14 students from the comparison group and 13 students from the experimental group. The results indicated that the improvement of students in the experimental group ($M = 16.08$, $SD = 19$, $d = 0.85$) was significantly greater than the improvement of students in the comparison group ($M = 3.21$, $SD = 18.21$, $d = 0.09$).

Summary of PASS Intervention Research in Essentials of CAS2



Effectiveness of a Cognitive Strategy Intervention in Improving Arithmetic Computation Based on the PASS Theory

Jack A. Naglieri and Deanne Johnson

Abstract

The purpose of this study was to determine if an instruction designed to facilitate planning, given by teachers to their class as a group, would have differential effects depending on the specific Planning, Attention, Simultaneous, Successive (PASS) cognitive characteristics of each child. A cognitive strategy instruction that encouraged planning was provided to the group of 19 students with learning disabilities and mild mental impairments. All students completed math worksheets during 7 baseline and 14 intervention sessions. During the intervention phase, students engaged in self-reflection and verbalization of strategies about how the arithmetic computation worksheets should be completed. The sample was sorted into one experimental and four contrast groups after the experiment

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ISSN: 0270-2711 print / 1521-0685 online
DOI: 10.1080/02702710903054915

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Taylor & Francis Group

REMEDIATING READING COMPREHENSION DIFFICULTIES: A COGNITIVE PROCESSING APPROACH

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Christ College, Cuttack, Orissa, India

J. P. DAS, HOLLY STACK-CUTLER, and RAUNO PARRILA
Department of Educational Psychology, University of Alberta, Edmonton, Alberta, Canada

The efficacy of a cognitive-based remediation program was investigated with 14 English-as-a-second-language (ESL) poor readers in Grade 4 who had significant difficulty in comprehension and 14 normal ESL readers in Grade 4 who received no remediation. Both groups were selected from 2 English-medium schools

J. P. Das, Denyse V. Hayward, George K. Georgiou
University of Alberta

Troy Janzen
Taylor University College

Neelam Boora
Nipisihkopahk Middle School

Comparing the Effectiveness of Two Reading Intervention Programs for Children With Reading Disabilities

Abstract

The effectiveness of two reading intervention programs (phonics-based and inductive learning) was investigated with 63 First Nations children identified as poor readers in Grades 3 and 4 in Study 1, whereas in Study 2, the efficacy of booster sessions for inductive learning or PREP (PASS Reading Enhancement Program) was examined. The major dependent variables in Study 1 were pretest to posttest changes following intervention on reading tests for word reading and word decoding. Other

Essentials of CAS2 Assessment

- Practical advice on disability determination using CAS2
- Case presentations on the use of CAS2 with diverse students
- Emphasis on practical ways to link results to intervention
- Nondiscriminatory Assessment with the CAS2

Jack A. Naglieri
Tulio M. Otero

Alan S. Kaufman & Nadeen L. Kaufman, *Series Editors*

WILEY

A Cognitive Strategy Instruction to Improve Math Calculation for Children With ADHD and LD: A Randomized Controlled Study

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Abstract

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Mathematics Instruction and PASS Cognitive Processes: An Intervention Study

Jack A. Naglieri and Suzanne H. Gottling

Abstract

The purpose of this study was to determine if an instruction designed to facilitate planning, given by t
group, would have differential effects depending on the specific cognitive characteristics of the individ
instruction that facilitated planning was provided to a group of 12 students with learning disabilities. All
work sheets during 7 sessions of baseline and 21 sessions of intervention (when the instruction designed
provided). During the intervention phase, students engaged in self-reflection and verbalization of strategie
problems were completed. The class was sorted according to planning scores, obtained using the Cogn
which is based on Planning, Attention, Simultaneous, Successive (PASS) theory; and low- and high-plann
identified. The results, consistent with previous research, showed that teaching control and regulation
beneficial effects for all students but was especially helpful for those who were poor in planning, as de
Implications of these findings are provided.

Journal of Psychoeducational Assessment
2003, *21*, 282-289

PLANNING FACILITATION AND READING COMPREHENSION: INSTRUCTIONAL RELEVANCE OF THE PASS THEORY

Frederick A. Haddad
Kyrene School District, Tempe, Arizona

Y. Evie Garcia
Northern Arizona University

Jack A. Naglieri
George Mason University

Michelle Grimditch, Ashley McAndrews, Jane Eubanks
Kyrene School District, Tempe, Arizona

The purpose of this study was to evaluate whether instruction designed to facilitate planning would have differential benefit on reading comprehension depending on the specific Planning, Attention, Simultaneous, and Successive (PASS) cognitive characteristics of each child. A sample of 45 fourth-grade general education children was sorted into three groups based on each PASS scale profile from the Cognitive Assessment System (CAS). The groups did not differ by CAS Full Scale standard score, chronological age, gender, or pretest reading comprehension scores. After each child's pretest reading comprehension instructional level was determined, a cognitive strategy instruction intervention was conducted. The children completed a reading comprehension posttest at their respective instructional levels after the intervention. Results showed that children with a Planning weakness ($n = 13$) benefited substantially (effect size of 1.52) from the instruction designed to facilitate planning. Children with no weakness ($n = 21$; effect size = .52) or a Successive weakness ($n = 11$; effect size of .06) did not benefit as much. These results support previous research suggesting that PASS profiles are relevant to instruction.


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WE CAN DO
BETTER

Jose: Age 10, 5th Grade, Bilingual Student

History

Was previously found eligible for special education in areas of SP/L and SLD.

Goals:

In the areas of reading and writing. S/L Therapy includes increasing his articulation of the /r/ sound and improving receptive and expressive language skills. His teachers observed weaknesses in the areas of vocabulary and grammar.

Test Scores

FastBridge Fall 2019 assessments

aReading- 4th percentile; CBM Reading- 6th percentile; aMath- Score- 41st percentile; CBMmath CAP- 56th percentile

Fall 2019 MAP Reading assessment (Measure of Academic Progress)

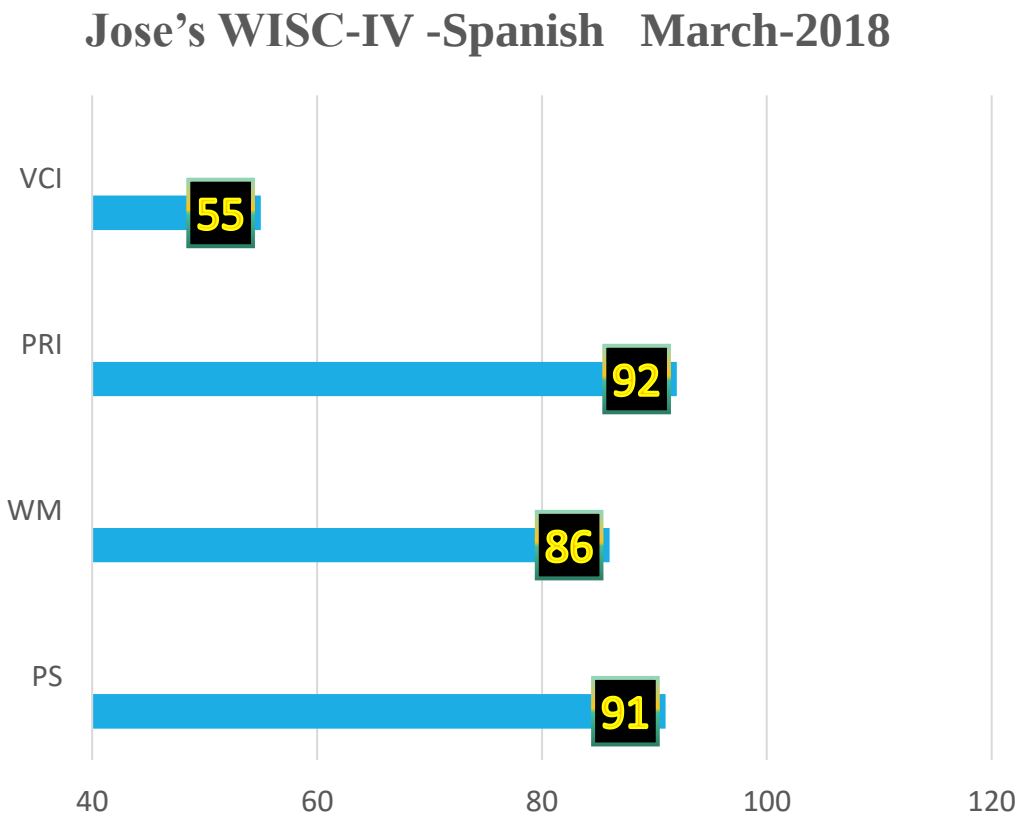
Reading, 2nd percentile which is in the Low range.

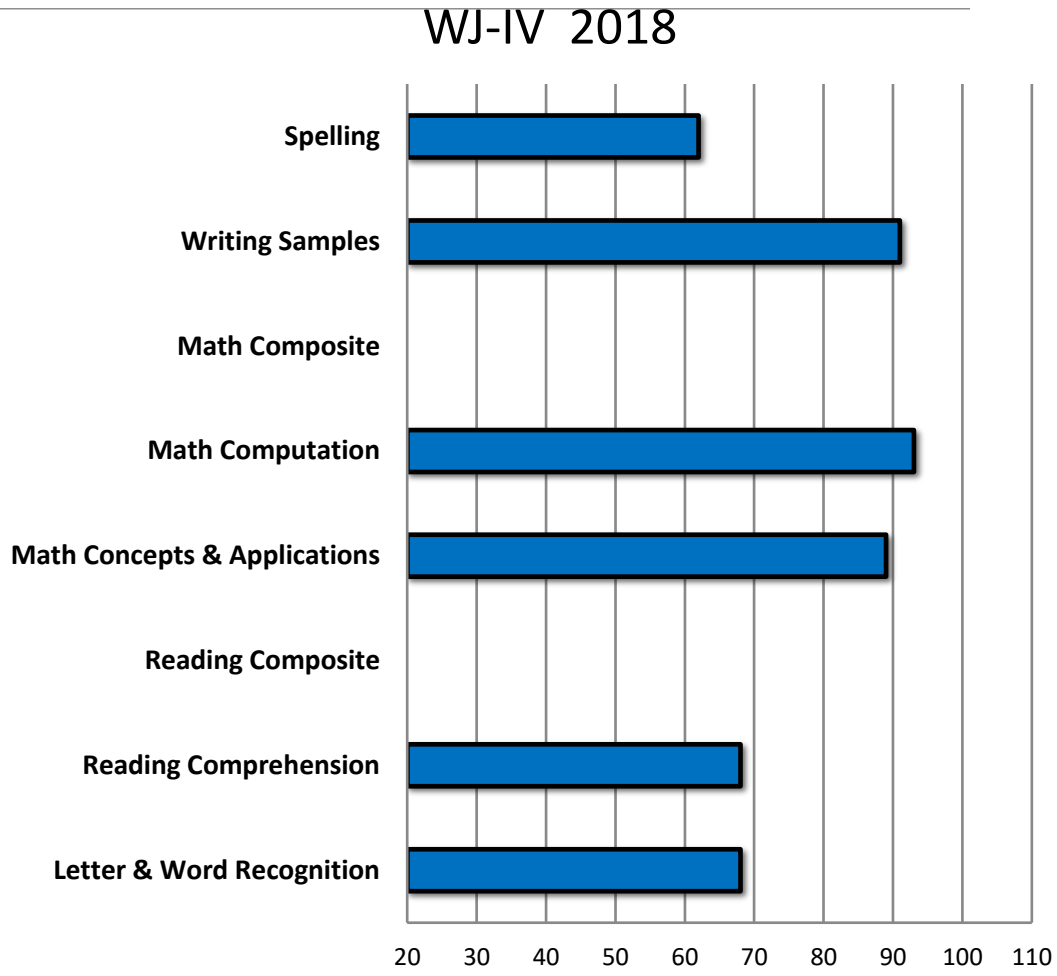
Math- 7th percentile

Jose is reading at a guided reading level M (English), 5th-grade students should be at a level T.

Concerns - phonemic awareness, reading fluency, reading comprehension, math problem-solving, spelling, and written expression.

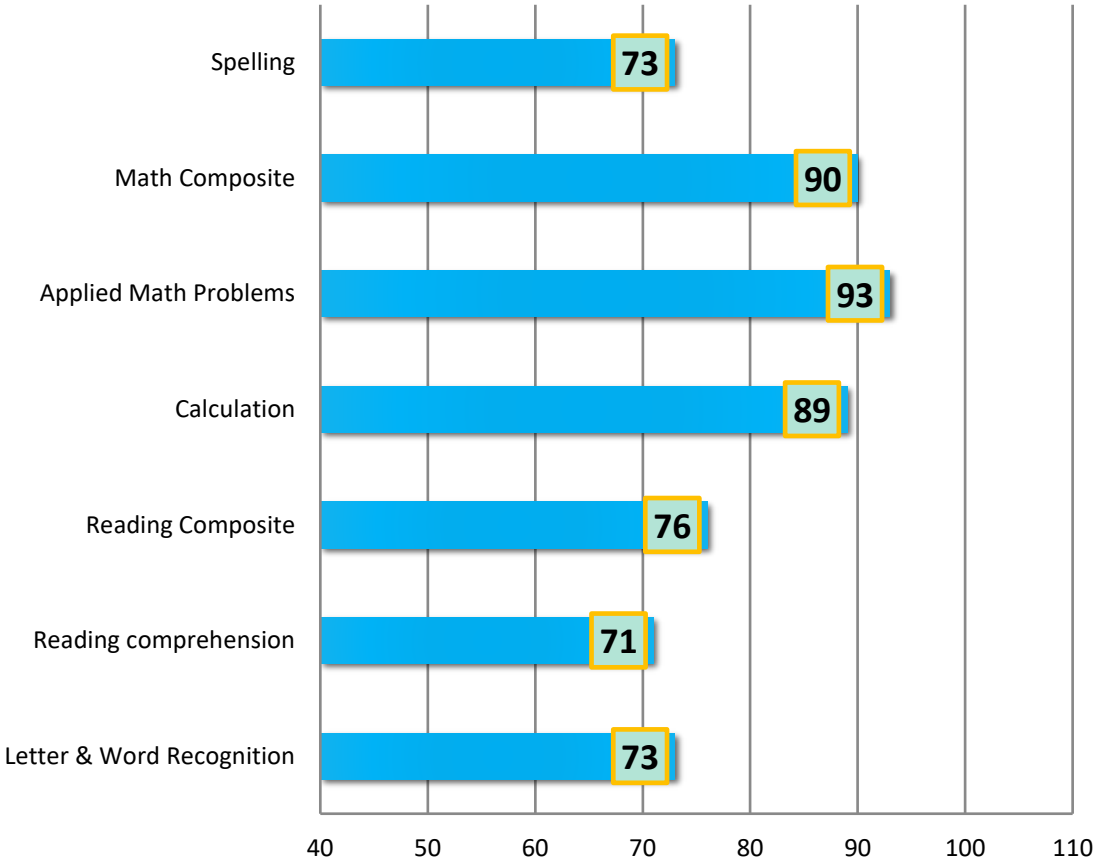
Jose also receives ELL services and his current ACCESS scores are as follows: Listening 5.8, Speaking 1.9, Reading 2.8, Writing 3.5.


Jose's WISC-IV -Spanish March-2018
VCI
55
PRI
92
WM
86
PS
91
40
60
80
100
120

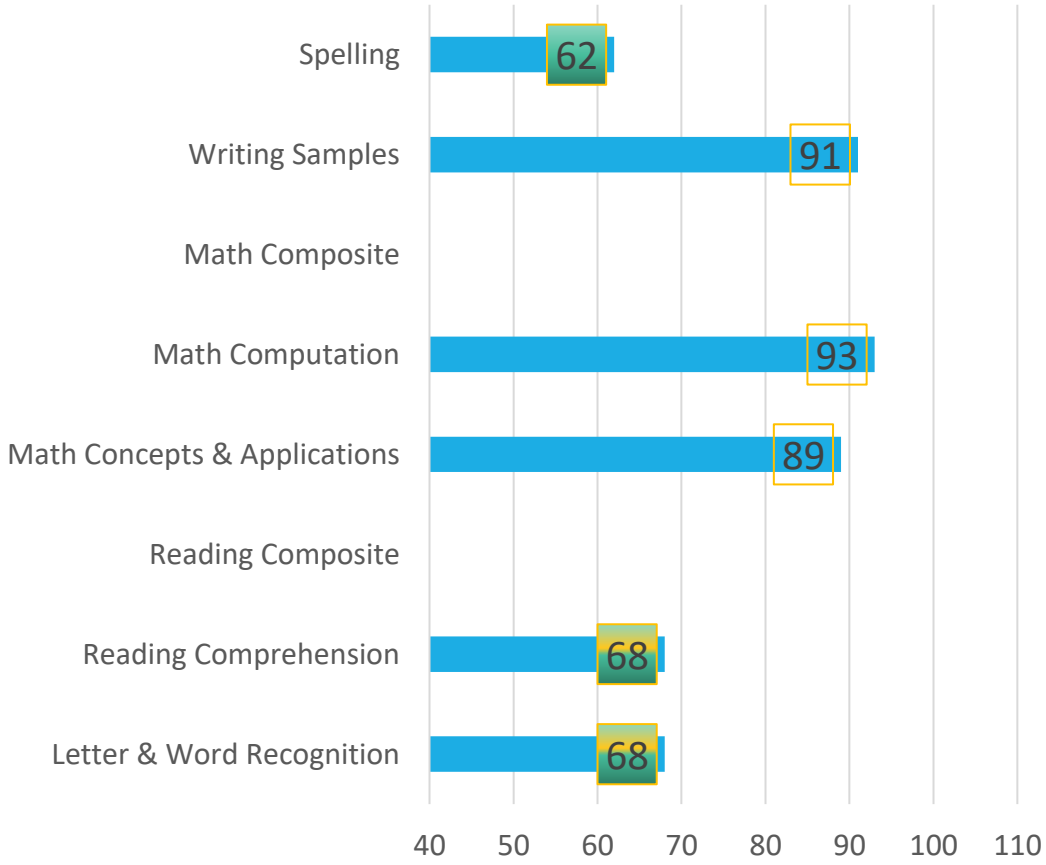

WJ-IV 2018
Spelling
Writing Samples
Math Composite
Math Computation
Math Concepts & Applications
Reading Composite
Reading Comprehension
Letter & Word Recognition
20
30
40
50
60
70
80
90
100
110

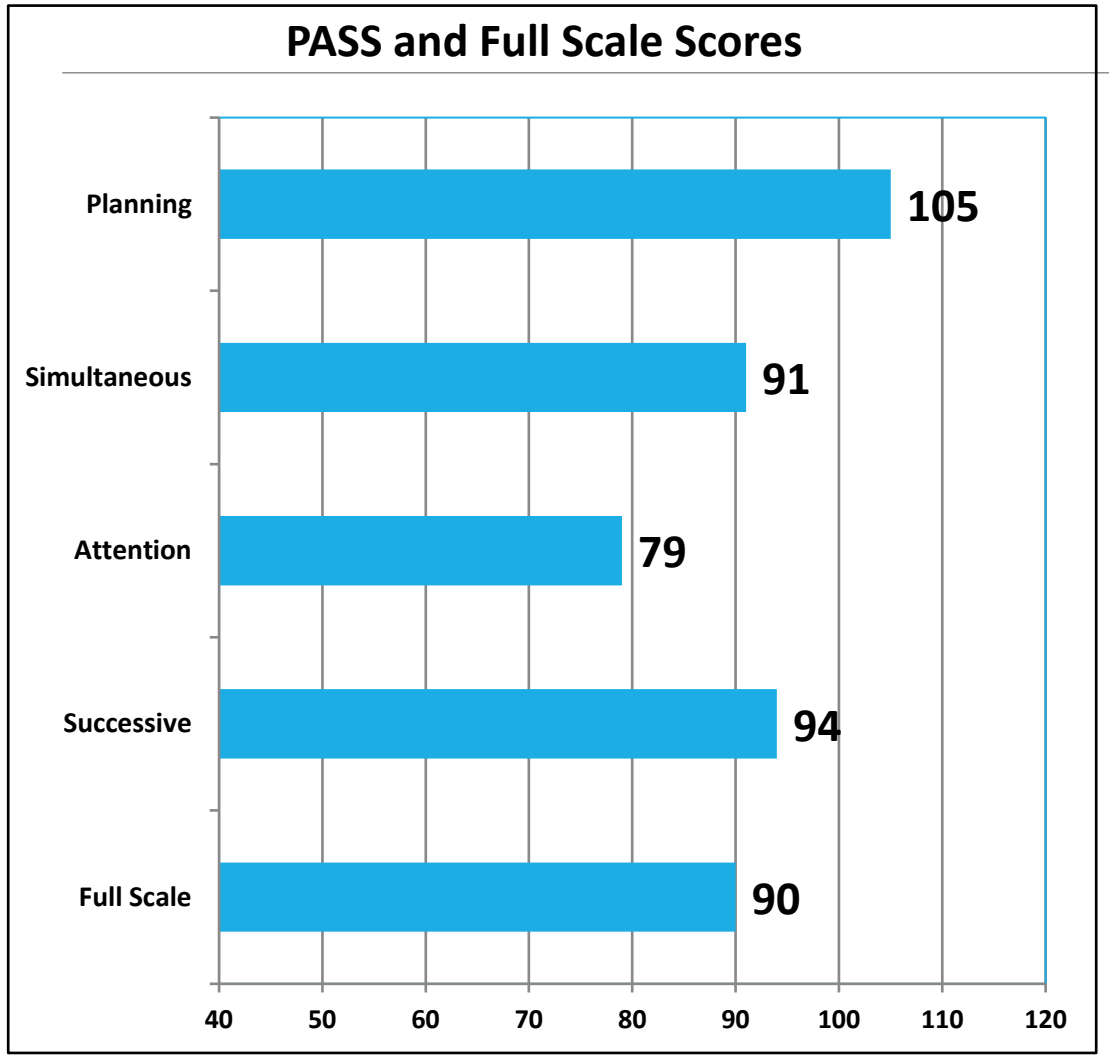
January 2020

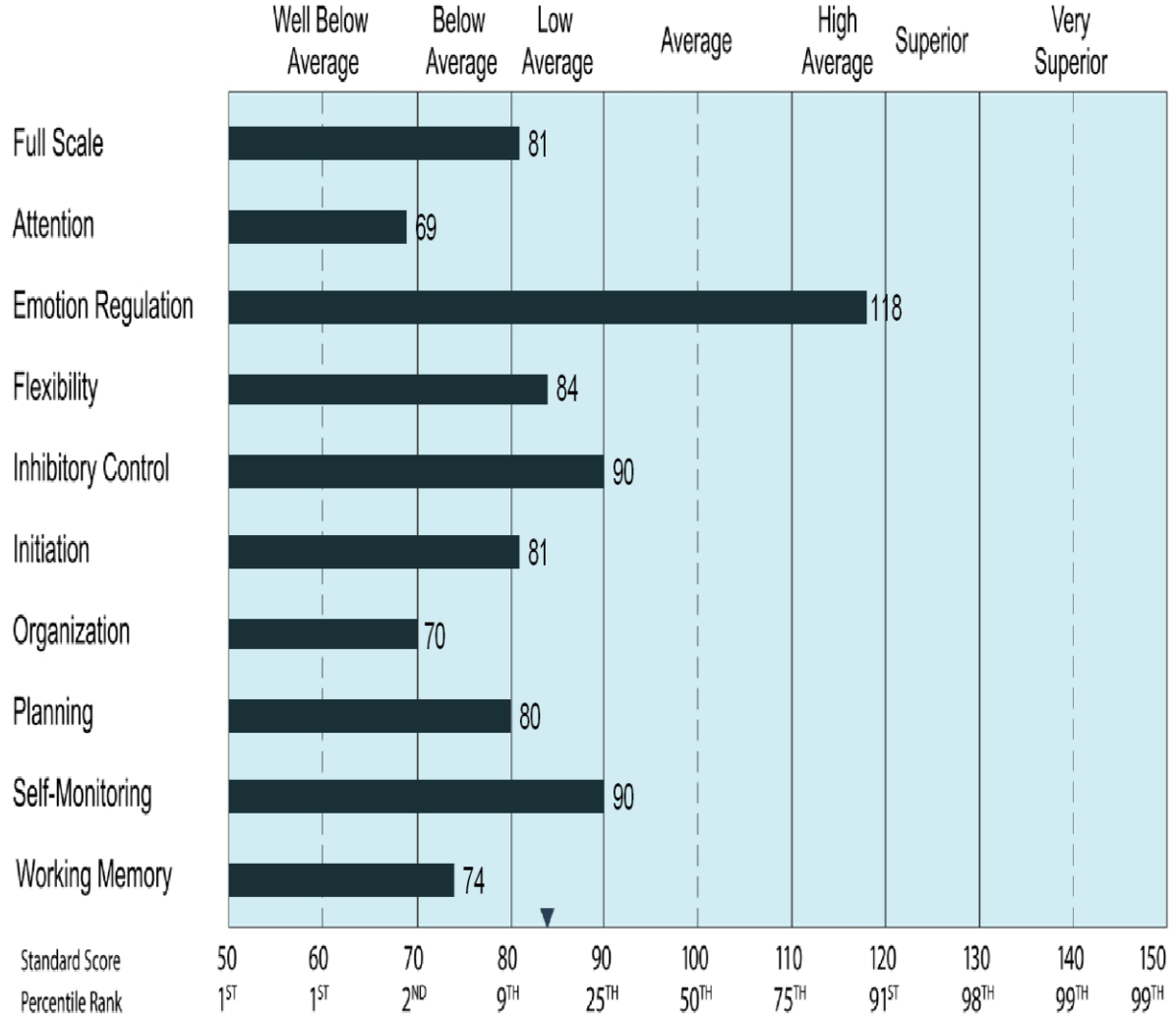
KTEA-III



Batería-IV




PASS and Full Scale Scores
Planning
105
Simultaneous
91
Attention
79
Successive
94
Full Scale
90
40
50
60
70
80
90
100
110
120


Well Below Average
Below Average
Low Average
Average
High Average
Superior
Very Superior
Full Scale
81
Attention
69
Emotion Regulation
118
Flexibility
84
Inhibitory Control
90
Initiation
81
Organization
70
Planning
80
Self-Monitoring
90
Working Memory
74
Standard Score
50
60
70
80
90
100
110
120
130
140
150
Percentile Rank
1ST
1ST
2ND
9TH
25TH
50TH
75TH
91ST
98TH
99TH
99TH

How to help José?

Remember to check how well you are attending. If you are having a problem, look at this.

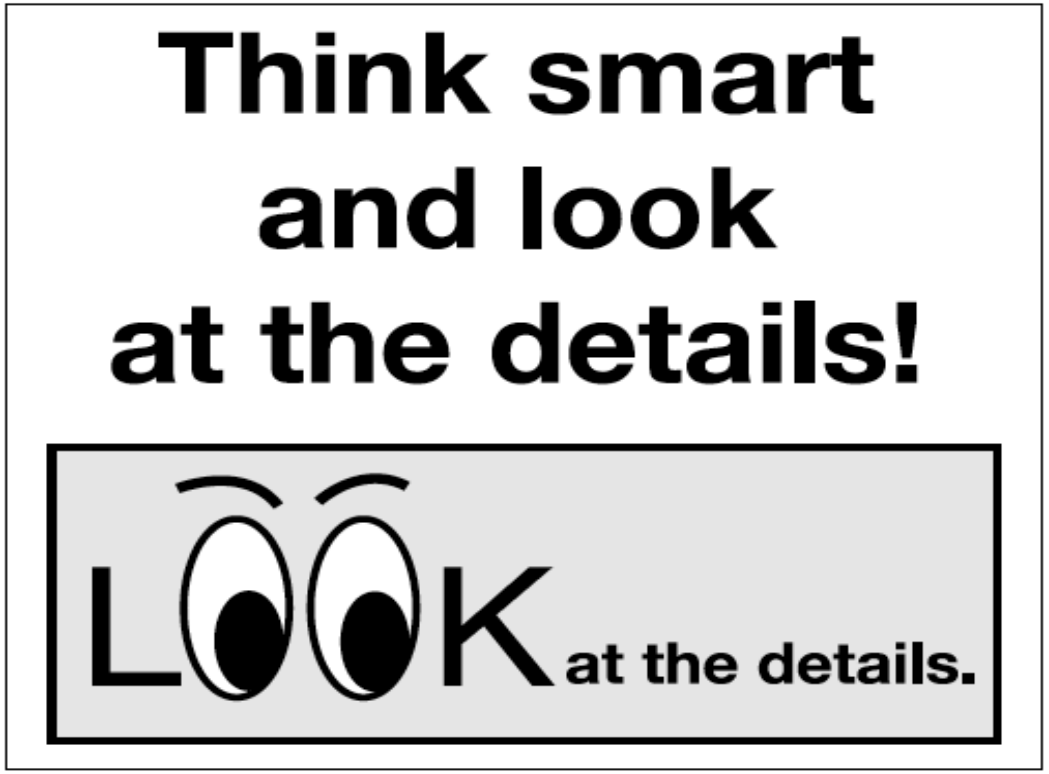


Figure 1. A graphic that reminds students to focus on information being discussed.

Results!

Teacher reported that José has increased his reading accuracy by at least 80%.

He is able to read 16 words correctly out of a list of 20.

He has done this over the last 3. sessions.

Fluency continues to be slower than peers.

IT DOESN’T HAVE TO BE SO…
COMPLICATED
All you need is PASS