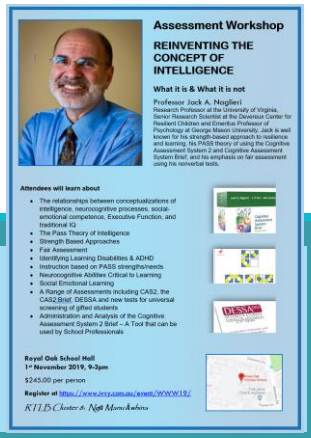
Reinventing The Concept of Intelligence: What it is & What it is not



www.jacknaglieri.com **jnaglieri@gmail.com**
Research Professor, Univ. of Virginia
Senior Research Scientist Devereux Center for Resilient Children
Emeritus Faculty George Mason University

1

Today's Topics

How we have Measured Intelligence for 100 + Years

- Fair Assessment as a Social Justice Issue
- Improving on the old for Universal Screening of Gifted Students

A Strength Based Approach called PASS

- Neurocognitive Abilities Critical to Learning
- CAS2, CAS2:Brief
- Administration and Analysis of the Cognitive Assessment System 2 Brief
- Social Emotional Learning and the DESSA
- Identifying Learning Disabilities & ADHD
- Instruction based on PASS strengths/needs

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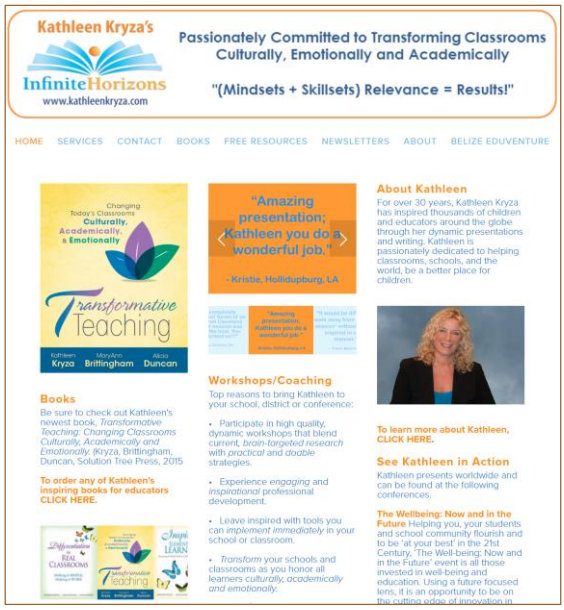

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Disclosures

4

4

Core Group Discussion → Deeper Learning

- **C**oach – Help the group decide what to do
- **O**rganizer – Have your group discuss the case of Manuel
- **R**ecorder – Keep notes and speak for the group
- **E**nergizer – Focus the group !

5

5

BIG Picture

6

Today's Topics

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My Background

- Interest in the concept of intelligence, its measurement and instruction

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Traditional IQ and Achievement Tests

- When I worked as a school psychologist I noticed that parts of the WISC was VERY similar to parts of the achievement tests
- HOW DOES THAT MAKE SENSE?
- WHY DO WE HAVE THIS PROBLEM?
- WHERE DID THIS COME FROM?

- 1975 Charles Champagne Elementary, Bethpage, NY

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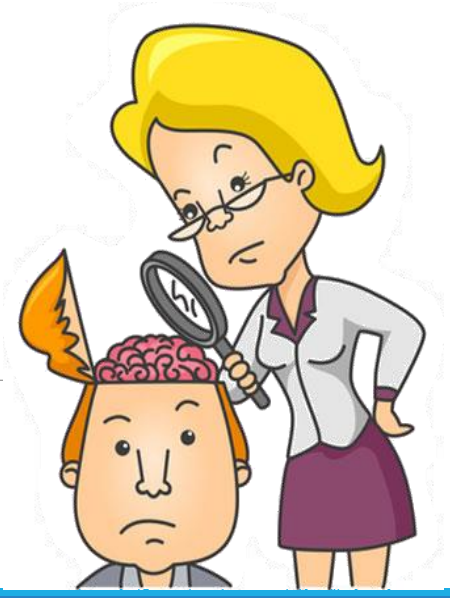
Why do we measure IQ the way we do?

The History of IQ tests



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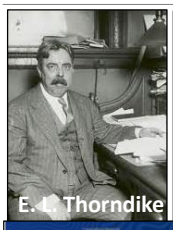
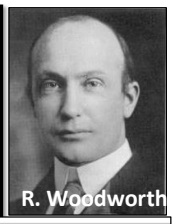
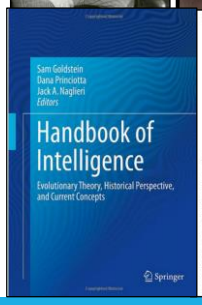
Evolution of IQ http://www.jacknaglieri.com/cas2.html








Hundred Years of Intelligence Testing: Moving from Traditional IQ to Second-Generation Intelligence Tests

Jack A. Naglieri

Context

- A group of psychologists met at Harvard in April of 1917 to construct an ability test to help the US military evaluate recruits (WWI) for responsible positions
- Their goal was to develop a workable set of tests

Alpha Beta 1917

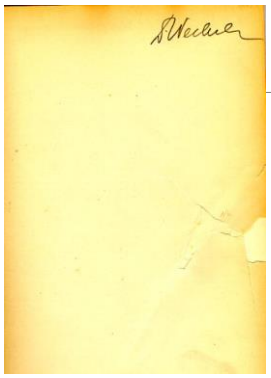
Origins of the WISC –
A Star is Born !

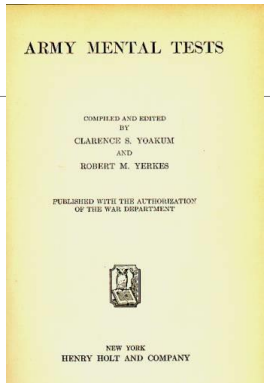
A careful study of the tests showed that the Army Alpha and Beta tests could …

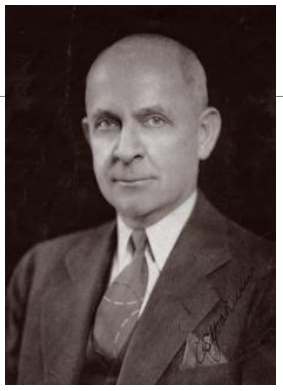
- "aid in segregating and eliminating the mentally incompetent, classify men according to their mental ability; and assist in selecting competent men for responsible positions" (p. 19, Yerkes, 1921).

Thus, **July 20, 1917** is the birth date of the verbal, quantitative, nonverbal IQ test format -- **Traditional groups and individually administered IQ tests.**

- **We have had more than 100 years of this approach to intelligence testing**







From Alpha/Beta to Wechsler IQ

Yoakum & Yerkes (1920) Summarized The Methods Used By The Military

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From Alpha/Beta to Wechsler IQ

- Army Alpha
  - Synonym- Antonym
  - Disarranged Sentences
  - Number Series
  - Arithmetic Problems
  - Analogies
  - Information

Verbal & Quantitative questions demand knowledge

- Army Beta
  - Maze
  - Cube Imitation
  - Cube Construction
  - Digit Symbol
  - Pictorial Completion
  - Geometrical Construction

Nonverbal typically demand much less knowledge

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Army Mental Tests - Vocabulary (WISC-V)

Test J, vocabulary.

Materials.—Accompanying five series of words.

Directions.—Place the list so that subject may see the words and pronounce them if he wishes. If a word is pronounced incorrectly, examiner should give the correct pronunciation. Formula: "What does the word ..... mean?" If subject hesitates or seems to think that he must give a formal definition, examiner says, "It doesn't matter how you say it. All I care for is to find out whether you know what the word means. Tell me the meaning any way you want to express it." Subject is encouraged as liberally as necessary.

Ordinarily it will not be necessary to secure responses to all of the 40 words in a series, as some will obviously be too hard or too easy for the subject being tested. This is especially true in series 1, the words of which have been graded accurately according to difficulty. In each series, however, the testing should be over a wide enough range to secure an accurate score.

Scoring.—Credit each response as + or −. Occasionally half credits may be given, but in general this should be avoided.

The score is + if the response shows that subject knows at least one approximately correct meaning of the word. It is not necessary that the meaning given be the most common one. The form of definition is disregarded in computation of score, but for clinical purposes it is well to designate especially superior definitions by + +.

Series 1.

1 lecture	11 forfeit	21 conscientious	31 gelatinous
2 guitar	12 majesty	22 philanthropy	32 milksop
3 scorch	13 shrewd	23 exaltation	33 declivity
4 honfire	14 Mars	24 frustrate	34 irony
5 misuse	15 dilapidated	25 flaunt	35 incrustation

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Army Mental Tests - Arithmetic (WISC-V)

- Disarranged sentences
- Arithmetical reasoning
- Information
- Synonyms, antonyms
- Practical Judgment
- Number series
- Analogies

TEST 2

Get the answers to these examples as quickly as you can.
Use the side of this page to figure on if you need to.

SAMPLES
1 How many are 5 men and 10 men?.....Answer (15)
2 If you walk 4 miles an hour for 3 hours, how far do you walk?..Answer (12)

1 How many are 40 guns and 6 guns?.....Answer ( )
2 If you save $6 a month for 5 months, how much will you save?.....Answer ( )
3 If 32 men are divided into squads of 8, how many squads will there be?....Answer ( )
4 Mike had 11 cigars. He bought 3 more and then smoked 6. How many cigars did he have left?.....Answer ( )
5 A company advanced 6 miles and retreated 3 miles. How far was it then from its first position?.....Answer ( )
6 How many hours will it take a truck to go 48 miles at the rate of 4 miles an hour?.....Answer ( )
7 How many pencils can you buy for 40 cents at the rate of 2 for 5 cents?....Answer ( )
8 A regiment marched 40 miles in five days. The first day they marched 9 miles, the second day 6 miles, the third 10 miles, the fourth 9 miles. How many miles did they march the last day?.....Answer ( )
9 If you buy 2 packages of tobacco at 8 cents each and a pipe for 55 cents, how much change should you get from a two-dollar bill?.....Answer ( )
10 If it takes 8 men 2 days to dig a 160-foot drain, how many men are needed to dig it in half a day?.....Answer ( )

ARMY MENTAL TESTS

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The First IQ TEST: Alpha (Verbal)

tobacco	1. Bull Durham is the name of
fruit	2. The Mackintosh Red is a kind of
typewriter	3. The Oliver is a
Mogul	4. A passenger locomotive type is the
engineers	5. Stone & Webster are well know
Superbas	6. The Brooklyn Nationals are called
fabric	7. Pongee is a
corn	8. Country Gentleman is a kind of
Mckinley	9. The President during the Spanish War was
cigarette	10. Fatima is a make of

From: Psychological Examining the United States Army (Yerkes, 1921, p. 213)

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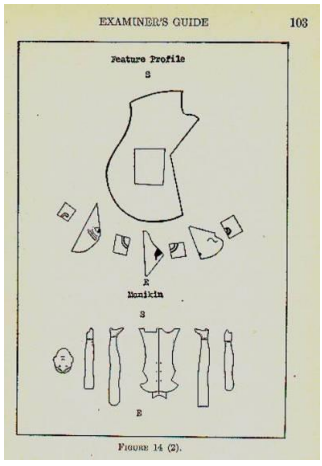
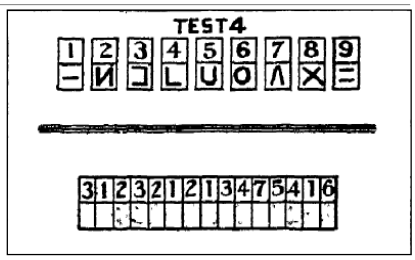
Army Beta Tests - Digit Symbol & Object Assembly



- Wechsler's Performance tests were taken from the Army Beta
- **BUT WHY were nonverbal test included?**



Test 7.—Digit Symbol

E. shows S. the record sheet, points to blank below 2 in the sample, then to symbol for 2 at top of page, writes in symbol, proceeds in the same way with the other parts of the sample, then gives S. pencil, points to space below 3 in the test, and nods affirmatively.

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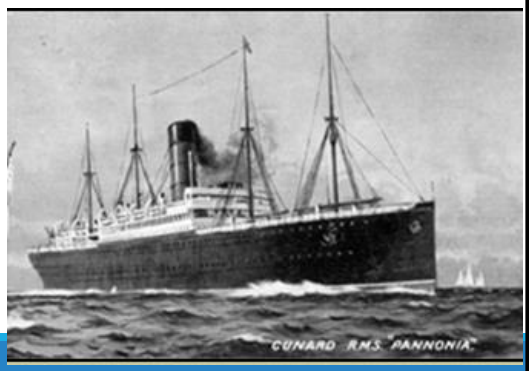
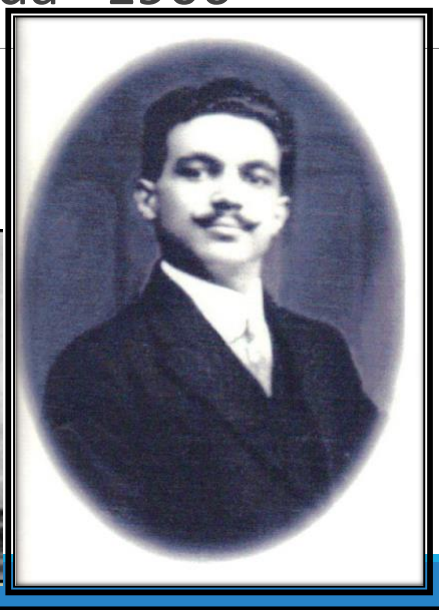
Antonino Mirenda - 1906





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Antonino Mirenda - 1907

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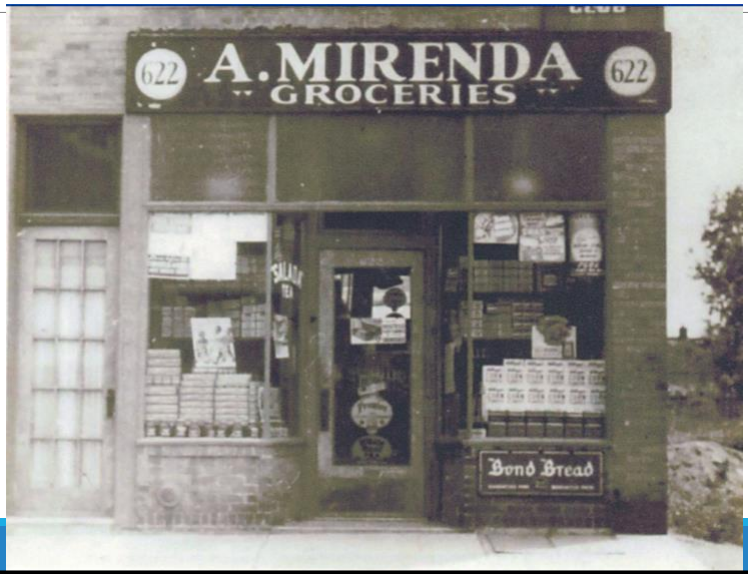
A. Mirenda Groceries
622 Ave X, Brooklyn, NY



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1920 Army Testing (Yoakum & Yerkes)

Note there is no mention of measuring verbal and nonverbal intelligences – **it was a social justice issue.**

Why Beta?

METHODS AND RESULTS 19

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.

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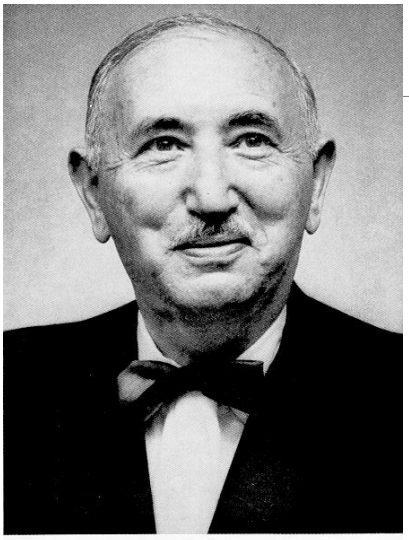


David Wechsler, Ph.D.

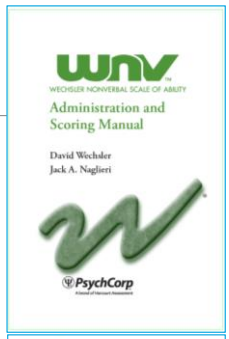
Wechsler (1939)

- 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)"**

Wechsler & Spearman's *g*

of nonverbal assessment many paces forward. In addition, the emphasis in the *WNV Manual* that the Full Scale measures *general ability nonverbally*—and *not* nonverbal ability—is an important distinction that further ties the WNV to Dr. Wechsler. Although his intelligence tests in the 1930s and 1940s departed from the one-score *Stanford-Binet* by offering separate Verbal and Performance IQs as well as a profile of scaled scores, Dr. Wechsler remained a firm believer in Spearman's *g* theory throughout his lifetime. He believed that his Verbal and Performance Scales represented different ways to access *g*, but he never believed in nonverbal intelligence as being separate from *g*. Rather, he saw the Performance Scale as the most sensible way to measure the general intelligence of people with hearing impairments, language disorders, or limited proficiency in English. And that is precisely what the WNV is intended to do.

Alan S. Kaufman, PhD
Clinical Professor of Psychology
Yale Child Study Center
Yale University School of Medicine




Foreword

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BUT; IQ Tests That Demand Knowledge

- IQ tests that are confounded by 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

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Thinking and Knowing Continuum

Cognitive Assessment System–2 Wechsler Nonverbal Scale of Ability	Kaufman Assessment Battery for Children-2	Wechsler Intelligence Scale for Children-5	Woodcock-Johnson Cognitive-4	Feifer Assessment of Reading & Math	Stanford Achievement Test Kaufman Test Educational Achievement-3

- The obvious connection between educational opportunity and vocabulary and arithmetic subtests was noted by Matarazzo (1972) when he wrote: "a man's vocabulary is necessarily influence by his education and cultural opportunities (p. 218)" and when referring to the Arithmetic subtest, "its merits are lessened by the fact that it is influenced by education (p. 203)".
  The impact of education on intelligence tests was clearly understood yet our interpretations of these scores have not adequately recognized the threat to validity.

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Social Justice & Test Bias (e.g., Jensen's Bias in Mental Tests)

- reliability of internal consistency of items
- reliability of test/retest scores
- rank order of item difficulties
- item intercorrelations
- factor structure of test
- magnitude of the factor loadings

- slope & intercept of the regression line
- correlation of raw scores with age
- item characteristic curve
- frequencies of choice of error distracters
- interaction of test items by group membership

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Differences in Mean Scores = Impact = Social Injustice

- According to the *Standards for Educational and Psychological Testing* (AERA, APA, NCME, 2014),
  - **equitable assessment** provides examinees *an equal opportunity to display one's ability*
  - if a person has had limited opportunities to learn the content in a test of intelligence, *that test may be considered unfair* because it penalizes students for not knowing the answers even if there is no evidence of psychometric test bias.

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The Nonverbal Test Solution

Nonverbal tests are free of knowledge and are fine for group testing, for example, for gifted children.

Do such test more equitably evaluate diverse populations?

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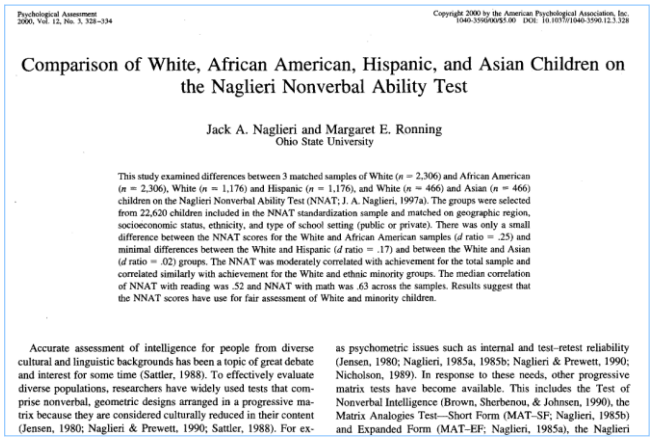
Race & Ethnic Differences on NNAT



Psychological Assessment
2000, Vol. 12, No. 3, 328–334

Copyright 2000 by the American Psychological Association, Inc.
1040-3590/00/$5.00 DOI: 10.1037//1040-3590.12.3.328

Comparison of White, African American, Hispanic, and Asian Children on the Naglieri Nonverbal Ability Test

Jack A. Naglieri and Margaret E. Ronning
Ohio State University

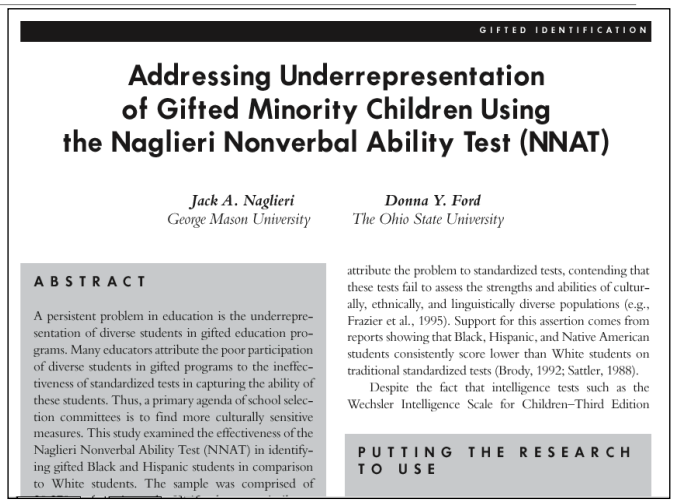
This study examined differences between 3 matched samples of White (n = 2,306) and African American (n = 2,306), White (n = 1,176) and Hispanic (n = 1,176), and White (n = 466) and Asian (n = 466) children on the Naglieri Nonverbal Ability Test (NNAT; J. A. Naglieri, 1997a). The groups were selected from 22,620 children included in the NNAT standardization sample and matched on geographic region, socioeconomic status, ethnicity, and type of school setting (public or private). There was only a small difference between the NNAT scores for the White and African American samples (d ratio = .25) and minimal differences between the White and Hispanic (d ratio = .17) and between the White and Asian (d ratio = .02) groups. The NNAT was moderately correlated with achievement for the total sample and correlated similarly with achievement for the White and ethnic minority groups. The median correlation of NNAT with reading was .52 and NNAT with math was .63 across the samples. Results suggest that the NNAT scores have use for fair assessment of White and minority children.

Accurate assessment of intelligence for people from diverse cultural and linguistic backgrounds has been a topic of great debate and interest for some time (Sattler, 1988). To effectively evaluate diverse populations, researchers have widely used tests that comprise nonverbal, geometric designs arranged in a progressive matrix because they are considered culturally reduced in their content (Jensen, 1980; Naglieri & Prewett, 1990; Sattler, 1988). For example, psychometric issues such as internal and test–retest reliability (Jensen, 1980; Naglieri, 1985a, 1985b; Naglieri & Prewett, 1990; Nicholson, 1989). In response to these needs, other progressive matrix tests have become available. This includes the Test of Nonverbal Intelligence (Brown, Sherbenou, & Johnsen, 1990), the Matrix Analogies Test—Short Form (MAT–SF; Naglieri, 1985b) and Expanded Form (MAT–EF; Naglieri, 1985a), the Naglieri

	N	Mean	Diff
White	2,306	99.3	
Black	2,306	95.1	4.2
White	1,176	101.4	
Hispanic	1,176	98.6	2.8
White	466	103.6	
Asian	446	103.9	0.3

Does the NNAT work for all groups?

- Goal: to examine the differential hit rates of children identified using NNAT scores
- 19,210 children from NNAT normative sample K to 12
- Cumulative frequency distributions were obtained for White (n = 14,316) , Black (n = 2,880), and Hispanic (n = 2, 014) samples
- .



GIFTED IDENTIFICATION

Addressing Underrepresentation of Gifted Minority Children Using the Naglieri Nonverbal Ability Test (NNAT)

Jack A. Naglieri
George Mason University

Donna Y. Ford
The Ohio State University

ABSTRACT

A persistent problem in education is the underrepresentation of diverse students in gifted education programs. Many educators attribute the poor participation of diverse students in gifted programs to the ineffectiveness of standardized tests in capturing the ability of these students. Thus, a primary agenda of school selection committees is to find more culturally sensitive measures. This study examined the effectiveness of the Naglieri Nonverbal Ability Test (NNAT) in identifying gifted Black and Hispanic students in comparison to White students. The sample was comprised of

attribute the problem to standardized tests, contending that these tests fail to assess the strengths and abilities of culturally, ethnically, and linguistically diverse populations (e.g., Frazier et al., 1995). Support for this assertion comes from reports showing that Black, Hispanic, and Native American students consistently score lower than White students on traditional standardized tests (Brody, 1992; Sattler, 1988).

Despite the fact that intelligence tests such as the Wechsler Intelligence Scale for Children–Third Edition

PUTTING THE RESEARCH TO USE

Table 2

NNAT Scores

	White		Black		Hispanic		Expected
	n	%	*n*	%	*n*	%	%
120 & above	1,571	10.3	269	9.4	190	9.5	9.0
125 & above	906	5.6	145	5.1	88	4.4	5.0
130 & above	467	2.5	75	2.6	46	2.3	2.0
135 & above	190	1.1	42	1.5	18	0.9	1.0
140 & above	90	0.6	19	0.6	9	0.4	0.4
Total Sample *n*	14,141		2,863		1,991		

Note. Expected percentage values are those associated with normal curve probabilities.

relations to achievement provided by Naglieri and Ronning (2000a, 2000b) to include an important examination of the differential rates of identification for diverse groups. These results are similar to previous studies of the NNAT and its

quently, provide access to gifted education services. The primary difference between the NNAT and other group ability tests is that the latter typically include verbal, quantitative, as well as nonverbal tests. Some researchers have

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Does the NNAT work for ELL students?

Psychological Assessment
2004, Vol. 16, No. 1, 81–84

1040-3590/04/$12.00 DOI: 10.1037/1040-3590.16.1.81

BRIEF REPORTS

Comparison of Hispanic Children With and Without Limited English Proficiency on the Naglieri Nonverbal Ability Test

Jack A. Naglieri
George Mason University

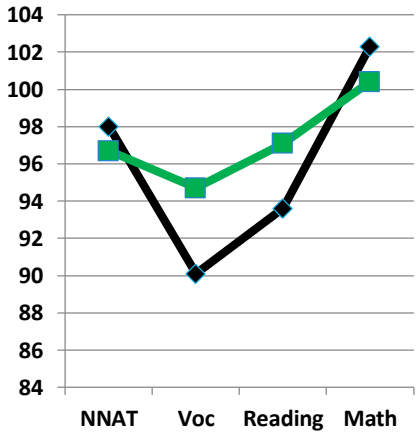
Ashley L. Booth
University of Virginia

Adam Winsler
George Mason University

Hispanic children with (n = 148) and without (n = 148) limited English proficiency were given the Naglieri Nonverbal Ability Test (NNAT; J. A. Naglieri, 1997a) and the Stanford Achievement Test—9th edition (SAT–9; 1995). The groups were selected from the NNAT standardization sample (N = 22,620) and matched on geographic region, gender, socioeconomic status, urbanicity, and ethnicity. There was a very small difference (d ratio = 0.1) between the NNAT standard scores for the children with limited English proficiency (M = 98.0) and those without limited English proficiency (M = 96.7). The NNAT correlated moderately and similarly with achievement for the 2 groups. The sample of children with limited English proficiency earned considerably lower scores on SAT–9 Reading and Verbal subtests. Results suggest that the NNAT may be useful for the assessment of Hispanic children with and without limited English proficiency.

Assessment of intelligence for persons with limited English language skills has been an important issue since the familiar verbal–nonverbal organization of tests was initially made popular in the Army Alpha and Beta tests (Yoakum & Yerkes, 1920). The

Recent research on the nonverbal approach to measuring general ability has shown that the Naglieri Nonverbal Ability Test (NNAT; Naglieri, 1997a) can be an effective way to assess general ability, yields small race and ethnic group differences



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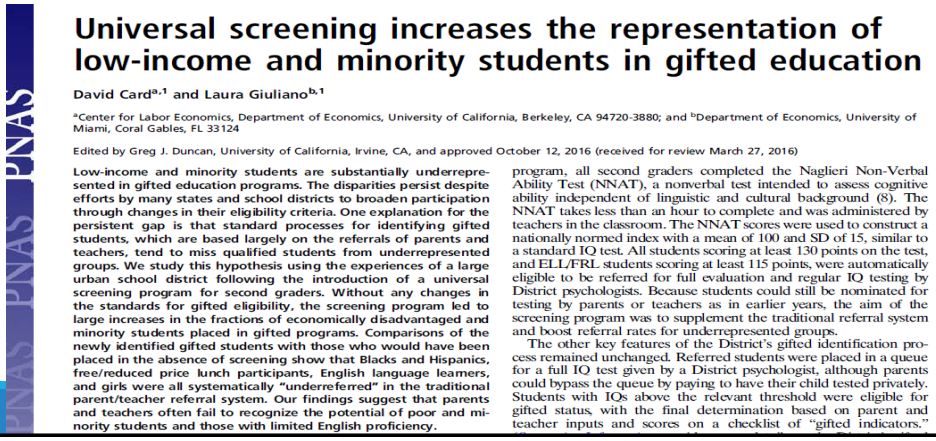
Nonverbal Testing & Gifted Identificaiton

- Economists David Card of the University of California, Berkeley, and Laura Giuliano of the University of Miami studied the effects of using NNAT2 for GT identification



Universal screening increases the representation of low-income and minority students in gifted education

David Card[a,1] and Laura Giuliano[b,1]

[a]Center for Labor Economics, Department of Economics, University of California, Berkeley, CA 94720-3880; and [b]Department of Economics, University of Miami, Coral Gables, FL 33124

Edited by Greg J. Duncan, University of California, Irvine, CA, and approved October 12, 2016 (received for review March 27, 2016)

Low-income and minority students are substantially underrepresented in gifted education programs. The disparities persist despite efforts by many states and school districts to broaden participation through changes in their eligibility criteria. One explanation for the persistent gap is that standard processes for identifying gifted students, which are based largely on the referrals of parents and teachers, tend to miss qualified students from underrepresented groups. We study this hypothesis using the experiences of a large urban school district following the introduction of a universal screening program for second graders. Without any changes in the standards for gifted eligibility, the screening program led to large increases in the fractions of economically disadvantaged and minority students placed in gifted programs. Comparisons of the newly identified gifted students with those who would have been placed in the absence of screening show that Blacks and Hispanics, free/reduced price lunch participants, English language learners, and girls were all systematically "underreferred" in the traditional parent/teacher referral system. Our findings suggest that parents and teachers often fail to recognize the potential of poor and minority students and those with limited English proficiency.

program, all second graders completed the Naglieri Non-Verbal Ability Test (NNAT), a nonverbal test intended to assess cognitive ability independent of linguistic and cultural background (8). The NNAT takes less than an hour to complete and was administered by teachers in the classroom. The NNAT scores were used to construct a nationally normed index with a mean of 100 and SD of 15, similar to a standard IQ test. All students scoring at least 130 points on the test, and ELL/FRL students scoring at least 115 points, were automatically eligible to be referred for full evaluation and regular IQ testing by District psychologists. Because students could still be nominated for testing by parents or teachers as in earlier years, the aim of the screening program was to supplement the traditional referral system and boost referral rates for underrepresented groups.

The other key features of the District's gifted identification process remained unchanged. Referred students were placed in a queue for a full IQ test given by a District psychologist, although parents could bypass the queue by paying to have their child tested privately. Students with IQs above the relevant threshold were eligible for gifted status, with the final determination based on parent and teacher inputs and scores on a checklist of "gifted indicators."

A Nonverbal Test Solution

- In Broward County Florida about 50% of its students are black or Hispanic but just 28% students gifted were black or Hispanic.
  - Under that system, the district had relied on teachers and parents to make referrals.
- In 2006, in an effort to reduce that disparity, Broward County introduced a universal screening program, requiring that all second graders take a nonverbal test (Naglieri Nonverbal Ability Test, 1997).

Card & Giuliano (2017)

www.pnas.org/cgi/doi/10.1073/pnas.1605043113

- The number of Hispanic and Black students increased considerably as did the numbers of students who were in poverty

➢ When Broward County suspended universal screening due to budget cuts racial and ethnic disparities re-emerged, as large as they were before.

➢ Effects of giving NNAT2 to all students in years 2006 and 2007 (N = 79,650)

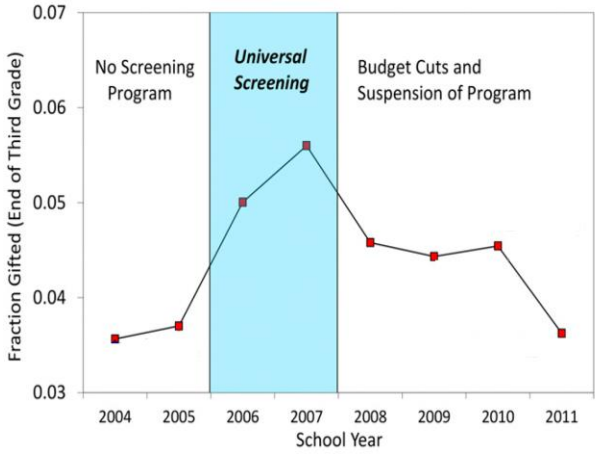


Fig. 1. Fraction gifted by end of third grade,

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Verbal Tests Discriminate

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).

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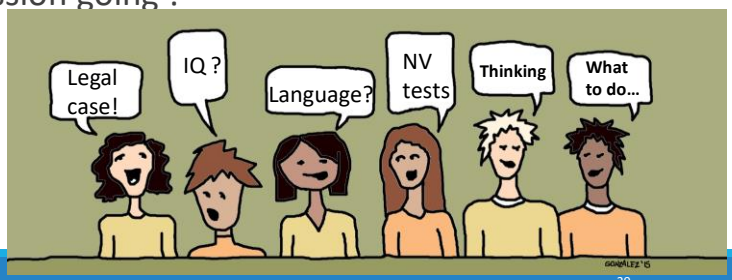
Core Group Activity

- **O**rganizer – Have the group discuss this question: "What are you thoughts about these research and legal findings?"
- **C**oach – guide the discussion so that the group arrives at an answer to the question
- **R**eporter – record and report to the group
- **E**nergizer – keep the discussion going !



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Today's Topics

How we have Measured Intelligence for 100 + Years

- Fair Assessment as a Social Justice Issue
- Improving on the old for Universal Screening of Gifted Students

A Strength Based Approach called PASS

- Neurocognitive Abilities Critical to Learning
- CAS2, CAS2:Brief
- Administration and Analysis of the Cognitive Assessment System 2 Brief
- Social Emotional Learning and the DESSA
- Identifying Learning Disabilities & ADHD
- Instruction based on PASS strengths/needs

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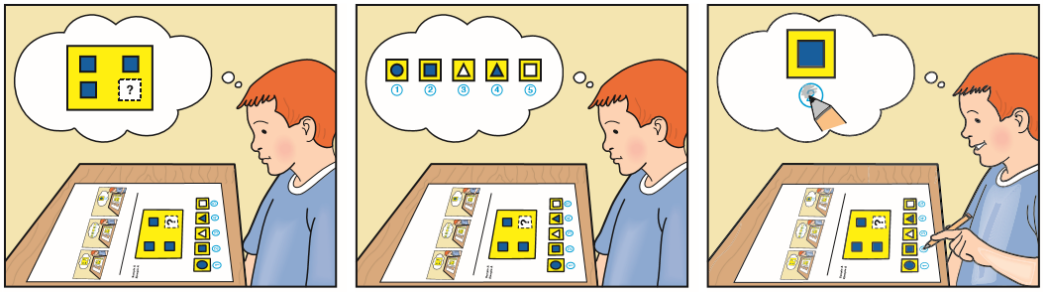
How to Improve the old

- In order to make traditional IQ more accessible to a wide variety of people the *language and formal knowledge requirements must be drastically reduced*
- How to do that in a group test administration format for gifted screening?
- Use pictorial instructions as in NNAT2 and Wechsler Nonverbal



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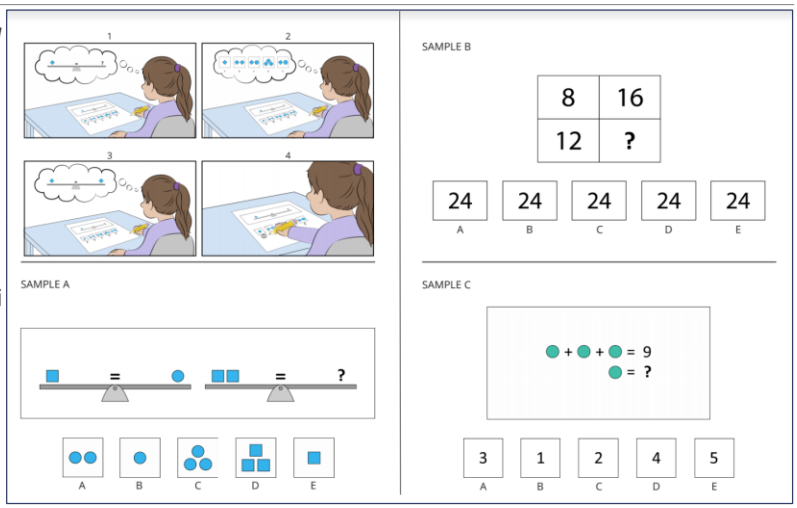
How to Make Instructions for ALL

- Use *pictorial and animated* instructions as in forthcoming
- Naglieri Ability Test-Nonverbal (NAT-NV) (Naglieri, 2021)
- NAT-Verbal (Naglieri & Brulles, 2011)
- NAT-Quantitative (Naglieri & Lansdowne, 2011)



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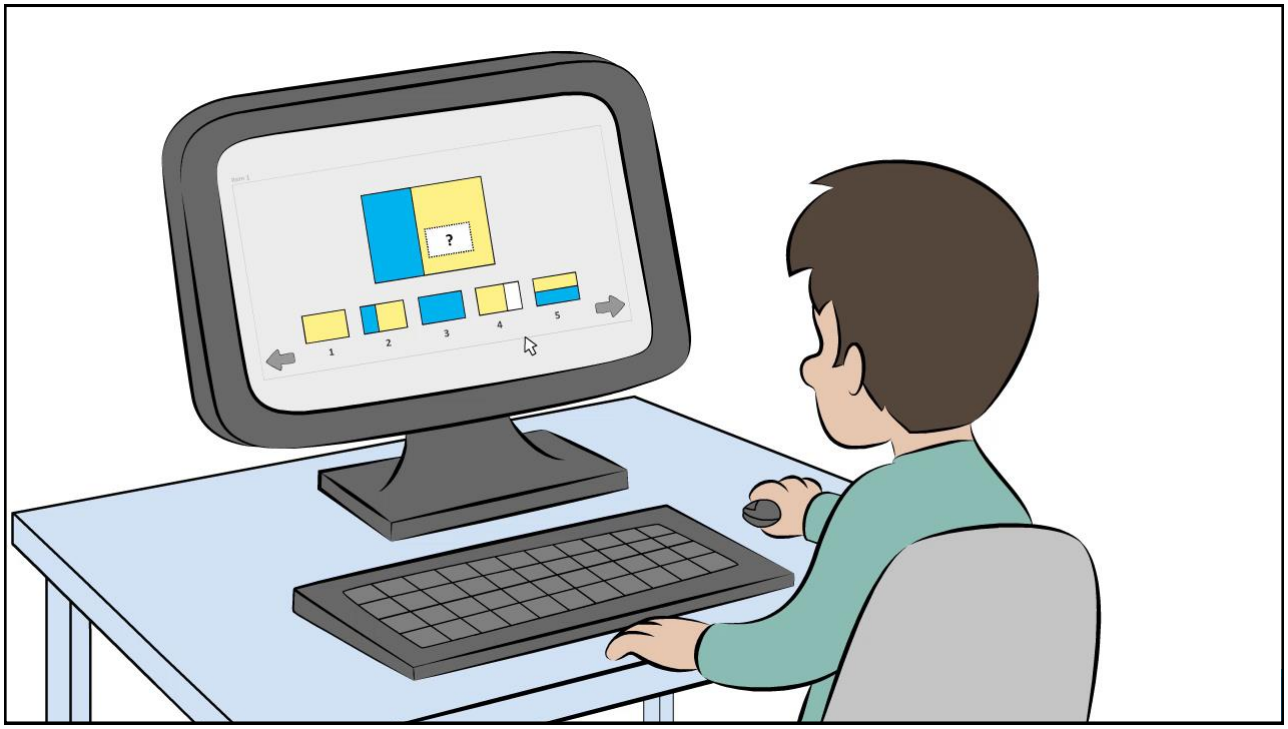

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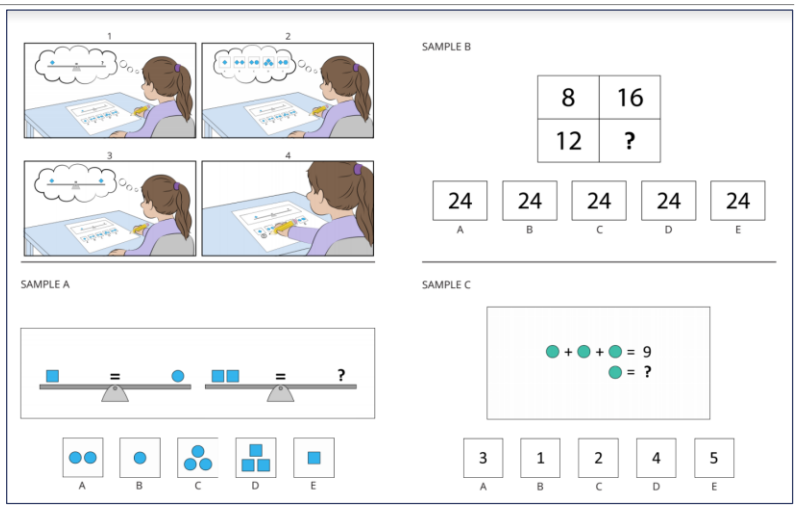
Directions for All

- Pictorial Directions for the Paper version of the Naglieri Ability Tests



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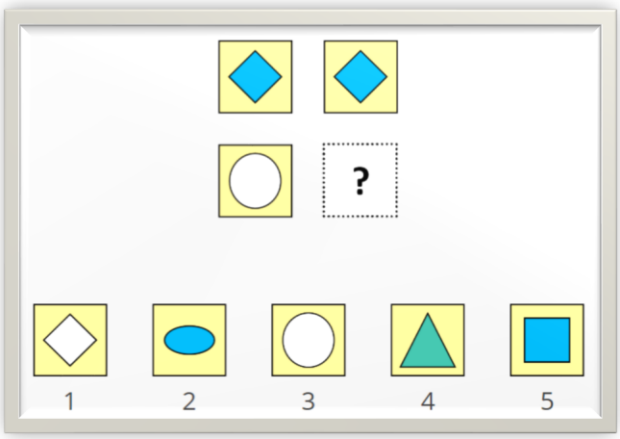
Naglieri Ability Test - Non-verbal



- Online and paper version
- Group or individual administration
- Animated instructional video
- Minimal verbal directions by administrator
- Interactive practice questions
- 8 different test forms:
  - Pre-K, Kindergarten, Grade 1, Grade 2, Grade 3/4, Grade 5/6, Grade 7-9, Grade 10-12

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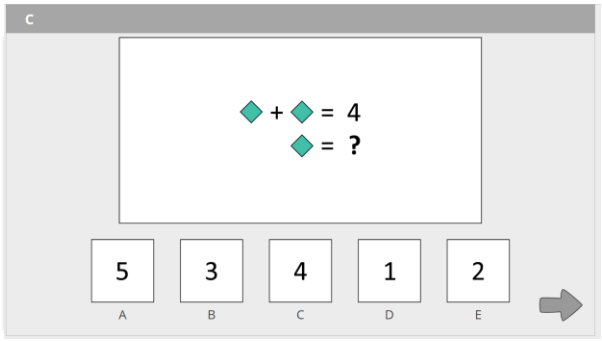
Naglieri Ability Test - Quantitative



- Online and paper version
- Classroom and individual administration
- Animated instructional video
- Minimal verbal directions by administrator
- Interactive practice questions
- 7 different test forms:
  - Kindergarten, Grade 1, Grade 2, Grade 3/4, Grade 5/6, Grade 7-9, Grade 10-12

Authors: Jack Naglieri & Kim Lansdowne

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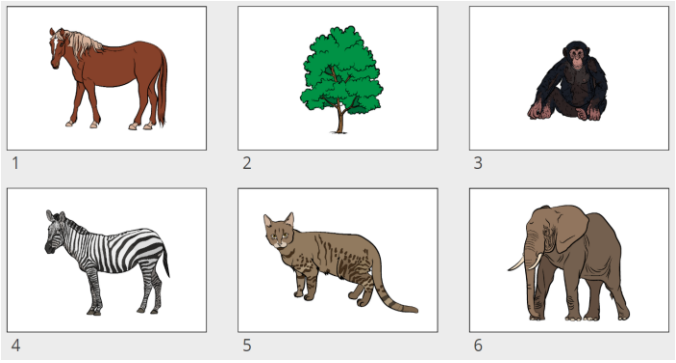
Naglieri Ability Test - Verbal



- Online and paper version
- Classroom and individual administration
- Animated instructional video
- Minimal verbal directions by administrator
- Interactive practice questions
- 3 different test forms:
  - Kindergarten – Grade 2, Grade 3-6, Grade 7-12

Authors: Jack Naglieri & Dina Brulles

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Nonverbal Tests for Group Screening

- We can create tests of general ability with Verbal, Nonverbal, and Quantitative content that can be used for equitable assessment
- The concept of general ability is adequate for group screening
- BUT determining WHY a student fails despite apparently good general ability requires a major shift toward tests that are designed to measure BRAIN FUNCTION
- This also allows for instruction that uses cognitive processing STRENGTHS to ensure academic and life success
- That is what the PASS theory and CAS2 are all about

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Today's Topics

How we have Measured Intelligence for 100 + Years

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A Strength Based Approach called PASS

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- Administration and Analysis of the Cognitive Assessment System 2 Brief
- Social Emotional Learning and the DESSA
- Identifying Learning Disabilities & ADHD
- Instruction based on PASS strengths/needs

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Intelligence Tests and Prediction

- Intelligence tests are one of the primary tools for understanding children with Intellectual disability, specific learning disabilities, ADHD, and others
  - The goal is to determine if there is a cognitive explanation for academic successes or failure
- The PASS neurocognitive processing theory provides a way to re-invent the concept of intelligence and the Cognitive Assessment System – Second Edition provides a way to measure the four PASS abilities

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REASON FOR REFERRAL (BY DR T. OTERO)

ACADEMIC:

- Could not identify letters/sounds
- October 2013: Could only count to 39
- All ACCESS scores of 1

BEHAVIOR:

- Difficulty following directions
- Attention concerns
- Refusal/defiance

Case of Alejandro

Note: this is not a picture of Alejandro

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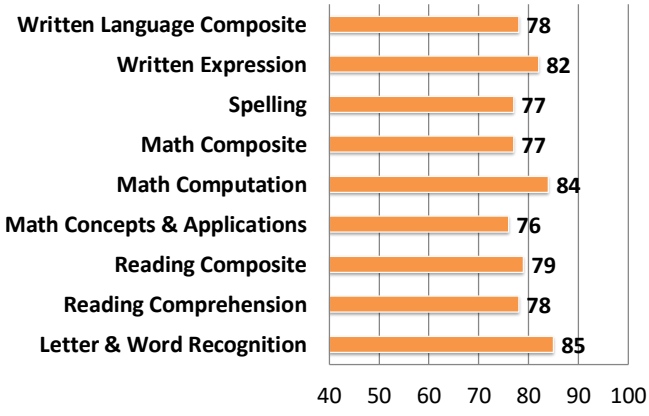
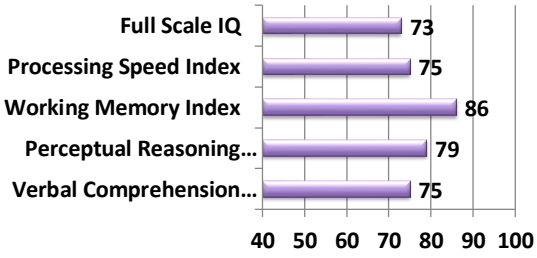
WISC-IV ASSESSMENT





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Stand and Share

&

What would you say about Alejandro's abilities based on the IQ and achievement test results?

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Neurocognitive function

- Luria theorized that human cognitive functions can be conceptualized within a framework of three separate but related brain systems that provide four basic psychological processes.
- The three brain systems are referred to as **"functional units"** because the neurocognitive mechanisms work in separate but interrelated systems.
- Recent neuroscience research has found Cognition and behavior *are a product of* ***functional brain networks.***

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Intelligence as Neurocognitive Functions

- Das and Naglieri (February 11, 1984) proposed that intelligence was better REinvented as neurocognitive processes. They began development of the **C**ognitive **A**ssessment **S**ystem (Naglieri & Das, 1997).
- Naglieri and Das conceptualized intelligence Using Luria's description of Planning, Attention, Simultaneous, and Successive (PASS) neurocognitive processes.

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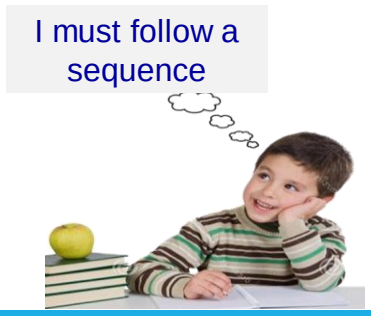
Intelligence Tests Should Measure Thinking not Knowing

- What does the student have to ***know*** to complete a task?
  - ***This is dependent on educational opportunity (e.g., Vocabulary, Arithmetic, phonological skills, etc.)***

How does the student have to ***think*** to complete a task?

This is dependent on the brain's neurocognitive processes



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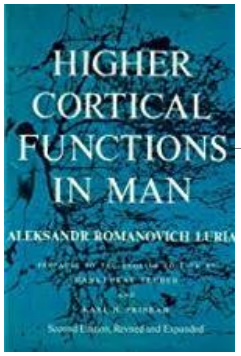

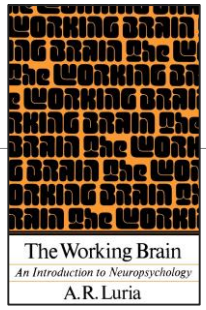

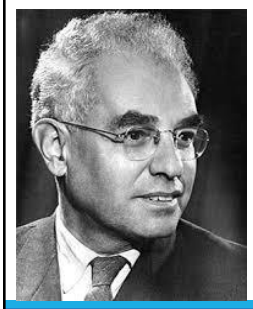

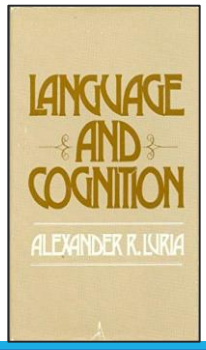

PASS Neurocognitive Theory

Planning = THINKING ABOUT HOW YOU DO WHAT YOU DECIDE TO DO

Attention = BEING ALERT AND RESISTING DISTRACTIONS

Simultaneous = GETTING THE BIG PICTURE

Successive = FOLLOWING A SEQUENCE

PASS = 'basic psychological processes'

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PASS Neurocognitive Theory

- These neurocognitive processes are the foundation of learning and can reveal WHY a student is successfull or has difficulty meeting the demands of life (Naglieri & Otero, 2011)

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Neuropsychological Correlates of PASS

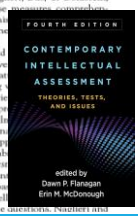
Naglieri, J. A., & Otero, T. M. Redefining Intelligence as the PASS Theory of Neurocognitive Processes.

CHAPTER 6

Redefining Intelligence with the Planning, Attention, Simultaneous, and Successive Theory of Neurocognitive Processes

Practitioners and test authors have become increasingly conscious of the need for theory-based intelligence tests. Although several theories of intelligence have been attached to traditional ability tests such as the Wechsler scales (Plucker & Esping, 2014), one theory, first described by Das, Kirby, and Jarman (1979), was used explicitly to develop a new way to construct an intelligence test. In 1997, Naglieri and Das (1997a) published the Cognitive Assessment System (CAS), which was based on a neurocognitive theory called *planning, attention, simultaneous, and successive* (PASS) processing. These authors argued that a neurocognitive theory of intelligence provides the foundation necessary for test construction and is equally important for test interpretation. They also suggested that traditional IQ tests, which were based largely on the work of the U.S. military (see Naglieri, 2015), were too limited and could be improved if the constructs that were measured were related to brain functions. Naglieri and Das anticipated that the PASS neurocognitive approach would yield better diagnostic information, have relevance to instructional decision making, and be more appropriate for diverse populations (Naglieri & Otero, 2011, 2017).

the four PASS processes. PASS theory has been most recently operationalized in the Cognitive Assessment System—Second Edition (CAS2; Naglieri, Das, & Goldstein, 2014a), the CAS2: Espanol (Naglieri, Moreno, & Otero, 2017), the CAS2: Brief (Naglieri, Das, & Goldstein, 2014b), and the CAS2: Rating Scale (Naglieri, Das, & Goldstein, 2014c). We describe these measures comprehensively in Chapter 15 of this book, but in this chapter we focus on the PASS theory and the research on which these measures are based.



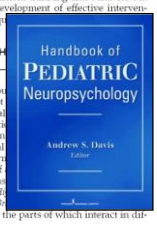
The PASS theory and ... neurocognitive perspective ... from that of traditional ... in part, subtests requiring ... knowledge). These batteries ... the Army mental testing ... akum and Yerkes (1920) ... PASS theory, as operationa... CAS2, has created an op... field of intelligence and ab... emphasizing (1) that a test ... be based on a *theory* of in... the test should measure ba... cesses defined by the intel... test, not the content of the questions. Naglieri and

28 Cognitive Assessment System: Redefining Intelligence From a Neuropsychological Perspective

Jack A. Naglieri and Tulio M. Otero

INTRODUCTION

Pediatric neuropsychology has become an important field for understanding and treating developmental, psychiatric, psychosocial, and learning disorders. By addressing both brain functions and environmental factors intrinsic in complex behaviors, such as thinking, reasoning, planning, and the variety of executive capacities, clinicians are able to offer needed services to children with a variety of learning, psychiatric, and developmental disorders. Brain–behavior relationships are investigated by neuropsychologists by interpreting several aspects of an individual's cognitive, language, emotional, social, and motor behavior. Standardized instruments are used by neuropsychologists to collect information and derive inferences about brain–behavior relationships. Technology, such as magnetic resonance imaging (MRI), functional MRI (FMRI), positron emission tomography, computerized tomography, and diffusion tensor imaging, has reduced the need for neuropsychological tests to localize and access brain damage. Neuropsychological tests, however, Such tools should not only evaluate the underlying processes necessary for efficient thinking and behavior but also provide for the development of effective interventions and address the qu...



FROM NEUROPSYCH... TO ASSESSMENT

Luria's theoretical accou... perhaps one of the most ... 2008). Luria conceptual... of brain–behavior relati... orders that the clinician ... the brain, the functional ... syndromes and impairm... and clinical methods of ... theoretical formulations ... lated in works such as *Ha...* 1980) and *The Working Br...* as a functional mosaic, the parts of which interact in dif-

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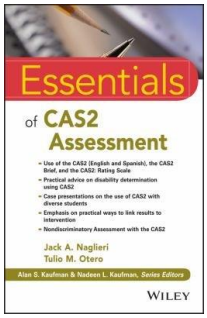
Brain & Intelligence 21st Century

- The brain is the seat of abilities called PASS
- PASS is described by (Naglieri & Otero, 2011 & 2017) as a modern view of intelligence



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BACK TO ALEJANDRO

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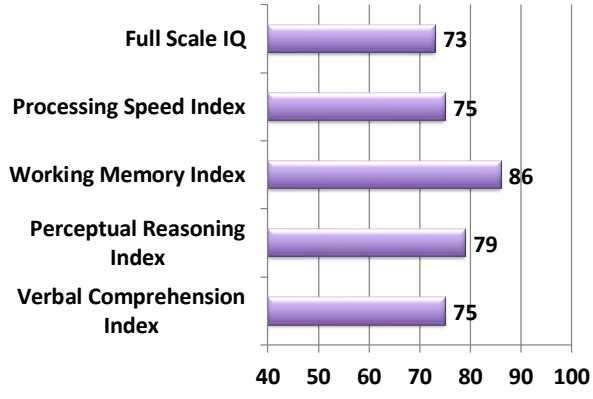
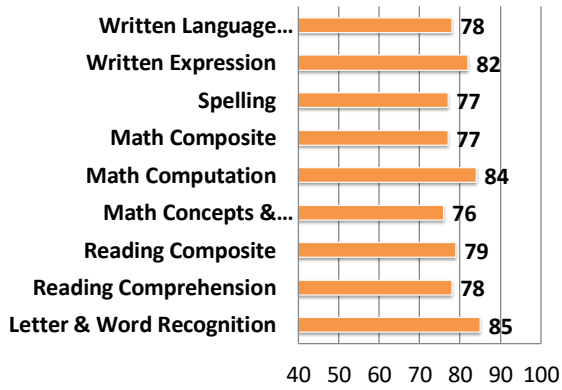
WISC-IV and ACHIEVEMENT





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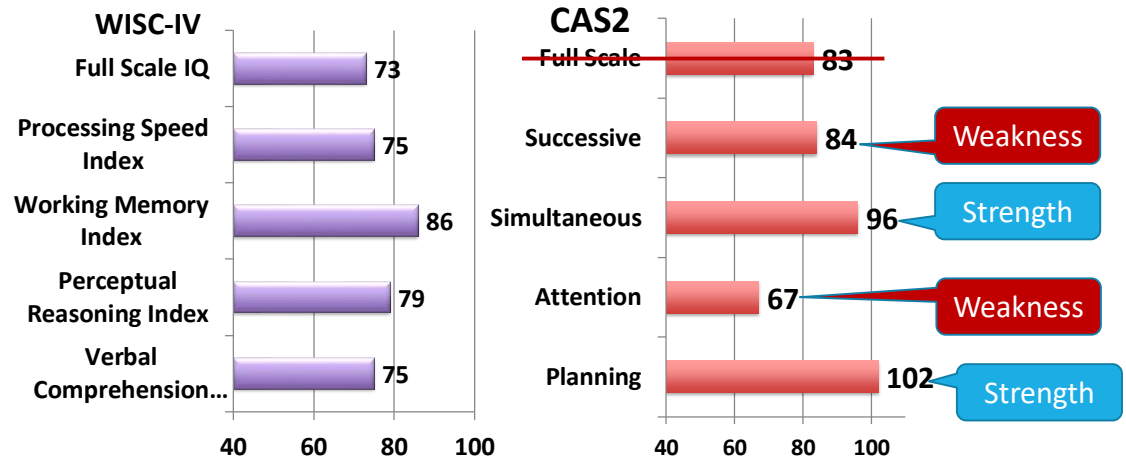
PASS Scores show Strengths and Weaknesses



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Core Group Discussion

- Did PASS scores change your mind about this student?
- What would you do differently now?
- Your thoughts…

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Alejandro and PASS (analyzed by Dr. Otero)

- Alejandro is not a slow learner.
- He has good scores in basic psychological processes:
  - Simultaneous = 96 and Planning = 102
- He has a "disorder in one or more of the basic psychological processes"
  - Attention = 67 and Successive = 84
- And he has Inattentive type of ADHD based on DSM
- AND cognitive processing weakness with academic failure which equals an SLD determination.

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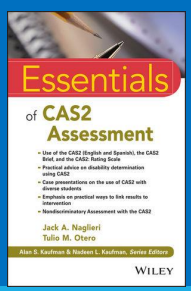
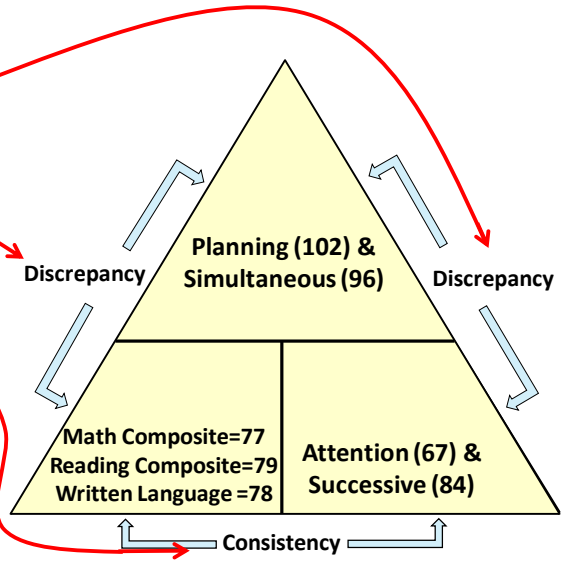
Discrepancy Consistency Method for SLD Determination

Naglieri & Otero (2017) Pattern of Strengths and Weaknesses



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



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PASS Intervention Protocol (KK & JN)

- Help child understand his/her PASS strengths and use the strong abilities to manage areas of challenges (be Intentional & Transparent)
- Encourage Motivation & Persistence (Mindsets)
- Support in developing strategies for approaching tasks (Skill Sets)
  - Student/Peer or Teacher generated
  - Model and Scaffold as needed
- Encourage independence and self efficacy
  - (Metacognition/Self Assessment)

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Kathleen's Intervention Plan for Alejandro

- Be Intentional and Transparent
  - Explain his PASS scores to him
- Build on His Strengths
  - Help him use his Planning and Simultaneous Strengths to support his learning challenges
- Develop Effective Skill Sets to remediate his weaker skills
  - Offer and encourage the use of strategies that can improve his attention and successive processing. (Stay tuned for more on strategies for this…)
- Encourage a Growth Mindset and Self Efficacy

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Alejandro

- The case of Alejandro illustrates how traditional IQ tests like the Wechsler are fundamentally flawed by their reliance on knowledge of words and math
- Let's look at the fair assessment a little more…

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Naglieri, Rojahn, Matto (2007)

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

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☆

Jack A. Naglieri [a,*], Johannes Rojahn [a], Holly C. Matto [b]

[a] Center for Cognitive Development, George Mason University, Department of Psychology, MS# 2C6, United States
[b] Virginia Commonwealth, United States

Received 16 May 2006; received in revised form 6 November 2006; accepted 6 November 2006
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 groups. Sample size was maximized using nationally representative groups and demographic group differences were minimized using smaller matched samples. Small differences

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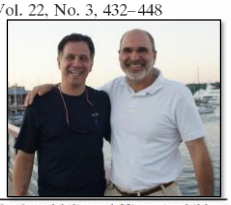
PASS scores – English and Spanish

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

School Psychology Quarterly
2007, Vol. 22, No. 3, 432–448

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 assessment, intelligence, PASS Theory, Cognitive Assessment System, non-biased assessment

Means, *SD*s, *d*-ratios, Obtained and Correction Correlations Between the English a

Spanish Version of the CAS (*N* = 55).

	CAS English		CAS Spanish		*d*-ratio	Correlations	
	Mean	*SD*	Mean	*SD*	*d*	Obtained	Corrected
Planning	92.6	13.1	92.6	13.4	.00	.96	.97
Simultaneous	89.0	12.8	93.0	13.7	-.30	.90	.93
Attention	94.8	13.9	95.1	13.9	-.02	.98	.98
Successive	78.0	13.1	83.1	12.6	-.40	.82	.89
Full Scale	84.6	13.6	87.6	13.8	-.22	.96	.97

- Very similar scores in both versions
- >90% agreement between PASS weakness & strengths using English and Spanish CAS

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Otero, Gonzales, Naglieri (2013)

- Very similar PASS scores when giving the CAS English and Spanish versions
- >90% agreement between PASS weakness & strengths using English and Spanish CAS

APPLIED NEUROPSYCHOLOGY: CHILD, 0: 1–9, 2012

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DOI: 10.1080/21622965.2012.670547
Psychology Press

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

Tulio M. Otero
Departments of Clinical Psychology and School Psychology, Chicago School of Professional Psychology, Chicago, Illinois
Lauren Gonzales
George Mason University, Fairfax, Virginia
Jack A. Naglieri
University of Virginia, Fairfax, Virginia

This study examined the performance of referred Hispanic English-language learners ($N = 40$) on the English and Spanish versions of the *Cognitive Assessment System* (CAS; Naglieri & Das, 1997). The CAS measures basic neuropsychological processes based on the Planning, Attention, Simultaneous, and Successive (PASS) theory (Naglieri & Das, 1997; Naglieri & Otero, 2011c). Full Scale (FS) scores as well as PASS processing scale scores were compared, and no significant differences were found in FS scores or in any of the PASS processes. The CAS FS scores on the English ($M = 86.4$, $SD = 8.73$) and Spanish ($M = 87.1$, $SD = 7.94$) versions correlated .94 (uncorrected) and .99 (corrected for range restriction). Students earned their lowest scores in Successive processing regardless of the language in which the test was administered. PASS cognitive profiles were similar on English and Spanish versions of the PASS scales. These findings suggest that students scored similarly on both versions of the CAS and that the CAS may be a useful measure of these four abilities for Hispanic children with underdeveloped English-language proficiency.

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CAS in Italy

Using US norms, Italian sample (N = 809) CAS Full Scale was 100.9 and matched US sample (N = 1,174) was 100.5 and factorial invariance was found

Psychological Assessment

1040-3590/12/$12.00 DOI: 10.1037/a0029828

Multigroup Confirmatory Factor Analysis of U.S. and Italian Children's Performance on the PASS Theory of Intelligence as Measured by the Cognitive Assessment System

Jack A. Naglieri
University of Virginia and Devereux Center for Resilient Children

Stefano Taddei
University of Florence

Kevin Williams
Multi-Health Services, Toronto, Ontario, Canada

This study examined Italian and U.S. children's performance on the English and Italian versions, respectively, of the Cognitive Assessment System (CAS; Naglieri & Conway, 2009; Naglieri & Das, 1997), a test based on a neurocognitive theory of intelligence entitled PASS (Planning, Attention, Simultaneous, and Successive; Naglieri & Das, 1997; Naglieri & Otero, 2011). CAS subtest, PASS scales, and Full Scale scores for Italian (N = 809) and U.S. (N = 1,174) samples, matched by age and gender, were examined. Multigroup confirmatory factor analysis results supported the configural invariance of the CAS factor structure between Italians and Americans for the 5- to 7-year-old (root-mean-square error of approximation [RMSEA] = .038; 90% confidence interval [CI] = .033, .043; comparative fit index [CFI] = .96) and 8- to 18-year-old (RMSEA = .036; 90% CI = .028, .043; CFI = .97) age groups. The Full Scale standard scores (using the U.S. norms) for the Italian (100.9) and U.S. (100.5) samples were nearly identical. The scores between the samples for the PASS scales were very similar, except for the Attention Scale (d = 0.26), where the Italian sample's mean score was slightly higher. Negligible mean differences were found for 9 of the 13 subtest scores, 3 showed small d-ratios (2 in favor of the Italian sample), and 1 was large (in favor of the U.S. sample), but some differences in subtest variances were found. These findings suggest that the PASS theory, as measured by CAS, yields similar mean scores and showed factorial invariance for these samples of Italian and American children, who differ on cultural and linguistic characteristics.

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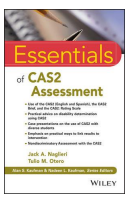
Race & IQ

- 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 (2016), Reynolds Intellectual Assessment Scale -2 Reynolds, C. R., & Kamphaus, R. W. (2015)

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Wechsler vs CAS for Students with ID

- ***White*** children earned the same mean scores on WISC-III and CAS
- ***Black*** children earned lower VIQ than PIQ scores due to language / achievement tasks → low Full Scale
- ***Black*** children earned ***higher*** scores on CAS than whites
- ***Fewer*** Black children would be identified as having intellectual disability based on Full Scale scores using CAS than WISC-III
- *THIS IS A SOCIAL JUSTICE ISSUE*.

American Journal on Mental Retardation, 2001, Vol. 106, No. 4, 359–367

Intellectual Classification of Black and White Children in Special Education Programs Using the WISC-III and the Cognitive Assessment System

Jack A. Naglieri
George Mason University

Johannes Rojahn
The Ohio State University

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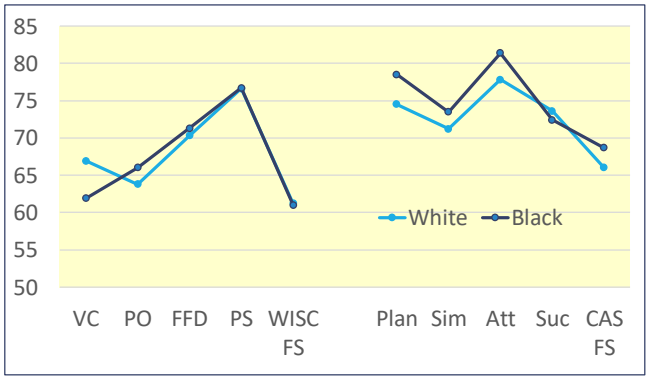
More Details on the Study

- "The Black students earned significantly lower WISC-III verbal scores than performance scores, t(45) 5 3.2, p , .01, …
- there was no significant difference between those scores among Whites.
- This suggests that the Verbal IQ scale (and Verbal Comprehension Index) of the WISC-III, which contains achievement-like tests such as Vocabulary, Arithmetic, and Information, posed particular difficulty for these Black children. (p. 363)"



"The WISC-III classified 36% more Black children as having mental retardation than did the CAS" (p. 364)

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Correlation with Achievement

- When studying the relationships between intelligence tests and achievement there is a confounding factor…
  - Traditional tests have achievement in them !
  - That is called criterion contamination
- Measures of neurocognitive processes do not have academic content
- This is good for fair assessment, but does it limit the power of processing scores to predict achievement?

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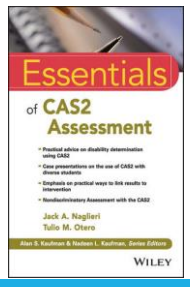
Correlations: We can do better

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	.53	.47
	Processing Speed	.34		
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	.54	.50
	Visual Processing	.45		
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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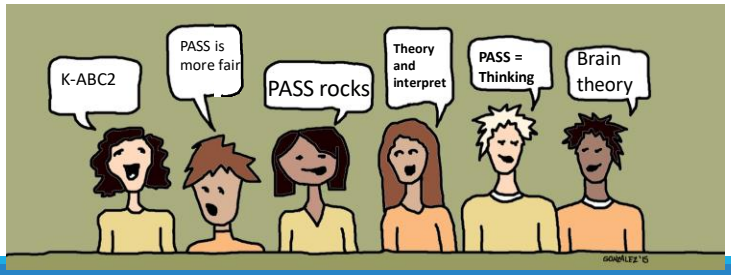
Core Group Activity

- **O**rganizer – Have the group discuss this question: "What thoughts are there about these research studies on Race, IQ and PASS?"
- **C**oach – guide the discussion
- **R**eporter – will record and report to the group
- **E**nergizer – keep the discussion going !



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Intelligence Conceptualized as brain function - PLANNING

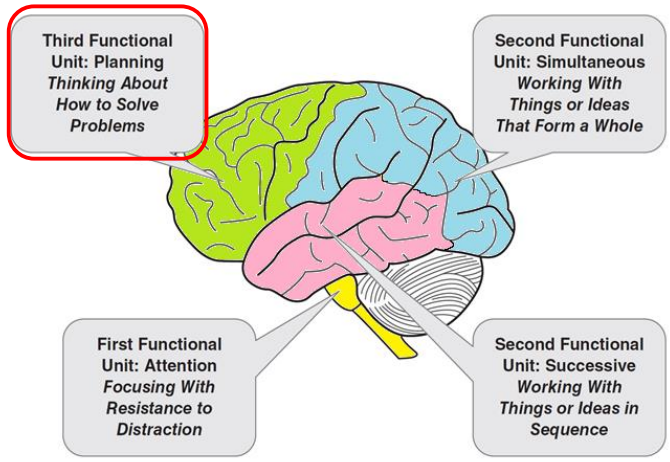

Figure 1.2 Three Functional Units and Associated Brain Structures

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

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Planning (or lack of it!)

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

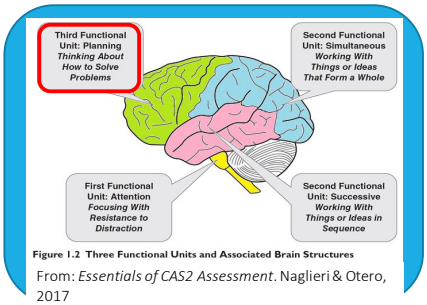


Figure 1.2 Three Functional Units and Associated Brain Structures

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

Which Lemming has good Planning?

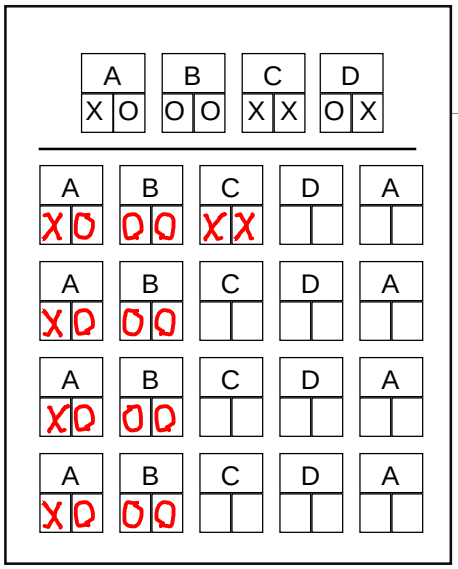
CAS2: Rating Scale Planning

Directions for Items 1–10. These questions ask how well the child or adolescent decides how to do things to achieve a goal. They also ask how well a child or adolescent thinks before acting and avoids impulsivity. Please rate how well the child or adolescent creates plans and strategies to solve problems.

During the past month, how often did the child or adolescent . . .	Never	Rarely	Sometimes	Frequently	Always
1. produce a well-written sentence or a story?	0	1	2	3	4
2. evaluate his or her own actions?	0	1	2	3	4
3. produce several ways to solve a problem?	0	1	2	3	4
4. have many ideas about how to do things?	0	1	2	3	4
5. have a good idea about how to complete a task?	0	1	2	3	4
6. solve a problem with a new solution when the old one did not work?	0	1	2	3	4
7. use information from many sources when doing work?	0	1	2	3	4
8. effectively solve new problems?	0	1	2	3	4
9. have well-described goals?	0	1	2	3	4
10. consider new ways to finish a task?	0	1	2	3	4

___ + ___ + ___ + ___ + ___ = ☐

Planning Raw Score



Planned Codes Page 1

- Jack Jr. at age 5
- Child fills in the codes in the empty boxes
- After being told the test requirement, examinees are told: “You can do it any way you want”

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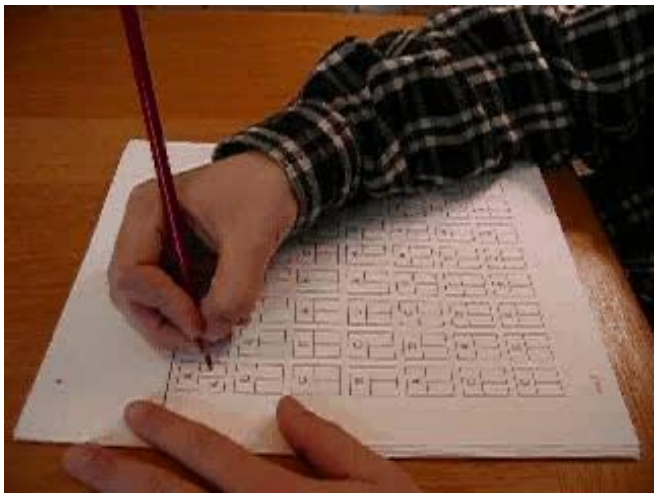
Planned Codes Page 2 Jack Jr age 10



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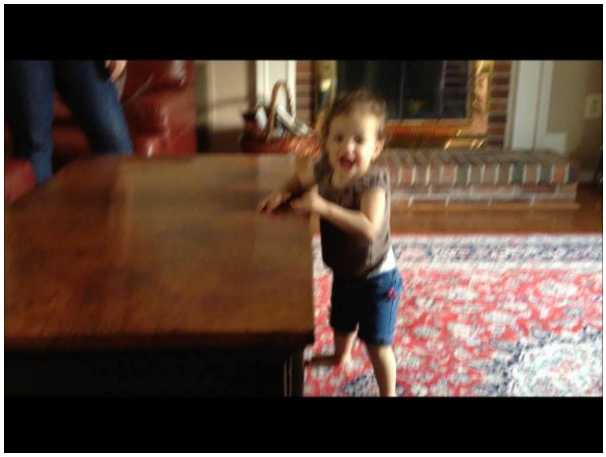
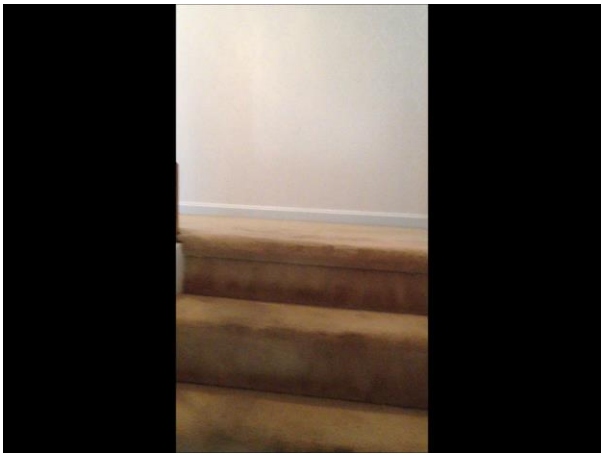
A 13 month old's Plan

At 19 months Planning & Knowledge





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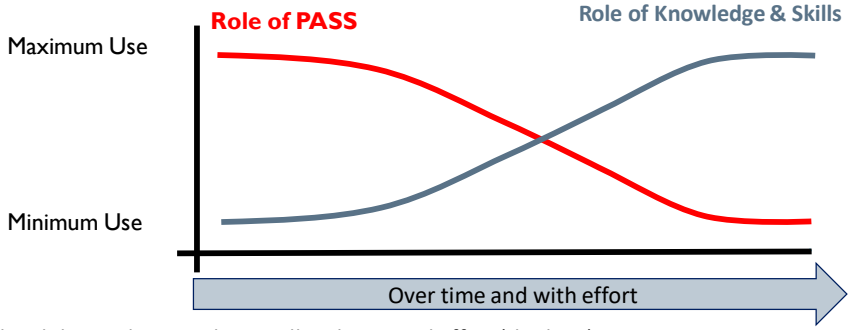
Planning Learning Curves

- Learning depends upon many factors especially PASS
- When a task is practiced and learned it requires less thinking (PASS) and becomes a skill
- At first, PASS plays a major role in learning



Note: A **skill** is the ability to do something well with minimal effort (thinking)

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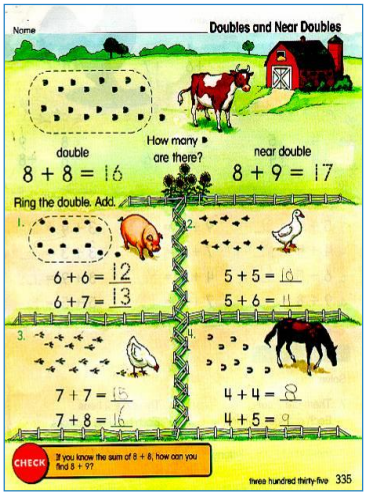
Math strategies stimulate thinking



This work sheet encourages the child to use strategies (plans) in math such as: "If 8 + 8 = 16, then 8 + 9 is 17"

Note to the Teacher:
When we teach children skills by helping them use strategies and plans for learning, we are teaching both knowledge and processing. Both are important.

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Building the Big Picture of PASS

PASS

Subheadings:

- Planning:
  - Mindsets
  - Skill Sets
- Attention
- Successive
- Simultaneous

You will write/draw information that captures the big idea of each key part of PASS on your organizer after we teach each section.

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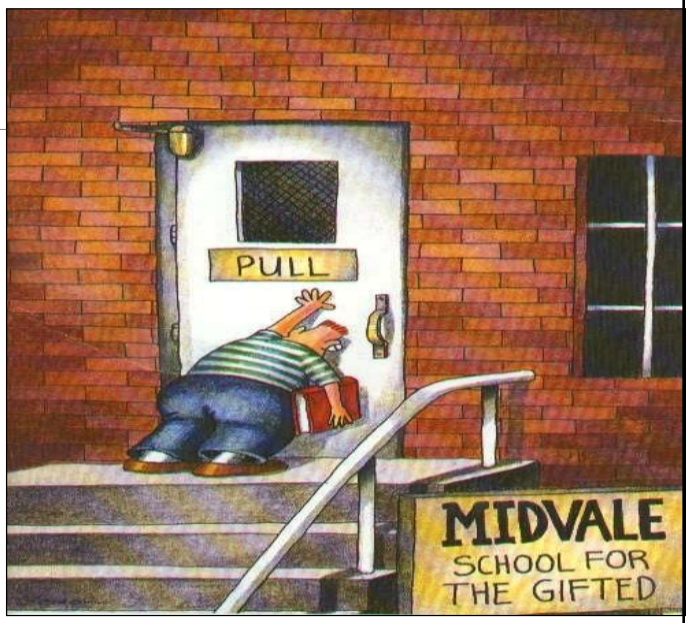
POOR PLANNING



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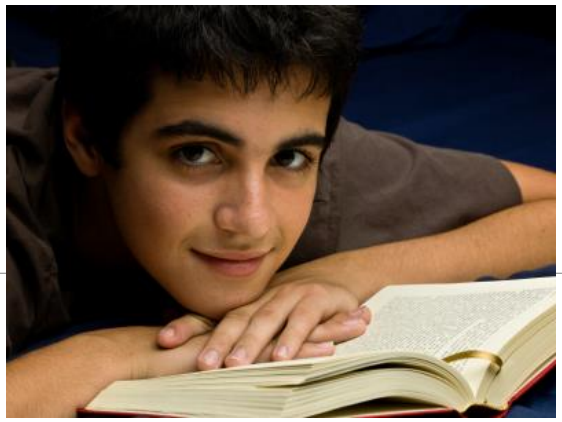
The Case of Rocky

Strengths with Specific Learning Disability and ADHD



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The case of Rocky

- Rocky[1] is a real child with a real problem
- He lives in a large middle class school district
  - a wide variety of services are available
- In first grade Rocky was performing significantly below grade benchmarks in reading, math, and writing.
  - He received group reading instruction weekly and six months of individual reading instruction from a reading specialist
  - He made little progress and was retained

Note: This child's name and other potentially revealing data have been changed to protect his identity.

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The case of Rocky

- By the middle of his second year in first grade Rocky was having difficulty with
  - decoding, phonics, and sight word vocabulary; math problems, addition, fact families, and problem solving activities;
  - and focusing and paying attention."
- After two years of special team meetings and special reading instruction he is now working two grade levels below his peers and is having difficulty in reading, writing, and math
- A comprehensive evaluation was conducted

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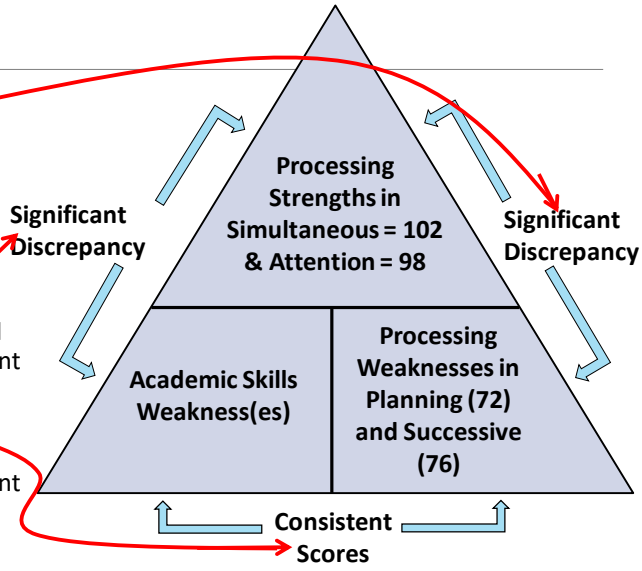
Discrepancy Consistency Method for Rocky

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



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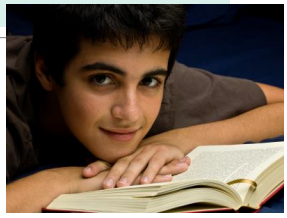
Kathleen's Intervention Plan for Rocky



- **Be Intentional and Transparent**
  - Explain his PASS scores to him
- **Build on His Strengths**
  - Help him use his Attention and Simultaneous Strengths to support his learning challenges with Planning and Successive.
- **Develop Effective Skill Sets** to remediate his weaker skills
  - Offer and encourage the use of strategies that can improve his planning and successive processing.
- **Encourage a Growth Mindset** and Self Efficacy

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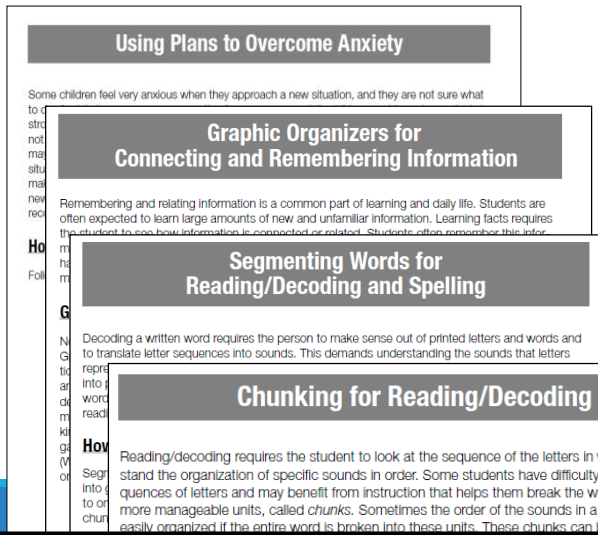
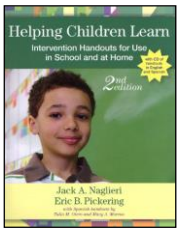
Interventions for Rocky



- 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.



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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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Hammill Institute on Disabilities

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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.

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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

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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?

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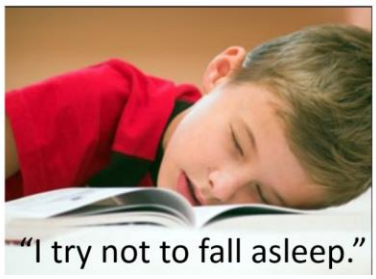
Student Plans

- "My goal was to do all of the easy problems on every page first, then do the others."
- "I do the problems I know, then I check my work."
- "I do them (the algebra) by figuring o X to make the problem work."
- "I did all the problems in the brain-de



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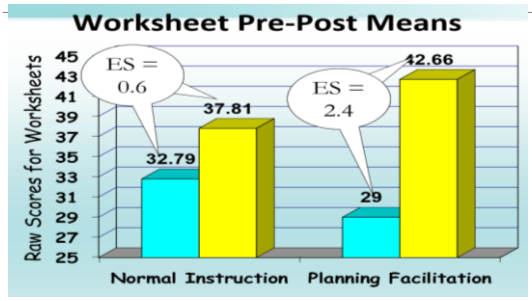
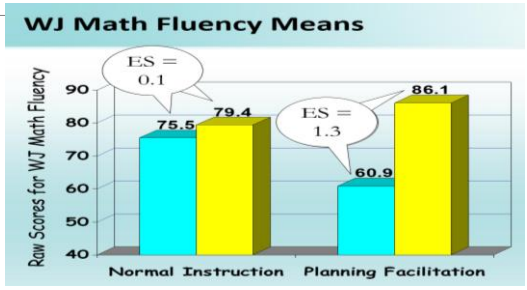
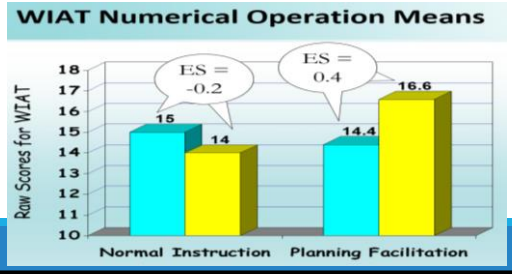
Pre-Post Means and Effect Sizes for the Students with LD and ADHD







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 ($M = 3.21$, $SD = 18.21$, $d = 0.09$).

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Results

- The experimental group did better than the control on math taken from the curriculum on standardized math tests
- A year later the experimental group still outperformed the control group.

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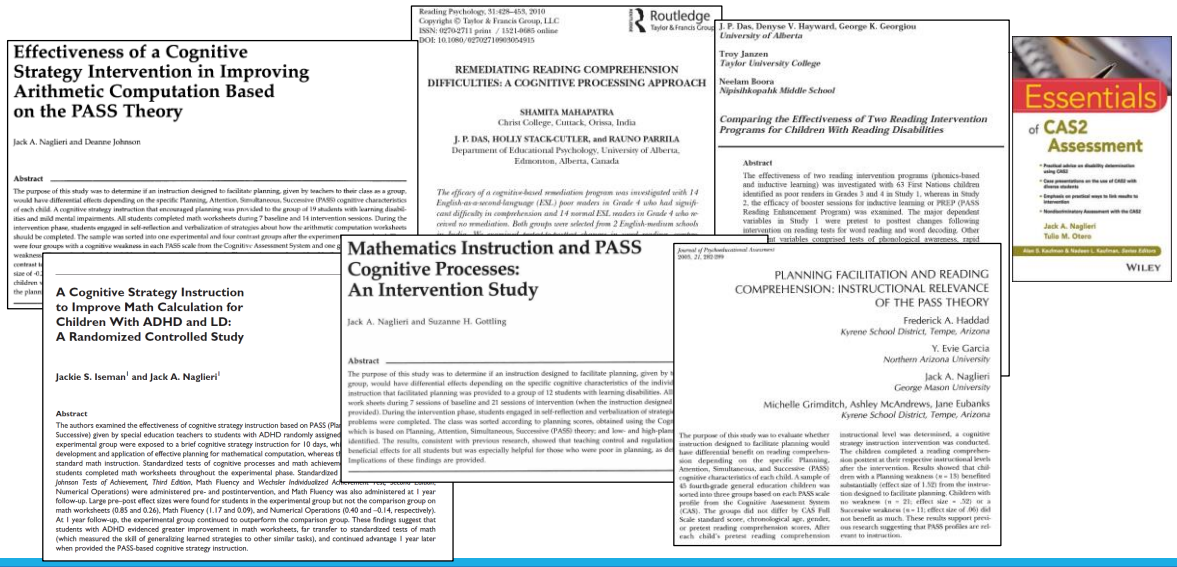
Summary of PASS Intervention Research in Essentials of CAS2



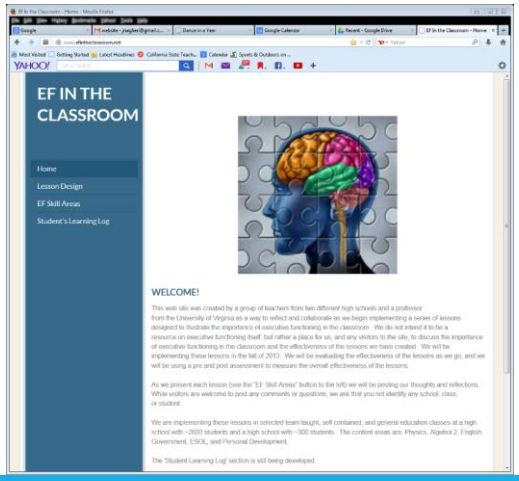
Planning Facilitation = Metacognition (Read "How People Learn" for more…)

- **METACOGNITION** consists of three basic elements:
- *BEFORE:*
  - *Developing a plan of action*
- *DURING*
  - *Maintaining / monitoring the plan*
- *AFTER*
  - *Evaluating the plan*

- The more students are aware of their thinking processes as they learn, the more they can control such matters as goals, dispositions, and attention. *Self-awareness promotes self-regulation*

High School Lessons
www.efintheclassroom.net

- **Start with Awareness of thinking about thinking**



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EF in the Classroom Lesson on PLANNING

Planning Lesson

Phrase of the week: What is your plan?

http://www.youtube.com/watch?v=bQLCZOG202k

1. What had to happen so that the people could dance together in this video?
2. What are the parts of a good plan?
3. How do you know if a plan is any good?
4. What should you do if a plan isn't working?
5. How do we use planning in this class?

Go to student learning log and create a plan for the week.

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Students watched a Flash Mob at Antwerp train Station (2009)

Planning Lesson Student responses

- Q: What would you have to plan out?
  - They had to learn the dance steps (knowledge)
  - Someone had to start dancing (initiation)
  - Permission from train station (planning)
- Q: What are the parts of a good plan?
  - Think of possible problems (strategy generation)
  - Organize the dance (organization)
  - Practice the dance steps (initiation)
  - Have a good idea of what to do (knowledge)

Q3: How do you know if a plan is any good?

- Put the plan in action and see if it works (self-monitoring)
- Give it a try (perhaps learn by failing)

Q4: What should you do if a plan isn't working?

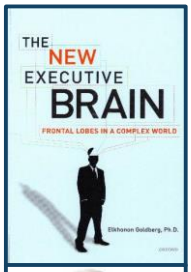
- Fix it. (self-correction)
- Go home ! (a bad plan)

Q5: How do you use planning in this class?

- We don't plan in this class
- Mrs. XXX does all the planning in this class so you don't have to think about planning

Planning & Executive Function (2009, p. 4)

- Elkhonon (Nick) Goldberg provides a valuable review of the frontal lobes
- He suggests that EF can be described as an orchestra leader
- Frontal lobes are about …"leadership, motivation, drive, vision, self-awareness, and awareness of others, success, creativity, sex differences, social maturity, cognitive development and learning…"
- That's VERY similar to the concepts of Planning



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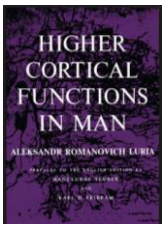
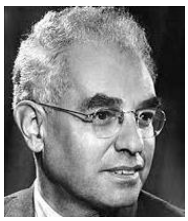
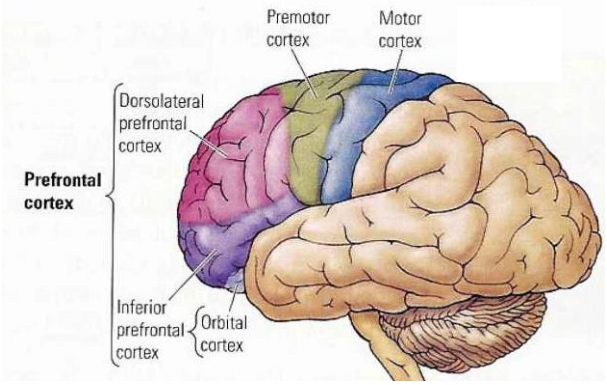
Executive Function

Ø In 1966 Luria first wrote and defined the concept of Executive Function (EF) as it relates to Frontal Lobes , especially the prefrontal cortex







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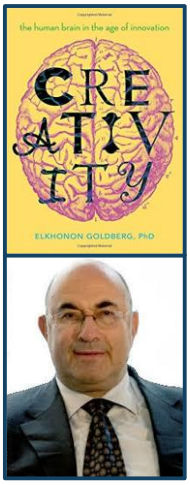
Goldberg (2018) on Prefrontal Cortex

- The prefrontal cortex is "important for setting goals, planning, making decisions, predicting the outcome of one's own and other people's actions and impulse control (p. 45)."
- The PFC also is used when we
  - decide what is important and what is not
  - connect consequences to actions
  - consider what would have happened if a different action was chosen
- All of these can be described as Planning



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Core Group Activity

- **O**rganizer – Have the group discuss this question: "How do you feel about this concept of Planning ability?"
- **C**oach – guide the discussion so that the group arrives at an answer to the question
- **R**eporter – record and report to the group
- **E**nergizer – keep the discussion going !

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Intelligence Conceptualized as brain function – Attention

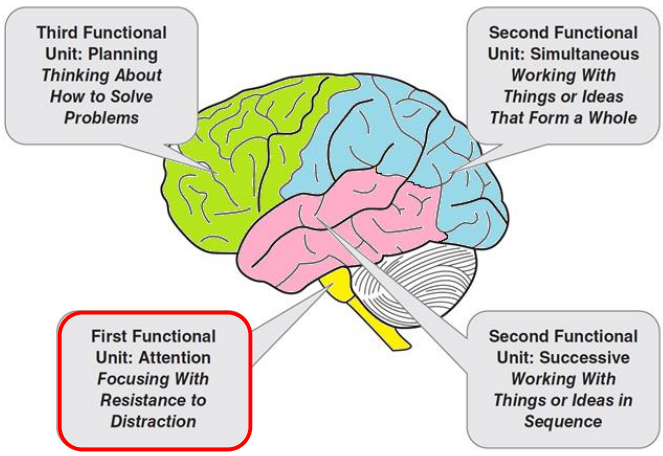

Figure 1.2 Three Functional Units and Associated Brain Structures

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

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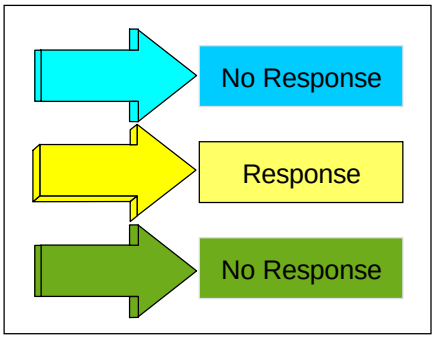
PASS Theory

- **Attention** is a basic psychological process we use to selectively attend to some stimuli and ignores others
  - focused cognitive activity
  - selective attention
  - resistance to distraction

RED
BLUE



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CAS2: Rating Scale Attention

Directions for Items 21–30. These questions ask how well the child or adolescent pays attention and resists distractions. The questions also ask about how well someone attends to one thing at a time. Please rate how well the child or adolescent pays attention.

During the past month, how often did the child or adolescent . . .	Never	Rarely	Sometimes	Frequently	Always
21. work well in a noisy area?	0	1	2	3	4
22. stay with one task long enough to complete it?	0	1	2	3	4
23. not allow the actions or conversations of others to interrupt his or her work?	0	1	2	3	4
24. stay on task easily?	0	1	2	3	4
25. concentrate on a task until it was done?	0	1	2	3	4
26. listen carefully?	0	1	2	3	4
27. work without getting distracted?	0	1	2	3	4
28. have a good attention span?	0	1	2	3	4
29. listen to instructions or directions without getting off task?	0	1	2	3	4
30. pay attention in class?	0	1	2	3	4

___ + ___ + ___ + ___ + ___ = ☐
Attention Raw Score

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CAS2 Expressive Attention

n

n

RED	BLUE	GREEN	YELLOW
YELLOW	GREEN	RED	BLUE
RED	YELLOW	YELLOW	GREEN
BLUE	GREEN	RED	BLUE
GREEN	YELLOW	RED	YELLOW

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READY ?

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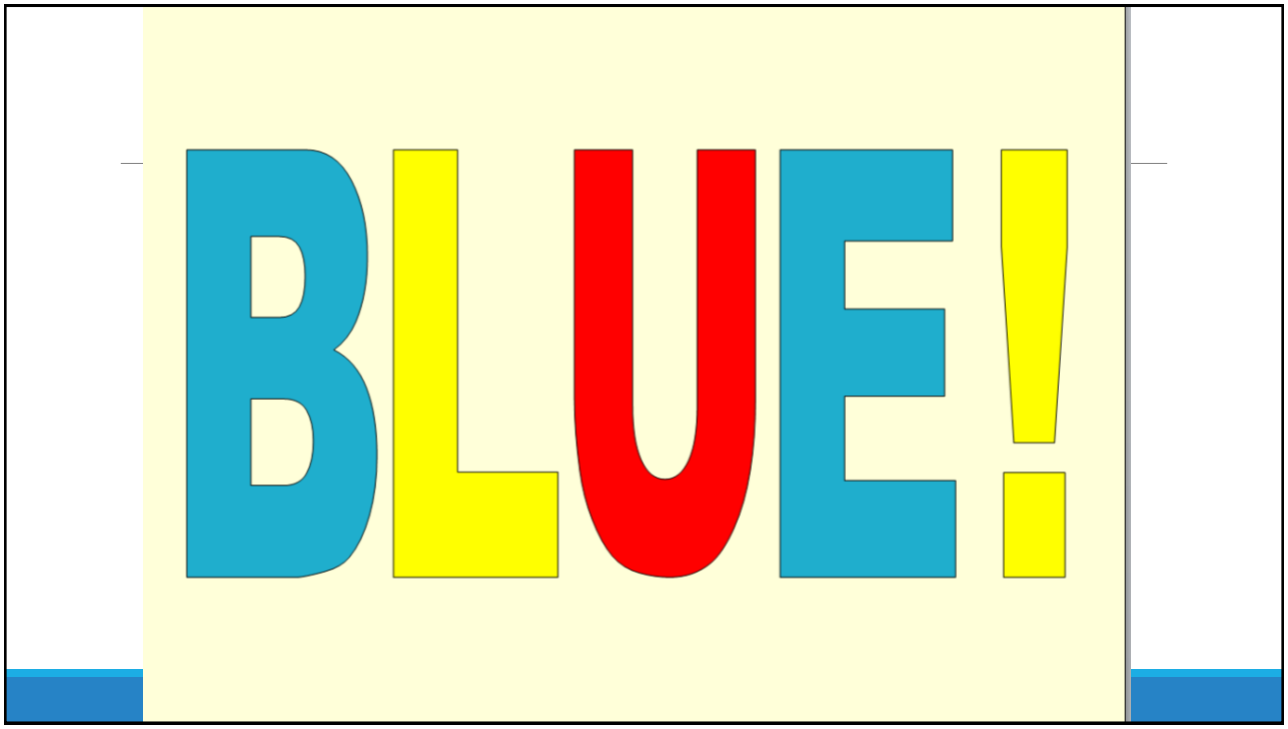

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Expressive Attention - Italiano

ROSSO	BLU	VERDE	GIALLO
GIALLO	VERDE	ROSSO	BLU
ROSSO	GIALLO	GIALLO	VERDE
BLU	VERDE	ROSSO	ROSSO
VERDE	GIALLO	BLU	GIALLO

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11. **A** 3:15 A.M.
B 3:30 P.M.
C 3:15 P.M.
D 3:15 A.M.

leave school

12. Trent began studying at 5:00 P.M. and finished 1 hour and 22 minutes later. What time did he finish?

A 6:22 A.M. **B** 5:22 P.M. **C** 6:10 P.M. **D** 6:22 P.M.

13. Maura began basketball practice at 3:00 P.M. and finished 50 minutes later. What time did she finish?

A 3:50 P.M. **B** 3:05 A.M. **C** 4:05 P.M. **D** 4:50 A.M.

11. C 3:15 p.m.

12. D 6:22 p.m.

13. A 3:50 p.m.

Attention

READING COMPREHENSION IS DIFFICULT BECAUSE OF THE SIMILARITY OF THE OPTIONS

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Frankie at age 11 years

- Referred by parents (at age 11) after a history of reading and self esteem problems
- High level of anxiety
  - he was too anxious to look closely at the words, and he would rather get the task completed and move on.
  - Frankie could not attend to the details of the sequence of letters for correct spelling, and the order of sound–symbol associations

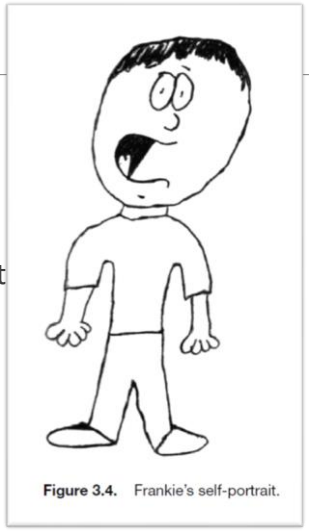

Figure 3.4. Frankie's self-portrait.

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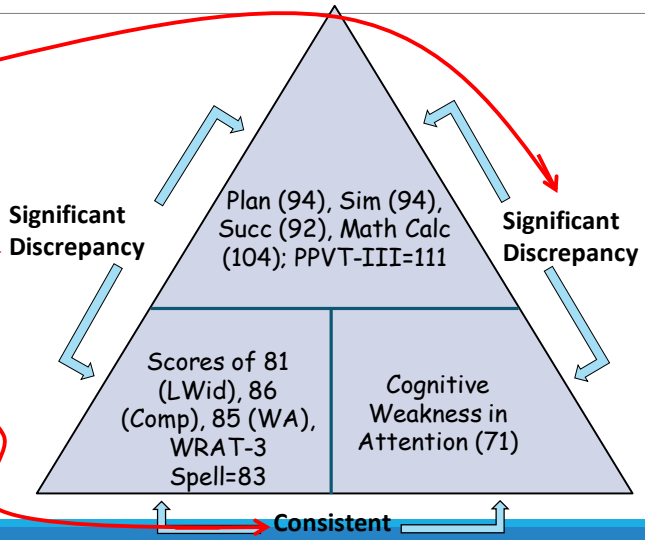
Frankie Discrepancy Consistency Results

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



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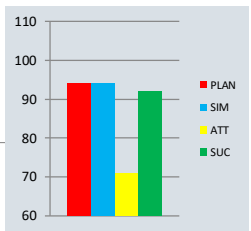
Frankie



- Frankie has weaknesses in

  Attention & achievement which are consistent with Inattentive Type of ADHD and:

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Promoting educational excellence for all Americans

Browse Major Topics

- Alignment with the No Child Left Behind Act
- Discipline
- Disproportionality
- Early Intervening Services (EIS)
- Evaluation and Reevaluation
- Funding
- Highly Qualified

Regulations: Part 300 / A / 300.8 / c / 9

(9) Other health impairment means having limited strength, vitality, or alertness, including a heightened alertness to environmental stimuli, that results in limited alertness with respect to the educational environment, that--

(i) Is due to chronic or acute health problems such as asthma, attention deficit disorder or attention deficit hyperactivity disorder, diabetes, epilepsy, a heart condition, hemophilia, lead poisoning, leukemia, nephritis, rheumatic fever, sickle cell anemia, and Tourette syndrome; and

(ii) Adversely affects a child's educational performance.

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Think and Talk

&

What would you recommend as possible interventions for Frankie's attention challenges? (Keep in mind his strengths)

NOTE: STOP AND TALK is important because the brain retains 50% through talk.

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Intervention Plan for Frankie (KK & JN)

- Be Intentional and Transparent
  - Explain his PASS scores to him
- Build on His Strengths
  - Help him use his Planning, Simultaneous and Successive Strengths to support his learning challenges with Attention
- Develop Effective Skill Sets to remediate his weaker skills
  - Offer and encourage the use of metacognitive strategies that can improve his attention.
- Encourage a Growth Mindset and Self Efficacy

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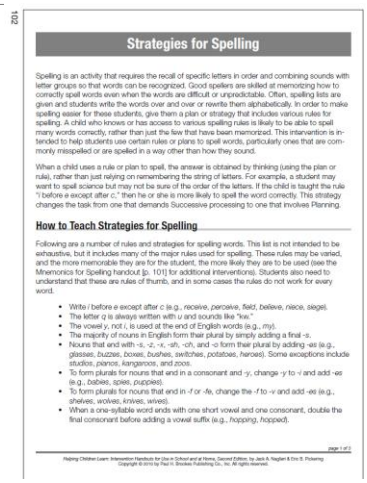
Frankie - Use Planning Strength



Strategies for Spelling

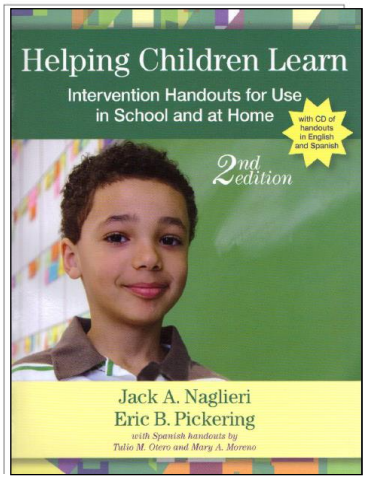
Spelling is an activity that requires the recall of specific letters in order and combining sounds with letter groups so that words can be recognized. Good spellers are skilled at memorizing how to correctly spell words even when the words are difficult or unpredictable. Often, spelling lists are given and students write the words over and over or rewrite them alphabetically. In order to make spelling easier for these students, give them a plan or strategy that includes various rules for spelling. A child who knows or has access to various spelling rules is likely to be able to spell many words correctly, rather than just the few that have been memorized. This intervention is intended to help students use certain rules or plans to spell words, particularly ones that are commonly misspelled or are spelled in a way other than how they sound.

When a child uses a rule or plan to spell, the answer is obtained by thinking (using the plan or rule), rather than just relying on remembering the string of letters. For example, a student may want to spell science but may not be sure of the order of the letters. If the child is taught the rule "i before e except after c," then he or she is more likely to spell the word correctly. This strategy changes the task from one that demands Successive processing to one that involves Planning.

How to Teach Strategies for Spelling

Following are a number of rules and strategies for spelling words. This list is not intended to be exhaustive, but it includes many of the major rules used for spelling. These rules may be varied, and the more memorable they are for the student, the more likely they are to be used (see the Mnemonics for Spelling handout [p. 101] for additional interventions). Students also need to understand that these are rules of thumb, and in some cases the rules do not work for every word.

- Write *i* before *e* except after *c* (e.g., *receive*, *perceive*, *field*, *believe*, *niece*, *siege*).
- The letter *q* is always written with *u* and sounds like "kw."
- The vowel *y*, not *i*, is used at the end of English words (e.g., *my*).
- The majority of nouns in English form their plural by simply adding a final *-s*.
- Nouns that end with *-s*, *-z*, *-x*, *-sh*, *-ch*, and *-o* form their plural by adding *-es* (e.g., *glasses*, *buzzes*, *boxes*, *bushes*, *switches*, *potatoes*, *heroes*). Some exceptions include *studios*, *pianos*, *kangaroos*, and *zoos*.
- To form plurals for nouns that end in a consonant and *-y*, change *-y* to *-i* and add *-es* (e.g., *babies*, *spies*, *puppies*).
- To form plurals for nouns that end in *-f* or *-fe*, change the *-f* to *-v* and add *-es* (e.g., *shelves*, *wolves*, *knives*, *wives*).
- When a one-syllable word ends with one short vowel and one consonant, double the final consonant before adding a vowel suffix (e.g., *hopping*, *hopped*).



What Should Teachers & Parents do?

Focus: Am I paying attention?

How to Teach Students to Attend

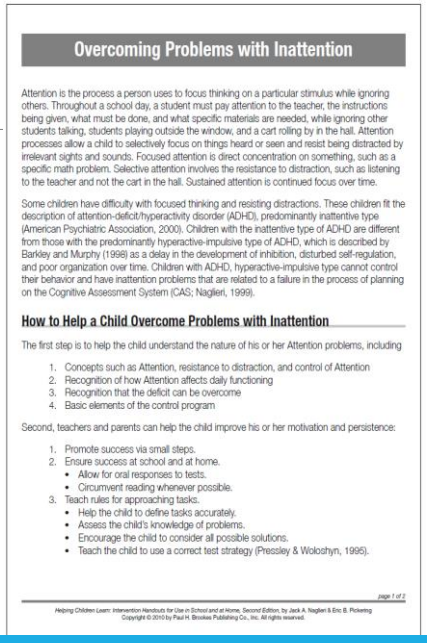
Figure 1. A graphic that reminds students to focus on information being discussed.

The first step in teaching children about their own abilities is to explain that they have many different types of abilities and that Attention is one of them. They also need to be aware of when their attention is focused and they are resisting distractions, as well as when it is divided among too many things, which leaves them unfocused and overloaded. In Figure 1 (which also appears in the PASS poster on the CD), we provide a fast and simple message: "Think smart and look at the details!" During appropriate times during the day, remind students to closely attend to information being discussed. We need to teach children to approach *all* their work with an understanding of how well they are focused on the details and resisting distractions in their environment. Throughout the day, the teacher should

1. Teach children to be aware of their level of attention and resistance to distraction.
2. Encourage children by asking: "Are you able to focus?" or "Are you getting distracted?"
3. Remind the students that Attention is necessary for reading, writing, and arithmetic, as well as in sports, playing a musical instrument, driving a car, and so forth.
4. Teach children that they may have to modify their environment so that they can attend better.
5. Remind students that learning requires attention to detail and resisting distractions.

Frankie

- Help Frankie better manage his attention problem by using his STRENGTHS
- His good PLANNING helps him be aware of possible ways manage his ATTENTION issue
- His good PLANNING also helps him recognize when to use SIMULTANEOUS or SUCCESSIVE processes based on the demands of the task



Overcoming Problems with Inattention

Attention is the process a person uses to focus thinking on a particular stimulus while ignoring others. Throughout a school day, a student must pay attention to the teacher, the instructions being given, what must be done, and what specific materials are needed, while ignoring other students talking, students playing outside the window, and a cart rolling by in the hall. Attention processes allow a child to selectively focus on things heard or seen and resist being distracted by irrelevant sights and sounds. Focused attention is direct concentration on something, such as a specific math problem. Selective attention involves the resistance to distraction, such as listening to the teacher and not the cart in the hall. Sustained attention is continued focus over time.

Some children have difficulty with focused thinking and resisting distractions. These children fit the description of attention-deficit/hyperactivity disorder (ADHD), predominantly inattentive type (American Psychiatric Association, 2000). Children with the inattentive type of ADHD are different from those with the predominantly hyperactive-impulsive type of ADHD, which is described by Barkley and Murphy (1998) as a delay in the development of inhibition, disturbed self-regulation, and poor organization over time. Children with ADHD, hyperactive-impulsive type cannot control their behavior and have inattention problems that are related to a failure in the process of planning on the Cognitive Assessment System (CAS; Naglieri, 1999).

How to Help a Child Overcome Problems with Inattention

The first step is to help the child understand the nature of his or her Attention problems, including

1. Concepts such as Attention, resistance to distraction, and control of Attention
2. Recognition of how Attention affects daily functioning
3. Recognition that the deficit can be overcome
4. Basic elements of the control program

Second, teachers and parents can help the child improve his or her motivation and persistence:

1. Promote success via small steps.
2. Ensure success at school and at home.
   - Allow for oral responses to tests.
   - Circumvent reading whenever possible.
3. Teach rules for approaching tasks.
   - Help the child to define tasks accurately.
   - Assess the child's knowledge of problems.
   - Encourage the child to consider all possible solutions.
   - Teach the child to use a correct test strategy (Pressley & Woloshyn, 1995).

Is Frankie a Typical ADHD Child?

Note the Hyperactive-Impulsive Type

Case of Christopher - Is He ADHD?

- Problems
  - behavior problems
  - impulsive & disorganized
  - forgets assignments
  - can't stay on task
  - poor grades
- Clinical Observations
  - anxious about testing
  - used simple strategies
  - did sloppy work
  - control problems (threw pencil when frustrated)
  - impulsive choices made

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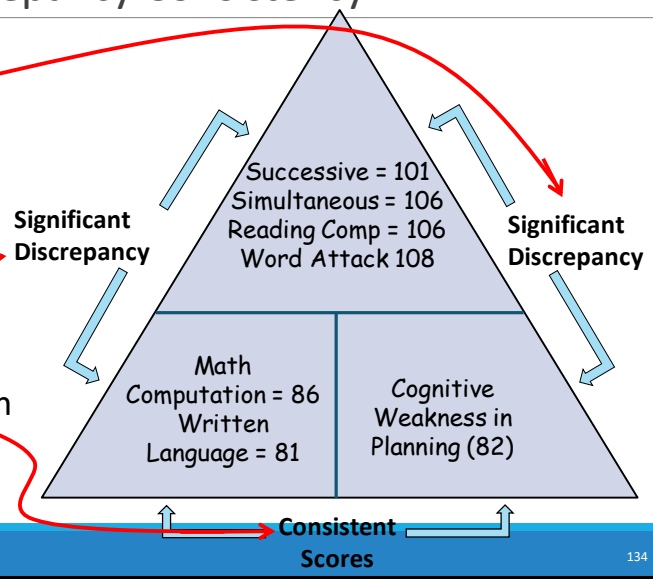
Christopher Discrepancy Consistency

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



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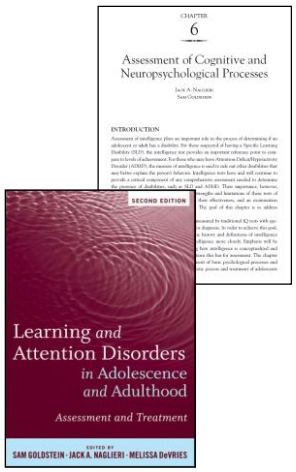
ADHD Profiles by Ability Test

GROUP PROFILES BY ABILITY TEST

Because ability tests play such an important role in the diagnostic process, it is crucial to understand the sensitivity each test may have to any unique characteristics of those with an SLD or attention deficit. Clinicians need to know if an adolescent or adult has a specific deficit in ability that is related to a specific academic learning problem. There has been considerable research on, for example, Wechsler subtest profile analysis, and most researchers conclude that no profile has diagnostic utility for individuals with SLD or ADHD (Kavale & Forness, 1995). The failure of subtest profiles has led some to argue (e.g., Naglieri, 1999) that scale, rather t… subtest, variability should



1. We need to know if intelligence tests yield distinctive profiles

2. Subtest profile analysis is UNSUPPORTED so use scale profiles instead

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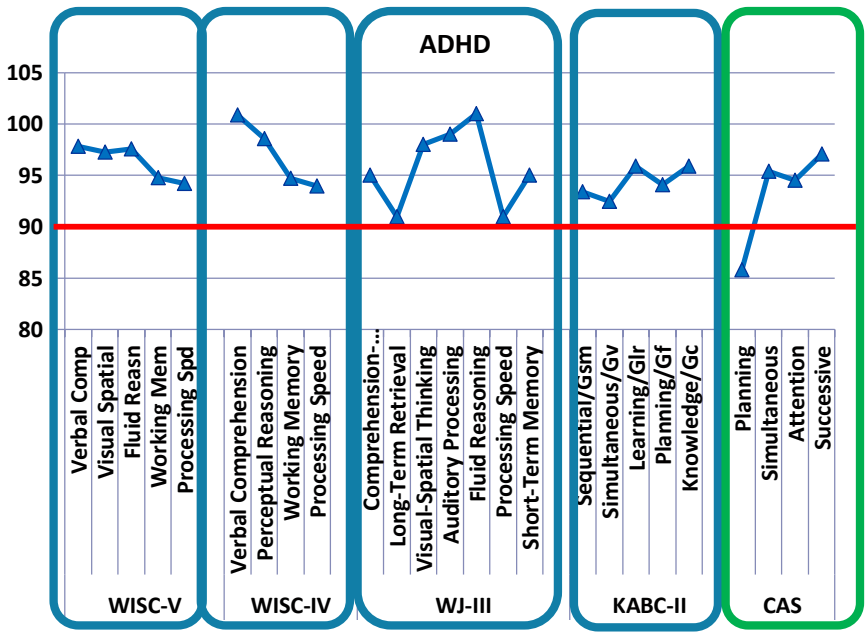
Profiles on all these widely used ability tests show that PASS scores from the CAS are sensitive to the cognitive component of ADHD Hyperactive / Combined Type



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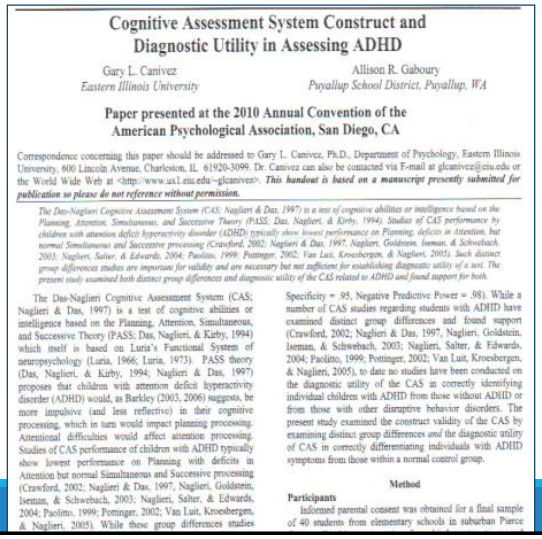
Canivez & Gaboury (2010)

- "the present study demonstrated the potential of the CAS to correctly identify students who demonstrated behaviors consistent with ADHD diagnosis."
  glcanivez@eiu.edu



Cognitive Assessment System Construct and Diagnostic Utility in Assessing ADHD

Gary L. Canivez
Eastern Illinois University

Allison R. Gaboury
Puyallup School District, Puyallup, WA

Paper presented at the 2010 Annual Convention of the American Psychological Association, San Diego, CA

Correspondence concerning this paper should be addressed to Gary L. Canivez, Ph.D., Department of Psychology, Eastern Illinois University, 600 Lincoln Avenue, Charleston, IL 61920-3099. Dr. Canivez can also be contacted via E-mail at glcanivez@eiu.edu or the World Wide Web at <http://www.ux1.eiu.edu/~glcanivez>. ***This handout is based on a manuscript presently submitted for publication so please do not reference without permission.***

The Das-Naglieri Cognitive Assessment System (CAS; Naglieri & Das, 1997) is a test of cognitive abilities or intelligence based on the Planning, Attention, Simultaneous, and Successive Theory (PASS; Das, Naglieri, & Kirby, 1994). Studies of CAS performance by children with attention deficit hyperactivity disorder (ADHD) typically show lowest performance on Planning, deficits in Attention, but normal Simultaneous and Successive processing (Crawford, 2002; Naglieri & Das, 1997; Naglieri, Goldstein, Iseman, & Schwebach, 2003; Naglieri, Salter, & Edwards, 2004; Paolito, 1999; Pottinger, 2002; Van Luit, Kroesbergen, & Naglieri, 2005). Such distinct group differences studies are important for validity and are necessary but not sufficient for establishing diagnostic utility of a test. The present study examined both distinct group differences and diagnostic utility of the CAS related to ADHD and found support for both.

The Das-Naglieri Cognitive Assessment System (CAS; Naglieri & Das, 1997) is a test of cognitive abilities or intelligence based on the Planning, Attention, Simultaneous, and Successive Theory (PASS; Das, Naglieri, & Kirby, 1994) which itself is based on Luria's Functional System of neuropsychology (Luria, 1966; Luria, 1973). PASS theory (Das, Naglieri, & Kirby, 1994; Naglieri & Das, 1997) proposes that children with attention deficit hyperactivity disorder (ADHD) would, as Barkley (2003, 2006) suggests, be more impulsive (and less reflective) in their cognitive processing, which in turn would impact planning processing. Attentional difficulties would affect attention processing. Studies of CAS performance of children with ADHD typically show lowest performance on Planning with deficits in Attention but normal Simultaneous and Successive processing (Crawford, 2002; Naglieri & Das, 1997; Naglieri, Goldstein, Iseman, & Schwebach, 2003; Naglieri, Salter, & Edwards, 2004; Paolito, 1999; Pottinger, 2002; Van Luit, Kroesbergen, & Naglieri, 2005). While these group differences studies

Specificity = .95, Negative Predictive Power = .98). While a number of CAS studies regarding students with ADHD have examined distinct group differences and found support (Crawford, 2002; Naglieri & Das, 1997; Naglieri, Goldstein, Iseman, & Schwebach, 2003; Naglieri, Salter, & Edwards, 2004; Paolito, 1999; Pottinger, 2002; Van Luit, Kroesbergen, & Naglieri, 2005), to date no studies have been conducted on the diagnostic utility of the CAS in correctly identifying individual children with ADHD from those without ADHD or from those with other disruptive behavior disorders. The present study examined the construct validity of the CAS by examining distinct group differences *and* the diagnostic utility of CAS in correctly differentiating individuals with ADHD symptoms from those within a normal control group.

Method

Participants

Informed parental consent was obtained for a final sample of 40 students from elementary schools in suburban Pierce

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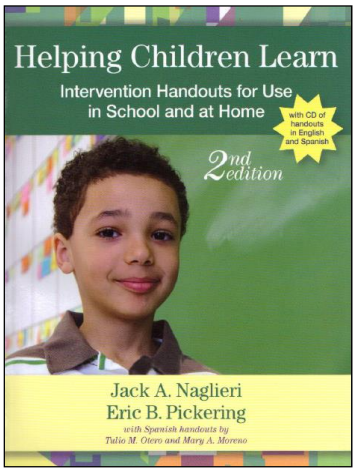
Helping Children Learn

- Planning Facilitation
- Strategies for Learning Basic Math Facts
- Touch Math for Calculation
- Seven Step Strategy for Math Word Problems
- Chunking Strategy for Multiplication
- Other ideas?



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Think and Talk

&

What would you recommend as possible interventions for Christopher's planning challenges?

NOTE: STOP AND TALK is important because the brain retains 50% through talk.

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Is Being Disruptive Always Bad?

SOMETIMES THINGS CAN TURN OUR REALLY WELL…

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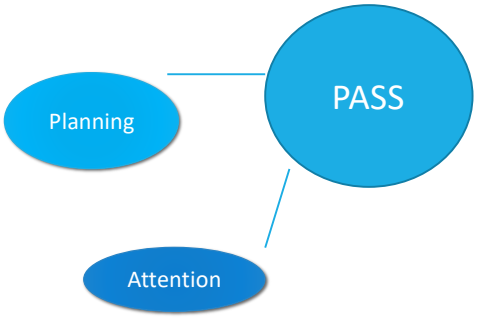
Building the Big Picture

Big Idea :PASS

Subheadings:

- Planning
  - Mindsets
  - Skill Sets
- Attention
- Successive
- Simultaneous



You will be capturing the big idea of each key part of PASS on your organizer after we teach each section.

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Core Group Activity

- **O**rganizer – Have the group discuss this question: "Does it make sense to include ATTENTION as an important abiltiy?"
- **C**oach – what OTHER ideas do you have?
- **R**eporter – record and report to the group
- **E**nergizer – keep the discussion going !

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Intelligence Conceptualized as brain function – Successive Processing

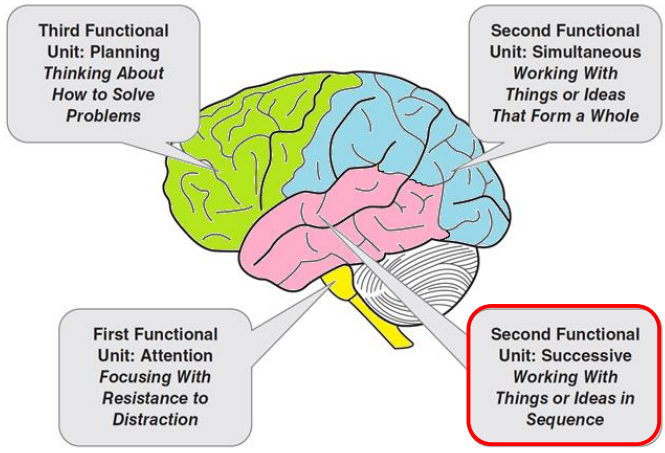

Figure 1.2 Three Functional Units and Associated Brain Structures

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

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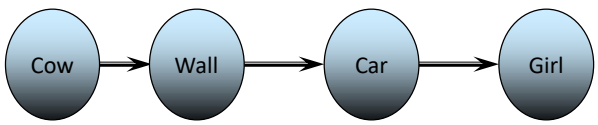
PASS: Successive

- **Successive** processing is used whenever we do something in a specific serial order
  - Anything we comprehend, speak, or do in a sequence requires successive processing



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CAS2: Rating Scale Successive

Directions for Items 31–40. These questions ask how well the child or adolescent remembers things in order. The questions ask about working with numbers, words, or ideas in a series. The questions also ask about doing things in a certain order. Please rate how well the child or adolescent works with things in a specific order.

During the past month, how often did the child or adolescent . . .	Never	Rarely	Sometimes	Frequently	Always
31. recall a phone number after hearing it?	0	1	2	3	4
32. remember a list of words?	0	1	2	3	4
33. sound out hard words?	0	1	2	3	4
34. correctly repeat long, new words?	0	1	2	3	4
35. remember how to spell long words after seeing them once?	0	1	2	3	4
36. imitate a long sequence of sounds?	0	1	2	3	4
37. recall a summary of ideas word for word?	0	1	2	3	4
38. repeat long words easily?	0	1	2	3	4
39. repeat sentences easily, even if unsure of their meaning?	0	1	2	3	4
40. follow three to four directions given in order?	0	1	2	3	4

___ + ___ + ___ + ___ + ___ = ☐

Successive Raw Score

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Let's Take a TEST !

- First a word repetition test. "I will say some words and you need to write them in order -- AFTER I finish the saying them."
- Next, I'll show you numbers, then take them away, and you need to write them in order
- ***DO NOT ADVANCE SLIDE***

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Word Recall

Examiner says the words and the subject repeats them in order

1. Man Cow Key
2. Book Shoe Girl Dog Car
3. Girl Book Dog Car Wall Cow Key

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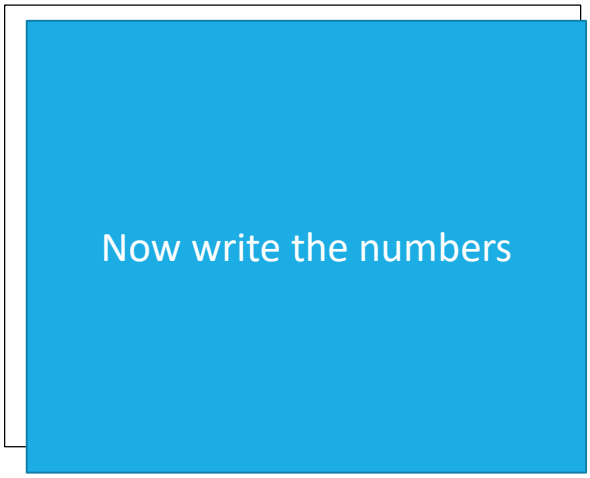
CAS2 Visual Digit Span (Successive Processing)



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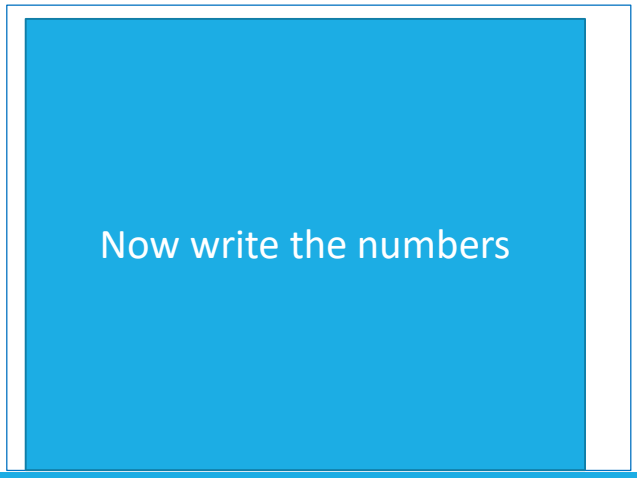
CAS2 Visual Digit Span (Successive Processing)



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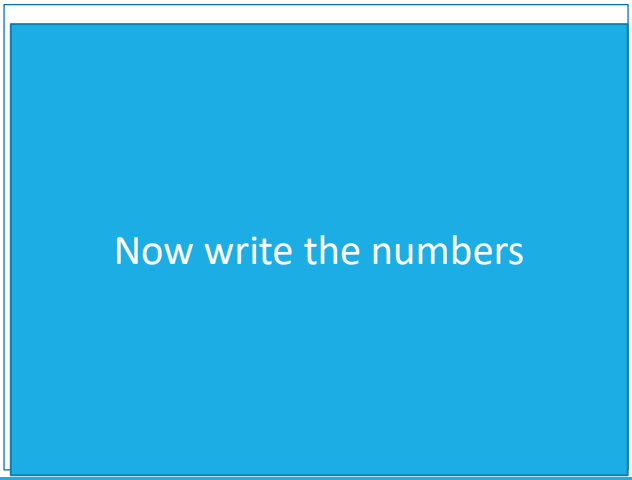
CAS2 Visual Digit Span (Successive Processing)



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PASS Theory: Successive

- **Successive** processing is used when information is in a specific serial order
  - Decoding words
  - Letter-sound correspondence
  - Phonological tasks
  - Understanding the syntax of sentences
  - Comprehension of written instructions
  - Sequence of words, sentences, paragraphs
  - Remembering the sequence of events in a story that was read

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Successive and Syntax

- Sentence Repetition
  - Child repeats sentences exactly as stated by the examiner such as:
  - ***The red greened the blue with a yellow.***
- Sentence Questions
  - Child answers a question about a statement made by the examiner such as the following:
  - ***The red greened the blue with a yellow. Who got greened?***

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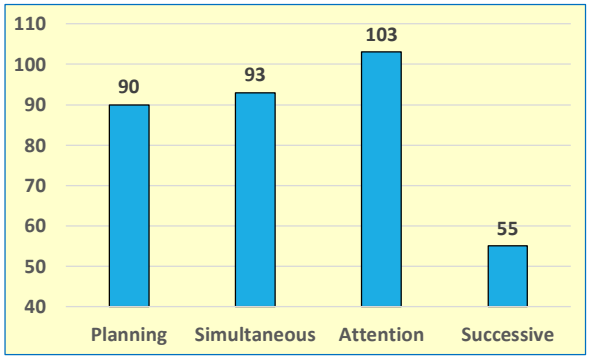
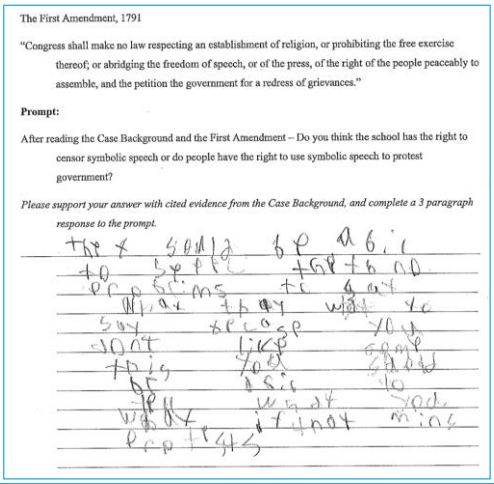
PASS and Handwriting

- Acquisition of handwriting demands Successive processing




The First Amendment, 1791

"Congress shall make no law respecting an establishment of religion, or prohibiting the free exercise thereof; or abridging the freedom of speech, or of the press, of the right of the people peaceably to assemble, and the petition the government for a redress of grievances."

Prompt:

After reading the Case Background and the First Amendment – Do you think the school has the right to censor symbolic speech or do people have the right to use symbolic speech to protest government?

Please support your answer with cited evidence from the Case Background, and complete a 3 paragraph response to the prompt.

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Insights…

- Even thought tasks were different in content and modality, they required the same kind of thinking

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Successive Processing & Reading Decoding

- The ability to sequence and sequence multiple sounds together to identify a word in print is critical for reading decoding

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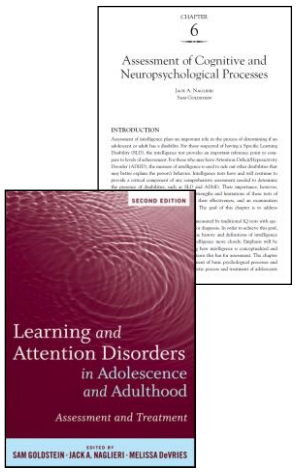
SLD Profiles by Ability Test

GROUP PROFILES BY ABILITY TEST

Because ability tests play such an important role in the diagnostic process, it is crucial to understand the sensitivity each test may have to any unique characteristics of those with an SLD or attention deficit. Clinicians need to know if an adolescent or adult has a specific deficit in ability that is related to a specific academic learning problem. There has been considerable research on, for example, Wechsler subtest profile analysis, and most researchers conclude that no profile has diagnostic utility for individuals with SLD or ADHD (Kavale & Forness, 1995). The failure of subtest profiles has led some to argue (e.g., Naglieri, 1999) that scale, rather th[illegible] subtest, variability should



1. We need to know if intelligence tests yield distinctive profiles

2. Subtest profile analysis is UNSUPPORTED so use scale profiles instead

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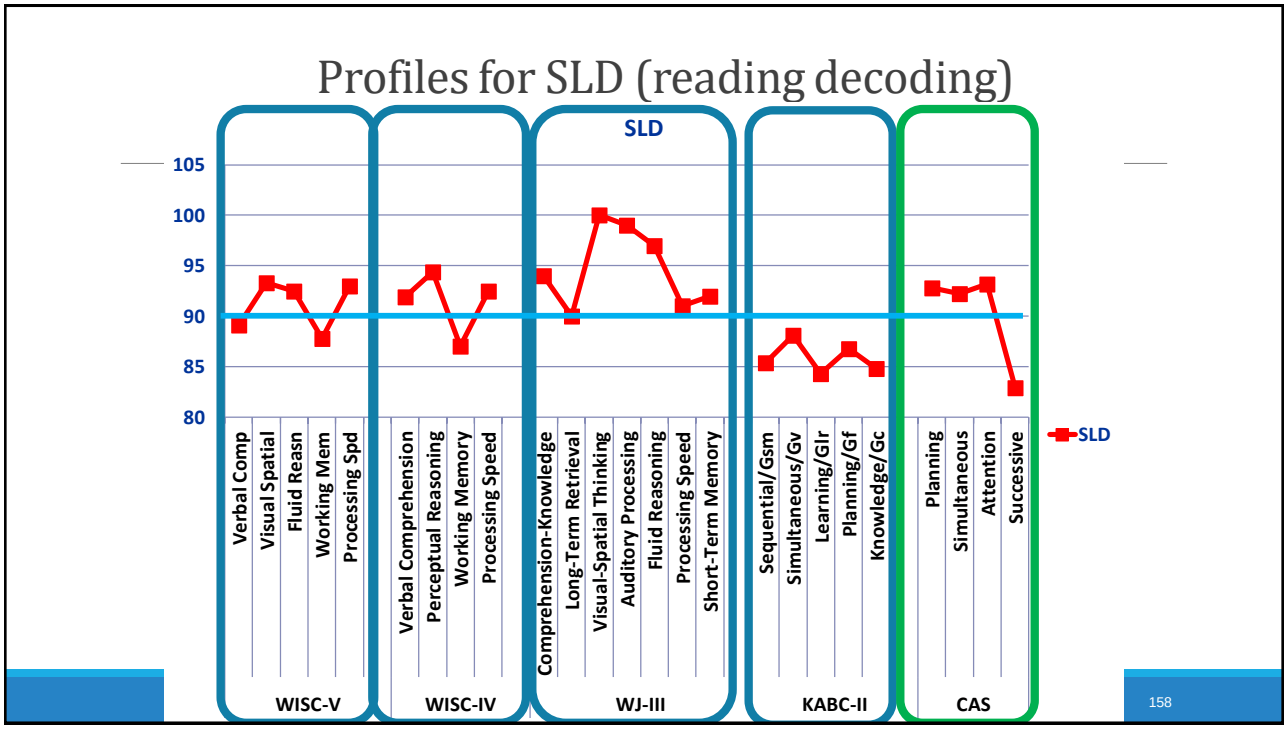
Profiles for SLD (reading decoding)
SLD
105
100
95
90
85
80
Verbal Comp
Visual Spatial
Fluid Reasn
Working Mem
Processing Spd
Verbal Comprehension
Perceptual Reasoning
Working Memory
Processing Speed
Comprehension-Knowledge
Long-Term Retrieval
Visual-Spatial Thinking
Auditory Processing
Fluid Reasoning
Processing Speed
Short-Term Memory
Sequential/Gsm
Simultaneous/Gv
Learning/Glr
Planning/Gf
Knowledge/Gc
Planning
Simultaneous
Attention
Successive
SLD
WISC-V
WISC-IV
WJ-III
KABC-II
CAS
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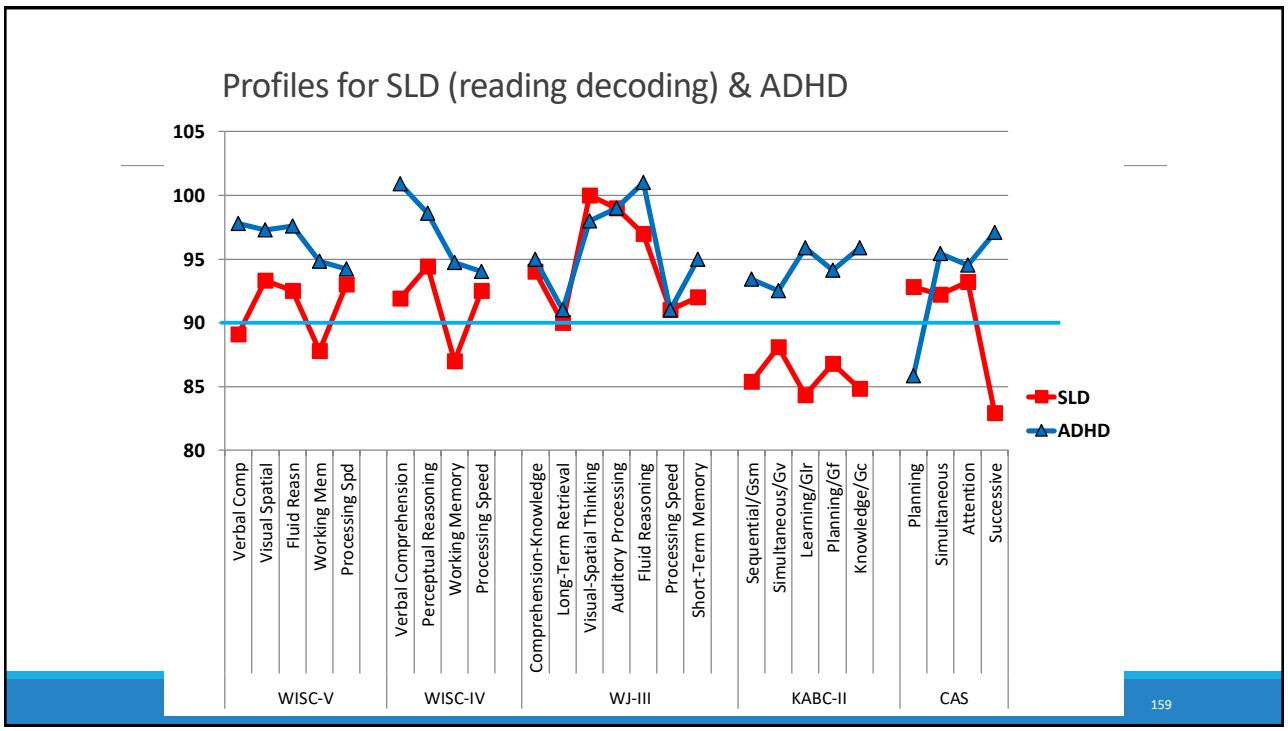
Profiles for SLD (reading decoding) & ADHD
105
100
95
90
85
80
Verbal Comp
Visual Spatial
Fluid Reasn
Working Mem
Processing Spd
Verbal Comprehension
Perceptual Reasoning
Working Memory
Processing Speed
Comprehension-Knowledge
Long-Term Retrieval
Visual-Spatial Thinking
Auditory Processing
Fluid Reasoning
Processing Speed
Short-Term Memory
Sequential/Gsm
Simultaneous/Gv
Learning/Glr
Planning/Gf
Knowledge/Gc
Planning
Simultaneous
Attention
Successive
SLD
ADHD
WISC-V
WISC-IV
WJ-III
KABC-II
CAS
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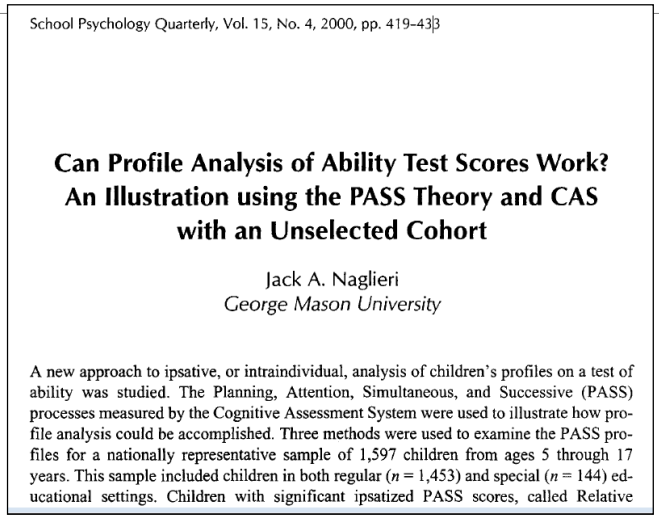
PASS Profiles and Educational Placement

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. 419-43[illegible]

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

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Intervention Protocol

- Help child understand their PASS strengths and areas of challenges (Intentional & Transparent)
- Encourage Motivation & Persistence (Mindsets)
- Teach/Stress strategies for approaching tasks (Skill Sets)
  - Student generated
  - Model and Scaffold as needed
- Encourage independence and self efficacy

  (Metacognition/Self Assessment)

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Think and Talk

&

What would you recommend as possible interventions for Jacob's Successive Processing challenges?

NOTE: STOP AND TALK is important because the brain retains 50% through talk.

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Kathleen's Intervention Plan for Alehandro

- Be Intentional and Transparent
  - Explain his PASS scores to him
- Build on His Strengths
  - Help him use his, Planning and Simultaneous and Strengths to support his learning challenges with Attention and Successive Processing
- Develop Effective Skill Sets to remediate his weaker skills
- Offer and encourage the use of metacognitive strategies that can improve his Attention and Successive Processing skills.
- Encourage a Growth Mindset and Self Efficacy

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Successive Processing Strategies

- Say his number series in chunks of three
  - Clap them out, while he sees them visually in groups of three, 1, 2, 3 – 4, 5, 6, etc.
  - Sticky Note Bingo
- Give directions one at a time
  - Write them where he can see them.
  - Have him repeat them
  - Remind him of things to Pay Attention to when he's reading directions

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Intelligence Conceptualized as brain function- Simultaneous Processing

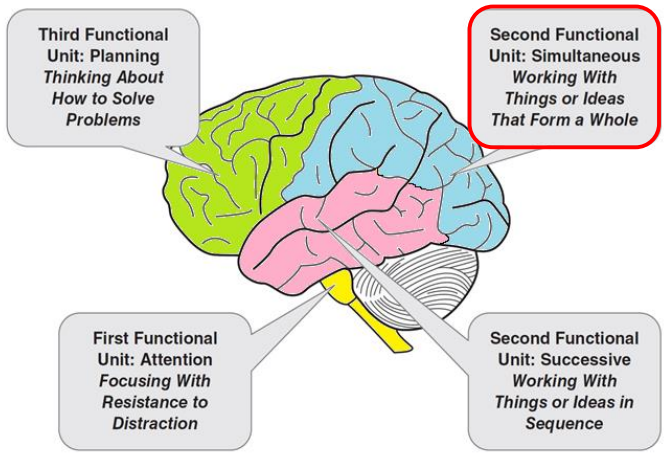

Figure 1.2 Three Functional Units and Associated Brain Structures

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

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PASS Theory

- **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

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CAS2: Rating Scale Simultaneous

Directions for Items 11–20. These questions ask how well the child or adolescent sees how things go together. They also ask about working with diagrams and understanding how ideas fit together. The questions involve seeing the whole without getting lost in the parts. Please rate how well the child or adolescent visualizes things as a whole.

During the past month, how often did the child or adolescent . . .	Never	Rarely	Sometimes	Frequently	Always
11. like to draw designs?	0	1	2	3	4
12. figure out how parts of a design go together?	0	1	2	3	4
13. classify things into groups correctly?	0	1	2	3	4
14. work well with patterns and designs?	0	1	2	3	4
15. see how objects and ideas are alike?	0	1	2	3	4
16. work well with physical objects?	0	1	2	3	4
17. like to use visual materials?	0	1	2	3	4
18. see the links among several things?	0	1	2	3	4
19. show interest in complex shapes and patterns?	0	1	2	3	4
20. recognize faces easily?	0	1	2	3	4

___ + ___ + ___ + ___ + ___ = ☐

Simultaneous Raw Score

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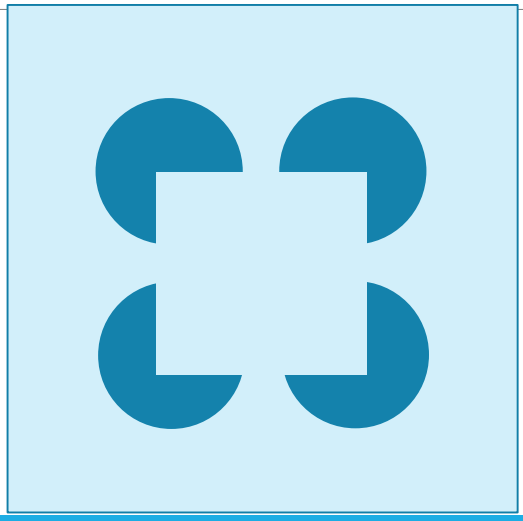
PASS Theory

- **Simultaneous** processing is what Gestalt psychology was based on
- Seeing the whole



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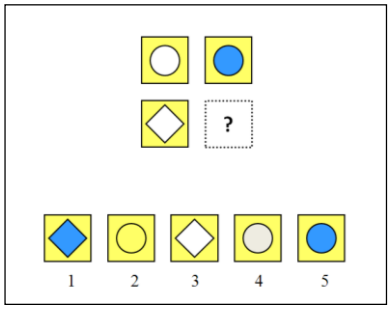
Test Yourself !

Solving these analogies demands the same kind of thinking



Girl is woman as boy is to ____?

C^7 is to F as E^7 is to _____?

3 is to 6 as 4 is to _____?

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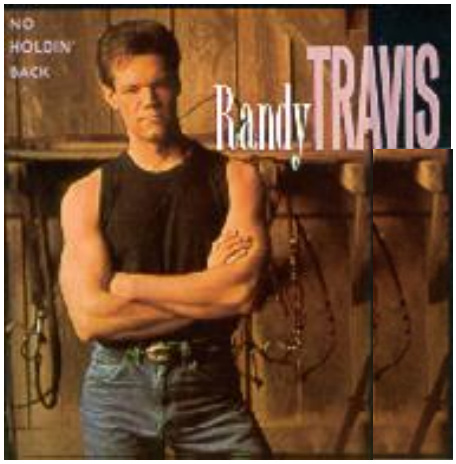
Simultaneous Verbal Task

- Simultaneous processing using verbal content
- Who is this song about?



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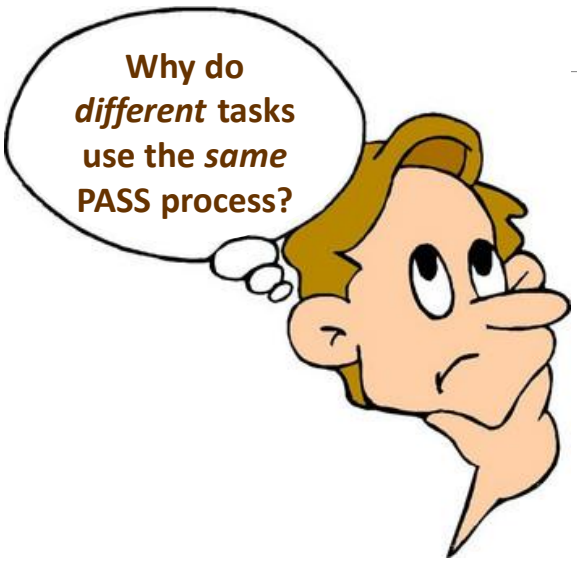

And Consider this…

- Even though the tasks were different in content (shapes, words, numbers & musical notations) and modality (auditory and visual), they required **Simultaneous** processing!

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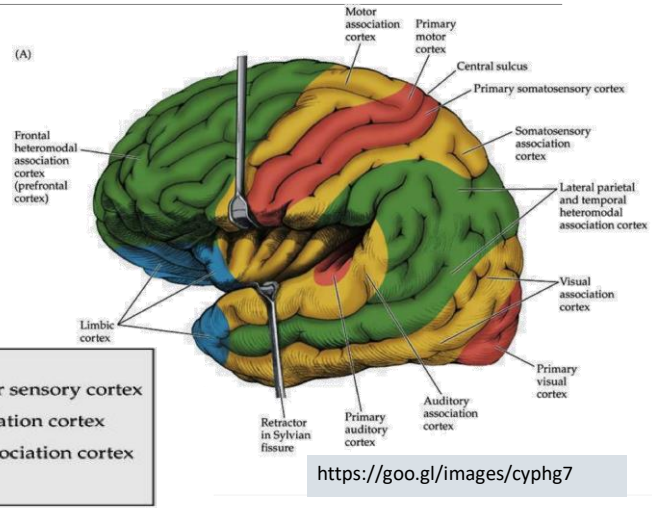
Heteromodal Association Cortex

(Goldberg, 2006)

- Our brains ***merge stimuli*** coming in from the senses (unimodal association cortex) into one stream of information in the **Heteromodal association cortex**
- (green areas)



https://goo.gl/images/cyphg7

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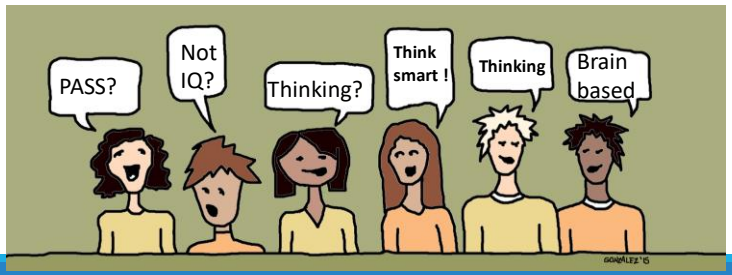
Core Group Activity

- **O**rganizer – Have the group discuss this question: "How is PASS more socially just?"
- **C**oach – guide the discussion
- **R**eporter – will record and report to the group
- **E**nergizer – keep the discussion going !



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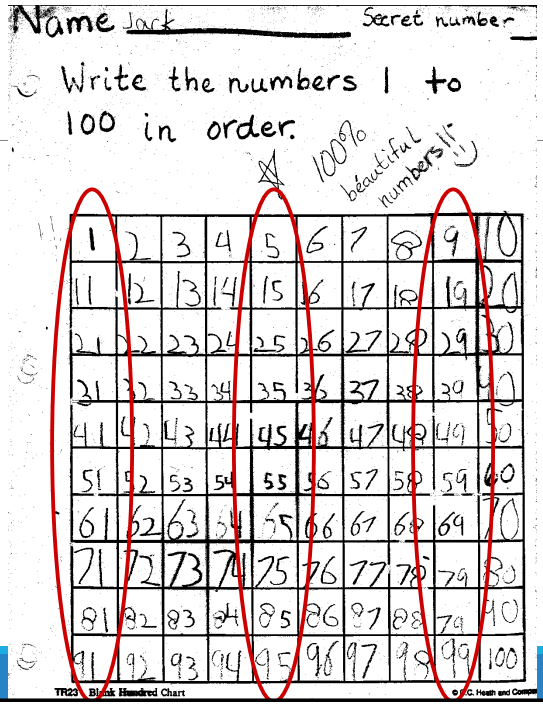
Numbers from 1 to 100

Simultaneou s processing facilitated by this work sheet



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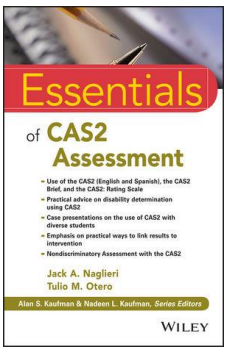
Case of Nelson (Naglieri & Feifer, 2017, Intervention Chapter 5)

- Nelson (9 year-old 4th grader) for 3 years
  - difficulty with spelling and written language math facts, and inconsistent with reading comprehending skills.
  - difficulty keeping pace with his peers and often failed to complete his work in a timely manner.
  - The Child Development Team (CDT) recommended a comprehensive psychological evaluation.



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Case of Nelson (Naglieri & Feifer, 2017)

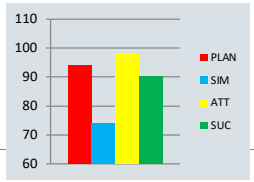

Table 5.2 Nelson's CAS2 Scoring

PASS Scales	Scaled Score	Percentile	Ability Range
CAS2 Planning: The ability to apply a strategy and self-monitor performance while working toward a solution	94	34	Average
CAS2 Attention: The ability to selectively focus on a stimulus while inhibiting responses from competing stimuli	98	45	Average
CAS2 Simultaneous Processing: The ability to reason and problem-solve by integrating separate elements into a conceptual whole, often involving visual-spatial tasks	74	4	Very low
CAS2 Successive Processing: The ability to put information into a serial order or particular sequence	90	25	Average
CAS2 Total Composite Score	89	23	Below average

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Case of Nelson

(Naglieri & Feifer, 2017)

Table 5.6 Nelson's Scores on the Feifer Assessment of Reading (FAR)

FAR Index	Standard Score (95% CI)	Percentile	Qualitative Descriptor
Phonological Index	90 (±5)	25	Average
Fluency Index	73 (±7)	3	Moderately below average
Mixed Index	81 (±5)	10	Below average
Comprehension Index	97 (±8)	42	Average
FAR Total Index	84 (±5)	14	Below average

Table 5.3 Nelson's Scores on the KTEA-III Reading Subtests

Reading	Age Norms	Percentile	Range
Reading Comprehension: The student reads a word and points to its corresponding picture or reads a simple instruction and responds by performing the action.	83 ± 10	13	Below average
Silent Reading Fluency: The student is required to read as many statements as possible in 2 minutes and must respond either "yes" or "no" as to whether each statement is valid.	80 ± 11	9	Below average
KTEA-III Reading Composite Score	81 ± 6	10	Below average

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Case of Nelson

(Naglieri & Feifer, 2017)

Table 5.4 Nelson's Scores on the KTEA-III Math Subtests

Math	Age Norms	Percentile	Range
Math Computation: The student solves math equations in the response booklet including addition and subtraction.	87 ± 10	19	Below average
Math Fluency: This is a timed task requiring the student to solve as many single-digit addition, subtraction, multiplication, and division problems in a minute.	89 ± 11	23	Below average
KTEA-III Math Composite Score	90 ± 6	25	Average
Spelling: The student is required to spell words of increasing difficulty dictated by the examiner.	86 ± 5	18	Below average
Writing Fluency: The student has 5 minutes to write as many sentences as possible describing various pictures.	88 ± 14	21	Below average
KTEA-III Written Language	87 ± 6	19	Below average

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Case of Nelson

- Nelson's history of reading problems and interventions to address this, slower reading speed, difficulty reading phonetically irregular words, and poor **Simultaneous**

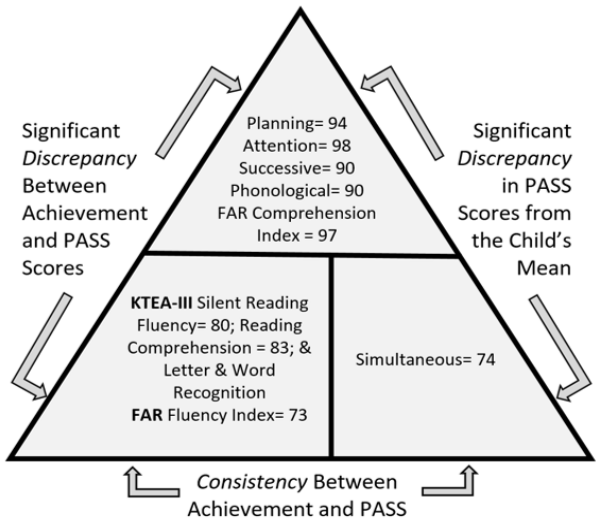

Figure 5.5 Nelson's Discrepancy/Consistency Method of SLD Results

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PASS Intervention Protocol

- Help child understand his/her PASS strengths and areas of challenges (Intentional & Transparent)
- Encourage Motivation & Persistence (Mindsets)
- Teach/Stress strategies for approaching tasks (Skill Sets)
  - Student generated
  - Model and Scaffold as needed
- Encourage independence and self efficacy

  (Metacognition/Self Assessment)

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Kathleen's Intervention Plan for Nelson

- Be Intentional and Transparent
  - Explain his PASS scores to him
- Build on His Strengths
  - Help him use his Planning, Attention, and Successive Strengths to support his learning challenges with Simultaneous Processing
- Develop Effective Skill Sets to remediate his weaker skills
- Offer and encourage the use of metacognitive strategies that can improve his Simultaneous Processing Skills
- Encourage a Growth Mindset and Self Efficacy

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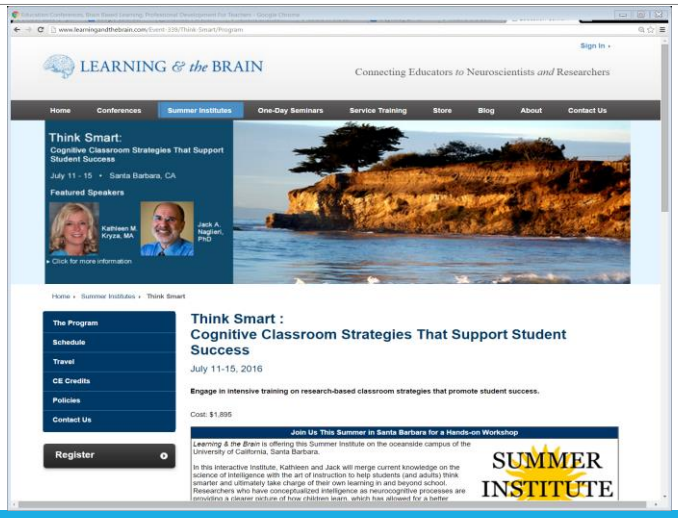
Want to Learn More… Join us in California July 12-17, 2020



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Today's Topics

How we have Measured Intelligence for 100 + Years

- Fair Assessment as a Social Justice Issue
- Improving on the old for Universal Screening of Gifted Students

A Strength Based Approach called PASS

- Neurocognitive Abilities Critical to Learning
- CAS2, CAS2:Brief
- Administration and Analysis of the Cognitive Assessment System 2 Brief
- Social Emotional Learning and the DESSA
- Identifying Learning Disabilities & ADHD
- Instruction based on PASS strengths/needs

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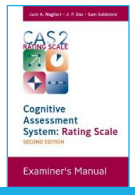
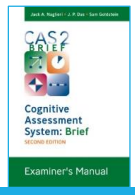
PASS Comprehensive System

(Naglieri, Das, & Goldstein, 2014)

CAS2 Rating Scale (4 subtests)	**CAS2 Brief** (4 subtests)	**CAS2 Core** (8 subtests)	**CAS2 Extended** (12 subtests)
Total Score Planning Simultaneous Attention Successive	Total Score Planning Simultaneous Attention Successive	Full Scale Planning Simultaneous Attention Successive	Full Scale Planning Simultaneous Attention Successive Supplemental Scales Executive Function Working Memory Verbal / Nonverbal Visual / Auditory





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PASS: Across the Three Measures

	CAS2 Rating Scale Items ask how well the child…	**CAS2**	**CAS2 Brief**
Planning	thinks before acting, creates plans, uses strategies to achieve a goal.	Planned Codes Planned Connections Planned Number Matching	Planned Codes
Attention	can focus attention to one thing at at time and resists distractions.	Expressive Attention Number Detection Receptive Attention	Expressive Attention
Simultaneous	understands how parts combine to make a whole and see the big picture.	Matrices Verbal-Spatial Relations Figure Memory	Simultaneous Matrices
Successive	works with numbers, words or ideas that are arranged in a specific series.	Word series Sentence Repetition/Questions Visual Digit Span	Successive Digits

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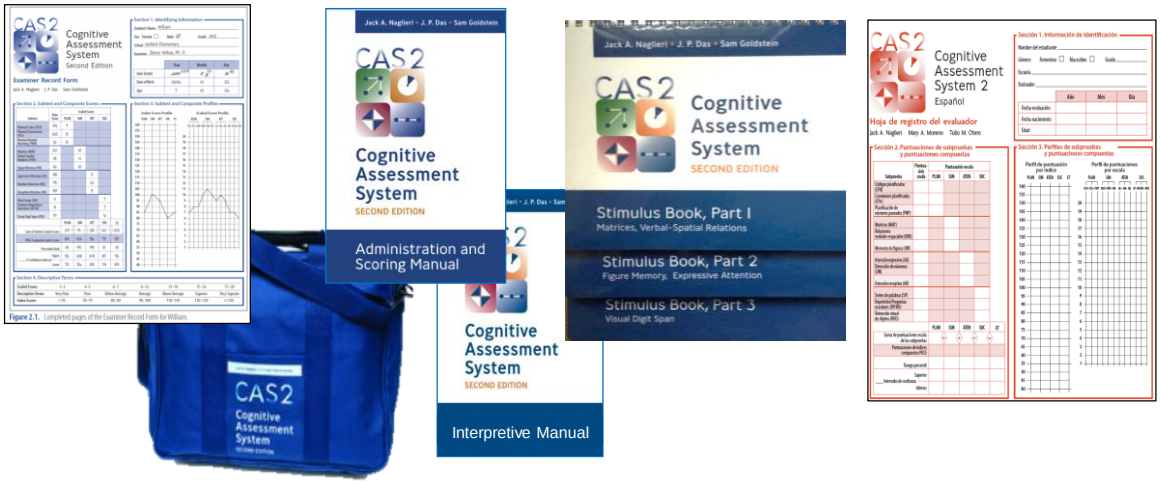
CAS2 for (Ages 5-18 yrs.)



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CAS2

For those who regularly give IQ tests

- 8 (40 minutes) or 12 (60 minutes) subtest versions
- PASS and Full Scales provided (100 & 15) subtests (10 and 3)

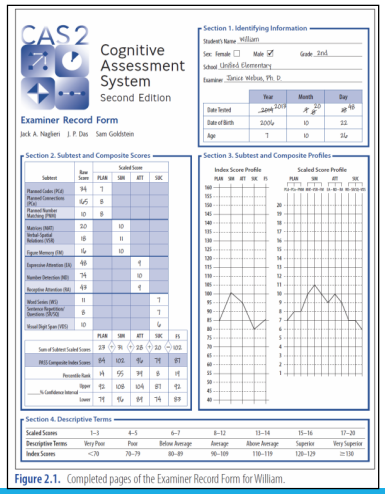

Figure 2.1. Completed pages of the Examiner Record Form for William.

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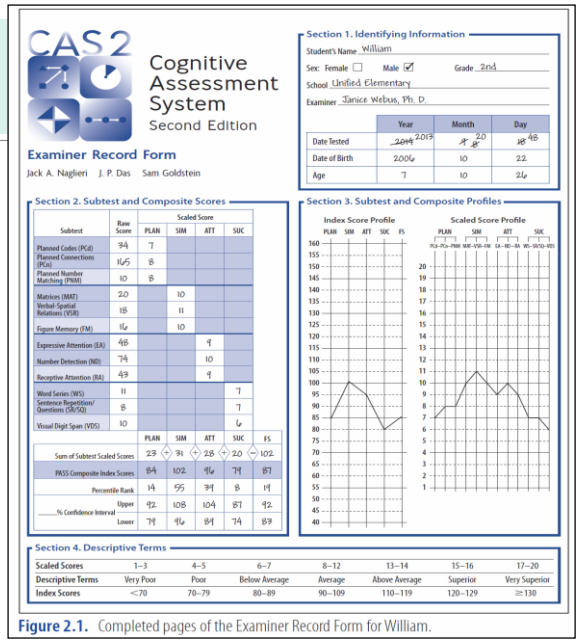
CAS2 Versions

- Users can choose the 8 (40 minutes) or 12 (60 minutes) subtest versions
- PASS and Full Scales provided (100 & 15) subtests (10 and 3)
- Spanish Version is also available


CAS2 Cognitive Assessment System Second Edition

Examiner Record Form

Jack A. Naglieri J. P. Das Sam Goldstein

Section 1. Identifying Information

Student's Name William

Sex: Female ☐ Male ☑ Grade 2nd

School Unified Elementary

Examiner Janice Webus, Ph. D.

	Year	Month	Day
Date Tested	2019	8	18
Date of Birth	2006	10	22
Age	7	10	26

Section 2. Subtest and Composite Scores

Subtest	Raw Score	Scaled Score PLAN	SIM	ATT	SUC
Planned Codes (PCd) / Planned Connections (PCn)	34 / 165	7 / 8			
Planned Number Matching (PNM)	10	8			
Matrices (MAT)	20		10		
Verbal-Spatial Relations (VSR)	18		11		
Figure Memory (FM)	16		10		
Expressive Attention (EA)	48			9	
Number Detection (ND)	74			10	
Receptive Attention (RA)	43			9	
Word Series (WS)	11				7
Sentence Repetition/Questions (SR/SQ)	15				7
Visual Digit Span (VDS)	10				6

	PLAN	SIM	ATT	SUC	FS
Sum of Subtest Scaled Scores	23	31	28	20	102
PASS Composite Index Scores	84	102	96	74	87
Percentile Rank	14	55	39	8	19
Upper	92	108	104	87	92
____% Confidence Interval					
Lower	79	96	89	74	83

Section 3. Subtest and Composite Profiles

Index Score Profile

Scaled Score Profile

Section 4. Descriptive Terms

Scaled Scores	1–3	4–5	6–7	8–12	13–14	15–16	17–20
Descriptive Terms	Very Poor	Poor	Below Average	Average	Above Average	Superior	Very Superior
Index Scores	<70	70–79	80–89	90–109	110–119	120–129	≥130

Figure 2.1. Completed pages of the Examiner Record Form for William.

CAS2

- Supplementary Scales: Executive Function (which relates to CEFI), Working Memory, Verbal, Nonverbal. Speed/Fluency
- Added: A Visual and Auditory comparison

Supplemental Composite Scores

Subtest	Scaled Score EF w/o WM	EF w/ WM	WM	VC	NvC
Planned Codes					7
Planned Connections	8	8			
Matrices					10
Verbal-Spatial Relations		11	11	11	
Figure Memory					10
Expressive Attention	9	9			
Receptive Attention				9	
Sentence Repetition/Questions		7	7	7	
	EF w/o WM	**EF w/ WM**	**WM**	**VC**	**NvC**
Sum of Subtest Scaled Scores	17	35	18	27	27
Composite Index Scores	91	91	94	93	92
Percentile Rank	27	27	34	32	30
Upper	101	99	101	101	99
____% Confidence Interval					
Lower	84	85	88	87	86

Note: EF w/o WM = Executive Function without Working Memory; EF w/WM = Executive Function with Working Memory; WM = Working Memory; VC = Verbal Content; NvC = Nonverbal Content.

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:

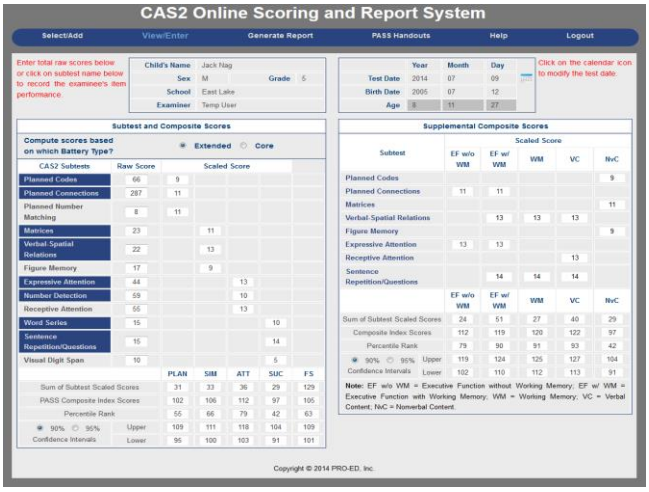
- converting CAS2 subtest raw scores into standard scores, percentile ranks, descriptive terms, and age equivalents;
- generating PASS and Full Scale composite scores;
- comparing CAS2 subtest and PASS scale scores to identify significant intra-individual differences;
- providing a pdf report of CAS2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

- As values are entered the program completes the record form
- Supplemental scales are automatically computed
  - Executive Function
  - Working Memory
  - Verbal
  - Nonverbal
  - Speed/Fluency
  - Visual Auditory Comparison



CAS2 Online Scoring and Report System

Select/Add | View/Enter | Generate Report | PASS Handouts | Help | Logout

Enter total raw scores below or click on subtest name below to record the examinee's item performance.

Child's Name	Jack Nag
Sex	M
Grade	5
School	East Lake
Examiner	Temp User

	Year	Month	Day
Test Date	2014	07	09
Birth Date	2005	07	12
Age	8	11	27

Click on the calendar icon to modify the test date.

Subtest and Composite Scores

Compute scores based on which Battery Type? ◉ Extended ○ Core

CAS2 Subtests	Raw Score	Scaled Score				
Planned Codes	66	9				
Planned Connections	287	11				
Planned Number Matching	8	11				
Matrices	23		11			
Verbal-Spatial Relations	22		13			
Figure Memory	17		9			
Expressive Attention	44			13		
Number Detection	59			10		
Receptive Attention	55			13		
Word Series	15				10	
Sentence Repetition/Questions	15				14	
Visual Digit Span	10				5	

	PLAN	SIM	ATT	SUC	FS
Sum of Subtest Scaled Scores	31	33	36	29	129
PASS Composite Index Scores	102	106	112	97	105
Percentile Rank	55	66	79	42	63
◉ 90% ○ 95% Confidence Intervals Upper	109	111	118	104	109
Confidence Intervals Lower	95	100	103	91	101

Supplemental Composite Scores

Subtest	Scaled Score				
	EF w/o WM	EF w/ WM	WM	VC	NvC
Planned Codes					9
Planned Connections	11	11			
Matrices					11
Verbal-Spatial Relations		13	13	13	
Figure Memory					9
Expressive Attention	13	13			
Receptive Attention				13	
Sentence Repetition/Questions		14	14	14	

	EF w/o WM	EF w/ WM	WM	VC	NvC
Sum of Subtest Scaled Scores	24	51	27	40	29
Composite Index Scores	112	119	120	122	97
Percentile Rank	79	90	91	93	42
◉ 90% ○ 95% Confidence Intervals Upper	119	124	125	127	104
Confidence Intervals Lower	102	110	112	113	91

Note: EF w/o WM = Executive Function without Working Memory; EF w/ WM = Executive Function with Working Memory; WM = Working Memory; VC = Verbal Content; NvC = Nonverbal Content.

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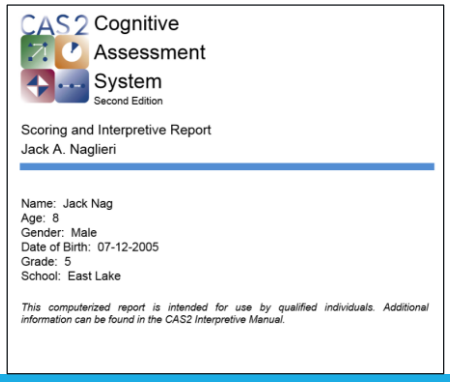
CAS2 Online Score & Report

- Narrative report can be obtained in Word or PDF

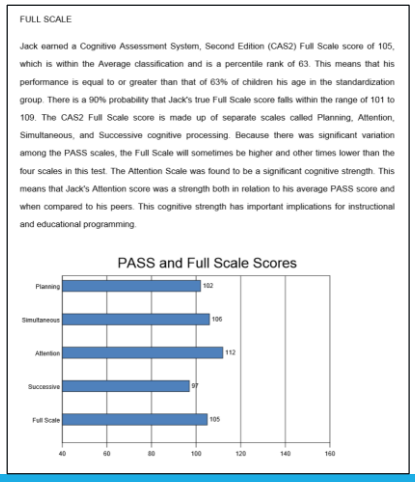


CAS2 Cognitive Assessment System
Second Edition

Scoring and Interpretive Report
Jack A. Naglieri

Name: Jack Nag
Age: 8
Gender: Male
Date of Birth: 07-12-2005
Grade: 5
School: East Lake

This computerized report is intended for use by qualified individuals. Additional information can be found in the CAS2 Interpretive Manual.



FULL SCALE

Jack earned a Cognitive Assessment System, Second Edition (CAS2) Full Scale score of 105, which is within the Average classification and is a percentile rank of 63. This means that his performance is equal to or greater than that of 63% of children his age in the standardization group. There is a 90% probability that Jack's true Full Scale score falls within the range of 101 to 109. The CAS2 Full Scale score is made up of separate scales called Planning, Attention, Simultaneous, and Successive cognitive processing. Because there was significant variation among the PASS scales, the Full Scale will sometimes be higher and other times lower than the four scales in this test. The Attention Scale was found to be a significant cognitive strength. This means that Jack's Attention score was a strength both in relation to his average PASS score and when compared to his peers. This cognitive strength has important implications for instructional and educational programming.

PASS and Full Scale Scores

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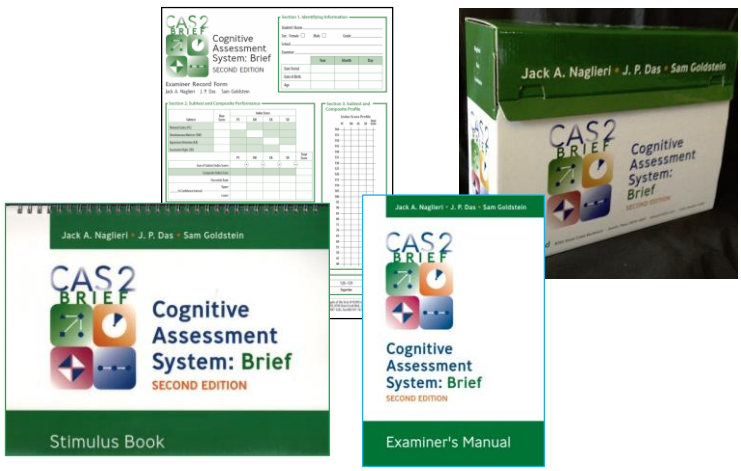
CAS2: Brief for Ages 4-18 years

For special educators and others with some assessment training

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



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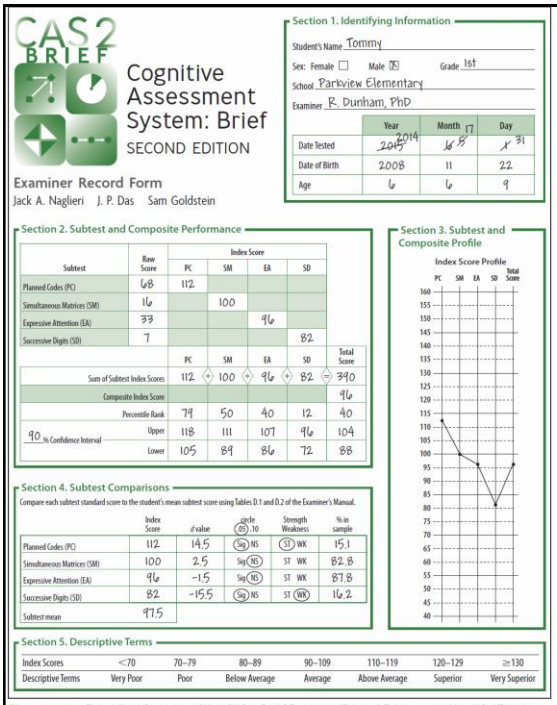

CAS2 BRIEF

Cognitive Assessment System: Brief

SECOND EDITION

Examiner Record Form

Jack A. Naglieri J. P. Das Sam Goldstein

Section 1. Identifying Information

Student's Name: Tommy

Sex: Female ☐ Male ☒ Grade: 1st

School: Parkview Elementary

Examiner: R. Dunham, PhD

	Year	Month	Day
Date Tested	2015 2014	6 5	31
Date of Birth	2008	11	22
Age	6	6	9

Section 2. Subtest and Composite Performance

Subtest	Raw Score	Index Score PC	SM	EA	SD
Planned Codes (PC)	68	112			
Simultaneous Matrices (SM)	16		100		
Expressive Attention (EA)	33			96	
Successive Digits (SD)	7				82

	PC	SM	EA	SD	Total Score
Sum of Subtest Index Scores	112	+ 100	+ 96	+ 82	= 390
Composite Index Score					96
Percentile Rank	79	50	40	12	40
90% Confidence Interval Upper	118	111	107	96	104
90% Confidence Interval Lower	105	89	86	72	88

Section 3. Subtest and Composite Profile

Index Score Profile

PC SM EA SD Total Score

160 155 150 145 140 135 130 125 120 115 110 105 100 95 90 85 80 75 70 65 60 55 50 45 40

Section 4. Subtest Comparisons

Compare each subtest standard score to the student's mean subtest score using Tables D.1 and D.2 of the Examiner's Manual.

	Index Score	d value	circle .05 .10	Strength Weakness	% in sample
Planned Codes (PC)	112	14.5	Sig NS	ST WK	15.1
Simultaneous Matrices (SM)	100	2.5	Sig NS	ST WK	82.8
Expressive Attention (EA)	96	-1.5	Sig NS	ST WK	87.8
Successive Digits (SD)	82	-15.5	Sig NS	ST WK	16.2
Subtest mean	97.5				

Section 5. Descriptive Terms

Index Scores	<70	70–79	80–89	90–109	110–119	120–129	≥130
Descriptive Terms	Very Poor	Poor	Below Average	Average	Above Average	Superior	Very Superior

Figure 3.1. Example of page 1 of the CAS2: Brief Examiner Record Form, completed for Tommy.

CAS2: Brief

- Give in 20 minutes
- Yields PASS and Total standard scores (Mn 100, SD 15)
- All items are different from CAS2
  - Planned Codes
  - Simultaneous Matrices
  - Expressive Attention
  - Successive Digits (forward only)

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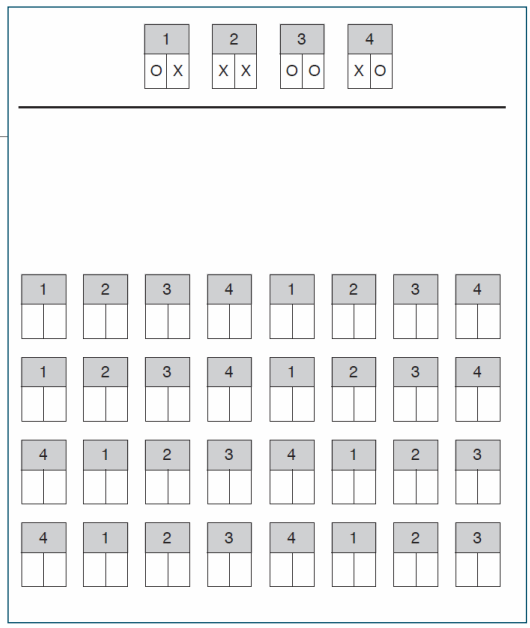
CAS2: Brief Scale

- Planned Codes is used for Planning ability
- Eight items using numbers not letters as in CAS2 and different orientation of the pages



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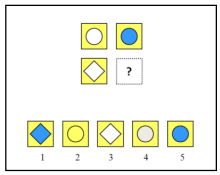
CAS2: Brief

- ALL administration directions are provided in the Record Form
- Simultaneous Matrices subtest



Simultaneous Matrices

Administration:
Age-based entry points; apply ceiling (ceiling of 4; basal of 2, if needed)

Materials:
CAS2: Brief Stimulus Book (pp. 1–90); #2 pencils

Objective:
Examinees should select the option that best completes the matrix.

Entry Points and Basals: If an examinee age 12–18 fails the first item, administer previous items in reverse order until two consecutive correct answers have been obtained (basal). Record the response in the appropriate column, and then score the response (1 = *correct*, 0 = *incorrect*) for each item.

Discontinue Rule: Discontinue subtest if examinee receives four consecutive incorrect responses.

Directions for All Examinees:
Show example in the CAS2: Brief Stimulus Book (p. 1), and say, **Look at this page. There is a piece missing here** (point to the question mark). **Which one of these** (point to the five options in a sweeping motion) **goes here?** (Point to the question mark.) If the response is correct, say, **Yes, that's the right one because it's all yellow.** If incorrect, point to Option 3 and say, **This is the right one because it's all yellow.** (If necessary, provide a brief explanation.) Continue with directions for the appropriate age group.

Directions for Examinees Ages 4–11:
Show item 1 and say, **Look at this page. There is a piece missing here.**

Directions for the Remaining Items:
For each item, say as needed, **There is a piece missing here** (point to th question mark). **Which one of these** (point to the options in a sweepin motion) **goes here?** (Point to the question mark.) When the question i no longer necessary, say, **Now do this one.** (Provide no additional help. If the examinee does not respond after about 60 seconds, encourage him or her to choose one of the options. If the examinee still does no respond, say, **Let's try the next one.** (Show the next item.)

	Item	Correct Response	Examinee's Response	Score (1 or 0)
All Ages	Example	3		
4–11 Years	1.	2		
	2.	3		
	3.	2		
	4.	4		
	5.	1		
	6.	5		
	7.	4		
	8.	5		
	9.	5		
	10.	1		
12–18 Years	11.	1		
	12.	3		
	13.	4		
	14.	3		
	15.	2		
	16.	4		
	17.	5		
	18.	2		
	19.	6		

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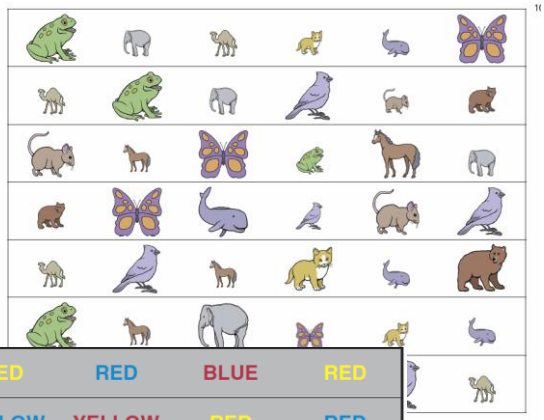
CAS2: Brief Scale

- Expressive Attention (Stroop) used
- Big/Little animals (ages 4-7 years)
- Color Words (ages 8-18)



YELLOW	RED	RED	BLUE	RED
BLUE	YELLOW	YELLOW	RED	RED
RED	BLUE	RED	YELLOW	YELLOW
RED	BLUE	BLUE	BLUE	BLUE
YELLOW	YELLOW	BLUE	YELLOW	RED

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CAS2: Brief

- Successive Digits uses numbers (not words as in CAS2)
- NOTE: "Provide additional help if necessary"

Successive Digits

Administration:
Age-related entry points, apply ceiling (ceiling of 4; basal of 2, if needed)

Materials:
#2 pencils

Objective:
The examinee's task is to repeat a series of digits in the same order in which the examiner says them. The examiner should say the digits in a uniform pitch at the rate of one digit per second. The voice should drop when the last digit of the series is spoken so that the examinee knows it is the end of the series.

Entry Points: Begin with Item 1 for ages 4–7 and Item 3 for ages 8–18.

Discontinue Rule: Discontinue after the examinee misses four consecutive items.

Directions for All Ages:
Use the table below to administer the series of digits and to record responses. Record a score of 1 in the Score column if the examinee recalls the series in the correct order. Record a score of 0 in the Score column if the examinee recalls incorrect or out-of-order digits.

Example—Say, **I'm going to say some numbers. Listen carefully. When I finish, I want you to say them just as I did. Listen. Say, "3, 5."** If the examinee's response is correct, say, **That is right.** If the response is incorrect, say, **I said, "3, 5" so you should say, "3, 5."** Provide additional help if necessary.

Directions for Examinees Ages 4–7:

Item 1—Say, **Listen again. Say, "6, 1."** Record and score the examinee's response. If the response is correct, say, **That is right.** If incorrect, say, **I said "6, 1," so you should say, "6, 1."** Provide additional help if necessary.

Items 2 to 28—Use the following directions, as needed, for Items 2 to 30. Say, **Say what I said.** Provide no additional help.

	Item										Score (1 or 0)
All Ages	Example	3 ___	5 ___								
4–7 Years	1.	6 ___	1 ___								
	2.	7 ___	4 ___								
8–18 Years	3.	6 ___	2 ___	4 ___							
	4.	1 ___	7 ___	3 ___							
	5.	5 ___	2 ___	8 ___							
	6.	4 ___	7 ___	2 ___							
	7.	9 ___	6 ___	1 ___	3 ___						
	8.	6 ___	8 ___	5 ___	9 ___						

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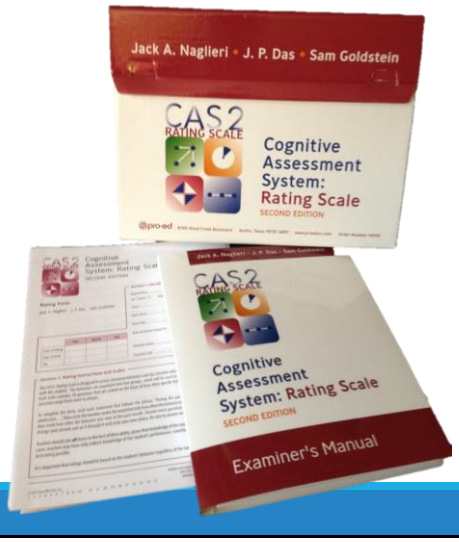
CAS2 Rating Scales (Ages 4-18 yrs.)

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



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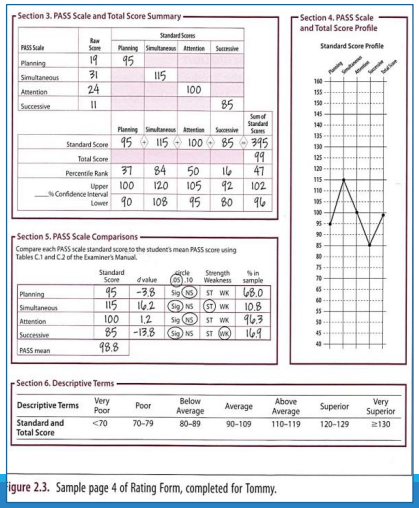
CAS2 Rating Scales

- The CAS2: Rating Scale scores can be used as part of a larger comprehensive evaluation or for instructional planning



Section 3. PASS Scale and Total Score Summary

PASS Scale	Raw Score	Standard Scores: Planning	Simultaneous	Attention	Successive
Planning	19	95			
Simultaneous	31		115		
Attention	24			100	
Successive	11				85

	Planning	Simultaneous	Attention	Successive	Sum of Standard Scores
Standard Score	95	115	100	85	395
Total Score					99
Percentile Rank	37	84	50	16	47
Upper	100	120	105	92	102
___% Confidence Interval					
Lower	90	108	95	80	96

Section 4. PASS Scale and Total Score Profile

Standard Score Profile

Section 5. PASS Scale Comparisons

Compare each PASS scale standard score to the student's mean PASS score using Tables C.1 and C.2 of the Examiner's Manual.

	Standard Score	d value	.05 circle .01	.10	Strength Weakness	% in sample
Planning	95	-3.8	Sig	NS	ST WK	68.0
Simultaneous	115	16.2	Sig	NS	ST WK	10.8
Attention	100	1.2	Sig	NS	ST WK	96.3
Successive	85	-13.8	Sig	NS	ST WK	16.9
PASS mean	98.8					

Section 6. Descriptive Terms

Descriptive Terms	Very Poor	Poor	Below Average	Average	Above Average	Superior	Very Superior
Standard and Total Score	<70	70–79	80–89	90–109	110–119	120–129	≥130

igure 2.3. Sample page 4 of Rating Form, completed for Tommy.

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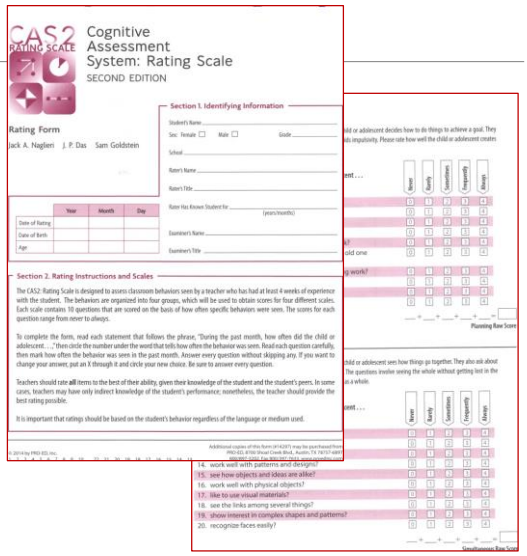
CAS2 Rating Scales

- The CAS2: Rating form contains 40 items
- 10 items for each PASS scale
- PASS and Total scales are set to have a mean of 100 and standard deviation of 15



CAS2 RATING SCALE

Cognitive Assessment System: Rating Scale

SECOND EDITION

Rating Form

Jack A. Naglieri J. P. Das Sam Goldstein

Section 1. Identifying Information

Section 2. Rating Instructions and Scales

The CAS2: Rating Scale is designed to assess classroom behaviors seen by a teacher who has had at least 4 weeks of experience with the student. The behaviors are organized into four groups, which will be used to obtain scores for four different scales. Each scale contains 10 questions that are scored on the basis of how often specific behaviors were seen. The scores for each question range from never to always.

To complete the form, read each statement that follows the phrase, "During the past month, how often did the child or adolescent. . ." then circle the number under the word that tells how often the behavior was seen. Read each question carefully, then mark how often the behavior was seen in the past month. Answer every question without skipping any. If you want to change your answer, put an X through it and circle your new choice. Be sure to answer every question.

Teachers should rate **all** items to the best of their ability, given their knowledge of the student and the student's peers. In some cases, teachers may have only indirect knowledge of the student's performance; nonetheless, the teacher should provide the best rating possible.

It is important that ratings should be based on the student's behavior regardless of the language or medium used.

14. work well with patterns and designs?
15. see how objects and ideas are alike?
16. work well with physical objects?
17. like to use visual materials?
18. see the links among several things?
19. show interest in complex shapes and patterns?
20. recognize faces easily?

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CAS2 Rating Scales

- The rater is given a description of what each scale is intended to measure.
- This informs teachers about PASS

Directions for Items 1–10. These questions ask how well the child or adolescent decides how to do things to achieve a goal. They also ask how well a child or adolescent thinks before acting and avoids impulsivity. Please rate how well the child or adolescent creates plans and strategies to solve problems.

Directions for Items 11–20. These questions ask how well the child or adolescent sees how things go together. They also ask about working with diagrams and understanding how ideas fit together. The questions involve seeing the whole without getting lost in the parts. Please rate how well the child or adolescent visualizes things as a whole.

Directions for Items 21–30. These questions ask how well the child or adolescent pays attention and resists distractions. The questions also ask about how well someone attends to one thing at a time. Please rate how well the child or adolescent pays attention.

Directions for Items 31–40. These questions ask how well the child or adolescent remembers things in order. The questions ask about working with numbers, words, or ideas in a series. The questions also ask about doing things in a certain order. Please rate how well the child or adolescent works with things in a specific order.

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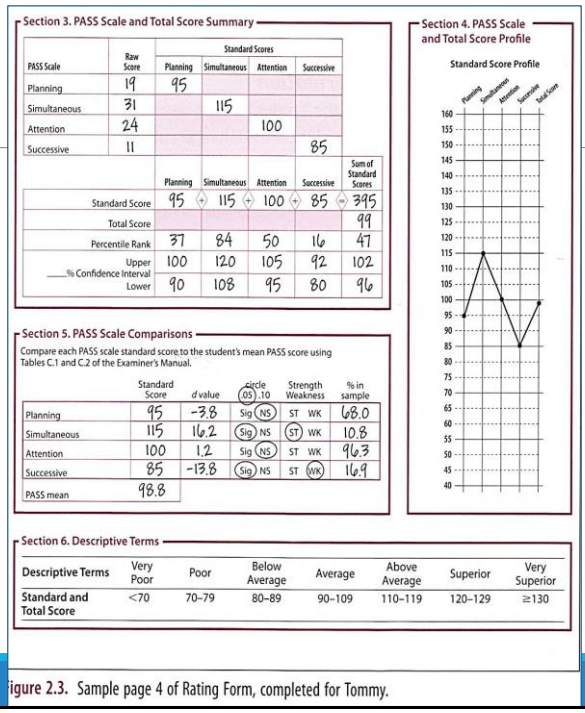
CAS2 Rating Scales

- The CAS2: Rating Scale scores can be used as part of a larger comprehensive evaluation or for instructional planning
- Use PASS Score Analyzer for comparison of PASS Scores



Section 3. PASS Scale and Total Score Summary

PASS Scale	Raw Score	Standard Scores: Planning	Simultaneous	Attention	Successive
Planning	19	95			
Simultaneous	31		115		
Attention	24			100	
Successive	11				85

	Planning	Simultaneous	Attention	Successive	Sum of Standard Scores
Standard Score	95	115	100	85	395
Total Score					99
Percentile Rank	37	84	50	16	47
90% Confidence Interval Upper	100	120	105	92	102
90% Confidence Interval Lower	90	108	95	80	96

Section 4. PASS Scale and Total Score Profile

Standard Score Profile

Section 5. PASS Scale Comparisons

Compare each PASS scale standard score to the student's mean PASS score using Tables C.1 and C.2 of the Examiner's Manual.

	Standard Score	d value	Circle .05 .10	Strength Weakness	% in sample
Planning	95	-3.8	Sig (NS)	ST WK	68.0
Simultaneous	115	16.2	(Sig) NS	(ST) WK	10.8
Attention	100	1.2	Sig (NS)	ST WK	96.3
Successive	85	-13.8	(Sig) NS	ST (WK)	16.9
PASS mean	98.8				

Section 6. Descriptive Terms

Descriptive Terms	Very Poor	Poor	Below Average	Average	Above Average	Superior	Very Superior
Standard and Total Score	<70	70–79	80–89	90–109	110–119	120–129	≥130

igure 2.3. Sample page 4 of Rating Form, completed for Tommy.

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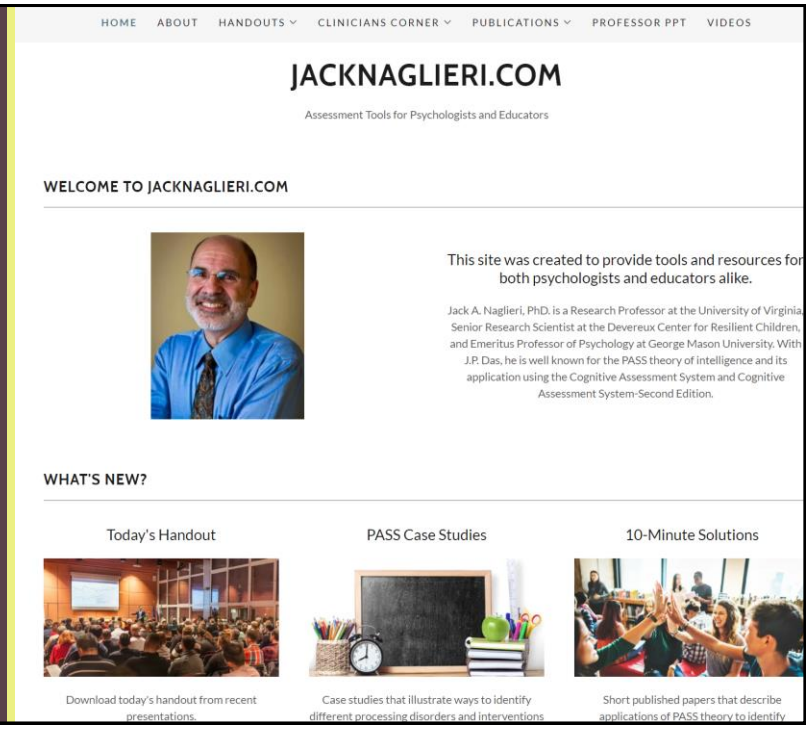
Online PASS Score Analyzers



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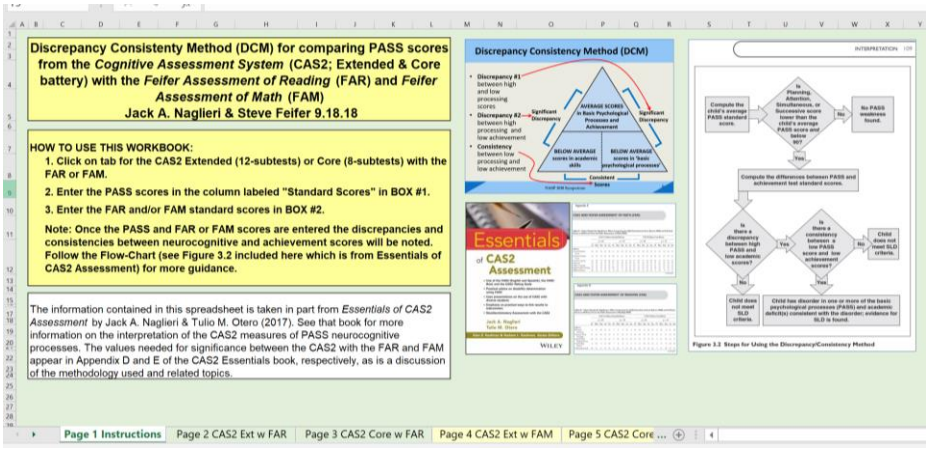
CAS2 PSW Analyzer for WJ4, KTEA3, FAR, FAM

- Instructions



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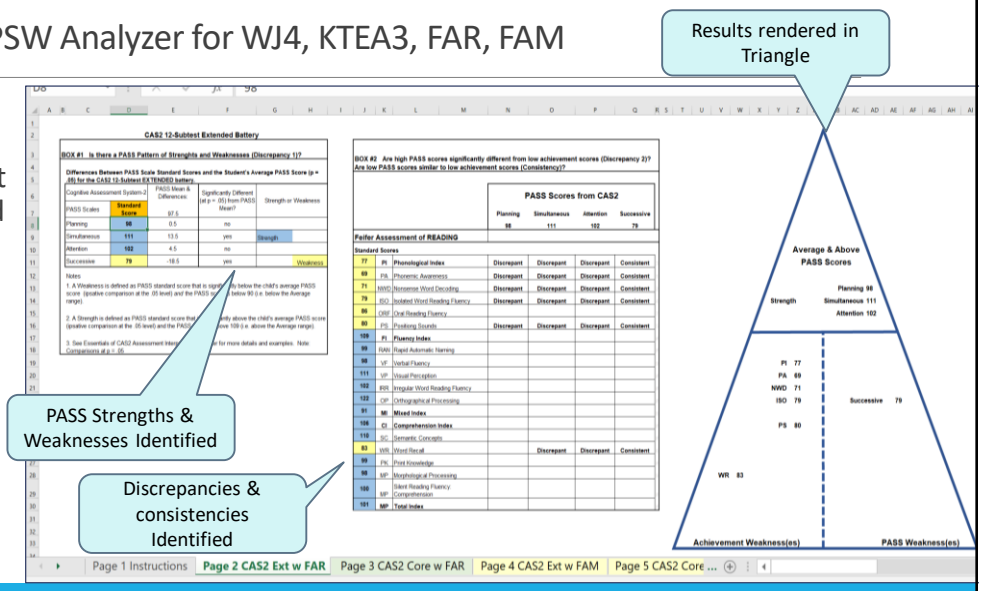
FREE CAS2 PSW Analyzer for WJ4, KTEA3, FAR, FAM

- Enter PASS and Achievement test standard scores and all comparisons are calculated



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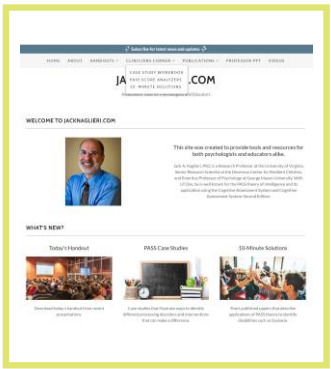

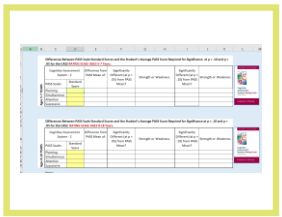

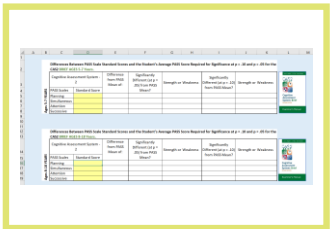

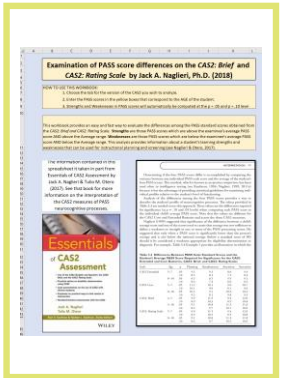

CAS2: Brief and CAS2: Rating Scale

- Go to www.jacknaglieri.com
- Then click on Clinicians Corner
- Download the FREE PASS Score Analyzer for which version of CAS2 you are using

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Case #3 – Paul PASs

Paul is currently 9-years of age and in 4th grade and is having problems in reading and mathematics. His teacher reported that he struggles to remember the sequence of steps when doing math equations, basic math facts, and long passages when reading, when decoding words and spelling hard words. This observation was consistent with his scores obtained from the CAS2: Rating Scale which she completed. What was puzzling is that Paul had an outstanding memory for directions when on the school hiking trip and his ability to understand big ideas.

Paul's Scores on the Feifer Assessment of Math

FAM Index	Standard Scores	Percentiles	Category
Procedural Index	76	5	Moderately Below Average
Verbal Index	82	12	Below Average
Semantic Index	98	45	Average
FAM TOTAL INDEX	86	18	Below Average

Paul's Scores on the Feifer Assessment of Reading

FAR Scores	Standard Scores	Percentiles	Category
Phonological Index	79	7	Moderately Below Average
Fluency Index	92	32	Average
Mixed Index	85	14	Below Average
Comprehension Index	90	27	Average
FAR Total Index	84	14	Below Average

Worksheets for Paul

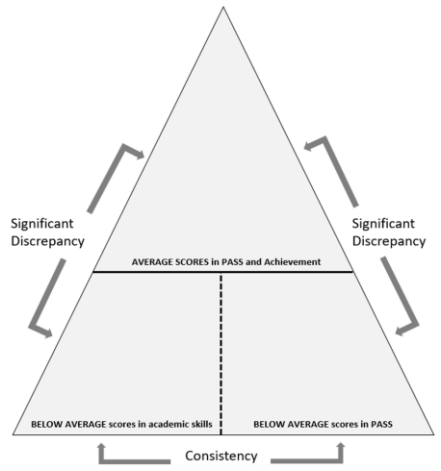
Paul's PASS Scores from the CAS2 *Extended Battery* Results.

CAS2: Brief

PASS Scales	Standard Score	Percentile	Ability Category
CAS2 Planning: The ability to apply a strategy and self-monitor while working toward a solution	91	27	Average
CAS2 Simultaneous Processing: The ability to integrate separate elements into a conceptual whole	113	81	Above Average
CAS2 Attention: The ability to selectively focus on a stimulus and inhibit responses to competing stimuli	90	26	Average
CAS2 Successive Processing: The ability to work with information arranged in a specific sequence	70	2	Very Low

CAS2: Rating Scale completed by Paul's teacher:
Planning 94, Simultaneous 116, Attention 91 and Successive 73.

Cognitive Assessment System - 2		Difference from PASS Mean of:	Significantly Different (at p = .05) from PASS Mean?	Strength or Weakness	Significantly Different (at p = .10) from PASS Mean?	Strength or Weakness
PASS Scales	Standard Score					
Planning						
Simultaneous						
Attention						
Successive						



From Naglieri & Otero (2014) Essentials of CAS2 Assessment. New York: Wiley.

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Case #1 – Anthony pASS

Reason for Referral

Anthony was referred for evaluation because of parent concerns with attention and over activity. Additionally, the parent reported concerns about Anthony's frustration and self-esteem when he is unable to complete a task. The purpose of the evaluation is to find out the nature of Anthony's difficulties for the purposes of educational planning and suggesting interventions.

Relevant Background Information

Anthony is an 8-year-old, right-handed male of Mexican descent (mother's side) who is currently completing third grade at Bailey Elementary School. He lives at home with his mother, Ms. M. where only Spanish is spoken. Although Anthony is fluent in Spanish, Ms. M reported that English is his dominant language because he has been exposed to English socially and since preschool.

Anthony attended local daycare at the age of 2. At age of 3, he moved to Mexico to live with his grandmother and attended preschool and kindergarten there. Ms. M reported that the separation was difficult for both her and Anthony, yet she was able to visit multiple times on a relatively regular basis. Anthony moved back to the United States at age 5 and attended a private school for first and second grade. Anthony, now a third grader, began attending public school at the beginning of the current school year. Teachers have described Anthony as bright and enthusiastic, but they had concerns regarding his initiation of play with other children, sometimes becoming upset and occasionally crying if he makes mistakes and is given constructive criticism by a teacher, difficulty sustaining his attention on adult-directed tasks, and as "needing to be in constant movement and fidget with things." Anthony has occasional difficulties when changes occur in the typical school routines, meaning that he sometimes demonstrates inflexibility in adapting or being ready for new topics and following through with changes in class activities.

Behavioral Observations

Off-task behavior such as looking around the room, attempting to look through test materials, fidgetiness, and interrupting the flow of the assessment by asking questions were observed throughout the evaluation. When redirected, Anthony remained on-task for short periods. His off-task and distracted behavior seemed to have affected his performance during various tasks such as a listening comprehension measure. Anthony often asked if he answered questions correctly, if tasks were "for a grade," and if he was doing as well as other students who have taken the tests.

Social-Emotional Functioning

Ms. M's parent responses indicated only two areas of some concern for Anthony: attention and hyperactivity. Per teacher reports, the area of externalizing problems was rated as being of the highest concern. All three teachers reported significant concerns in the areas of attention, hyperactivity, whereas concerns of anxiousness were considered "at risk." Teacher ratings also indicate that Anthony frequently acts in strange or unusual ways. This is consistent with teacher comments of Anthony acting silly and making off-task comments that do not make sense in some situations, meaning his responses are impulsive and irrelevant to whatever is asked or discussed in class. Other areas that showed slight concern were adaptability (adapting to changes in environment or routine), social skills, leadership, study skills, and functional communication.

Considering these concerns in light of current observational data, it appears that Anthony's greatest social-emotional weakness are related to hyperactivity, attention, as evidenced by intrusive comments and questions; needing constant movement; and difficulty staying on task. Some degree of anxiety is noted and judged to be related to his awareness of his struggles: Anthony strives to be a good student, but can be thrown off-track as he becomes upset when he is unsure of academic expectations, has difficulty keeping track of what he needs to do to complete tasks, or feels that he has made the same mistake repeatedly.

Academic Skills

Overall, Anthony performed solidly within the average range in the areas of reading, writing, and math. In reading, Anthony was able to decode new words, read words fluently, and comprehend what he had read similarly to his same-age peers. In the area of math, Anthony successfully solved applied math problems but struggles with math computation. In the area of writing, Anthony showed the ability to adequately spell words but his written expression and his comprehension when listening was poor.

KTEA-III Scores for Anthony

Subtest	Standard Score	Classification
Reading Composite	96	Average
Letter and Word Recognition	100	Average
Reading Comprehension	93	Average
Nonsense Word Decoding	90	Average
Word Recognition Fluency	96	Average
Decoding Fluency	87	Average
Reading Vocabulary	108	Average
Letter Naming Facility	84	Below average
Object Naming Facility	91	Average
Listening Comprehension	68	Low
Math Composite	90	Average
Math Concepts and Applications	96	Average
Math Computation	82	Average
Written Language Composite	89	Average
Written Expression	79	Average
Spelling	101	Average

PASS Scales from CAS2: Brief	Standard Score	Percentile
CAS2 Planning: The ability to apply a strategy and self-monitor while working toward a solution	79	4
CAS2 Simultaneous Processing: The ability to integrate separate elements into a conceptual whole	108	70
CAS2 Attention: The ability to selectively focus on a stimulus and inhibit responses to competing stimuli	90	26
CAS2 Successive Processing: The ability to work with information arranged in a specific sequence	110	74
Full Scale	X	X

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Want to learn more?

- Professor PPT tab on www.jacknaglieri.com has free PowerPoint slides that describe all versions of the CAS2, how to administer, score and interpret the tests.
- See Naglieri & Otero (2018) Essentials of CAS2 Assessment first chapter also on www.jacknaglieri.com
- See the Publications tab on www.jacknaglieri.com for a list of research papers and book chapters

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EXPLORE CAS2 with you CORE GROUP

- Take some time to look at the materials
- Administer to each other
- Talk in your CORE GROUP about administration and scoring of these measures

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Today's Topics

How we have Measured Intelligence for 100 + Years

- Fair Assessment as a Social Justice Issue
- Improving on the old for Universal Screening of Gifted Students

A Strength Based Approach called PASS

- Neurocognitive Abilities Critical to Learning
- CAS2, CAS2:Brief
- Administration and Analysis of the Cognitive Assessment System 2 Brief
- Tying Social Emotional Learning and the DESSA
- Identifying Learning Disabilities & ADHD
- Instruction based on PASS strengths/needs

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Getting Closure: How do concepts like Social Emotional Skills and Executive Function fit in?

IT IS ALL ABOUT THE BRAIN !

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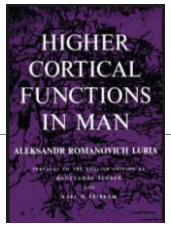
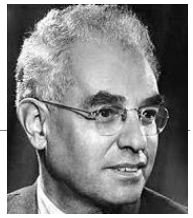
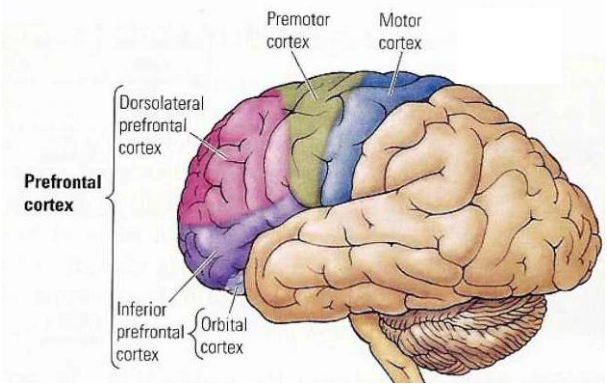
Executive Function





- In 1966 Luria first wrote and defined the concept of Executive Function (EF) as it relates to Frontal Lobes , especially the prefrontal cortex
- This is PLANNING from PASS



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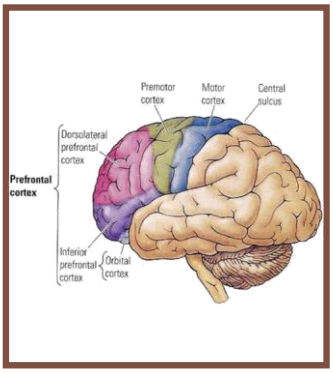
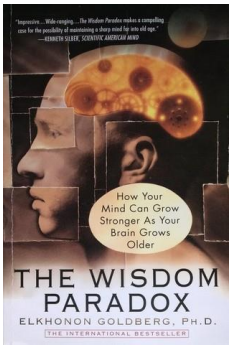


Frontal Lobes



Executive Function

- 'current research has shown beyond a doubt that the prefrontal cortex is central to those aspects of cognition that glue individuals into society'
- PFC is active when we 'ponder moral or social dilemmas, experience empathy toward others, or when we try to understand another person's perspective (theory of mind)
- Moral reasoning
- Counter-factual reflection ('if I did X not Y') reasoning = learning from experience

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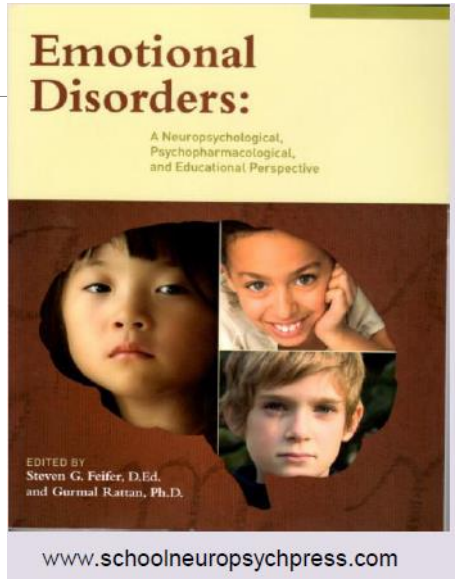
Feiffer & Rattan (2009)

- Provide a collection of papers on the relationship between EF and Emotional Disorders
- The Frontal lobes in particular are closely related to social emotional health and social skills in general



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Measure the person directly and get an Executive Function score with the CAS2 strength based Planning or EF Scale

2 ways to measure Planning

Measure the person indirectly and get an Executive Function score with the strength based CEFI

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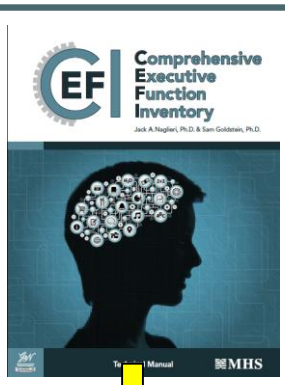
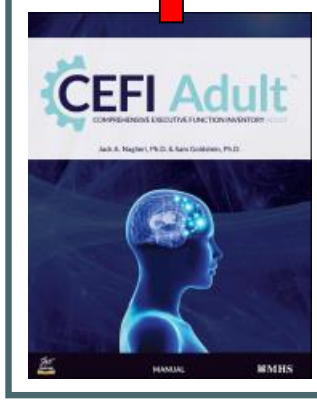


CEFI Child:
Parent (N=1,400),
Teacher (N=1,400)
Self (N=700) ratings:

CEFI Adult:
Self (N = 1,600) & Observer (N = 1,600) ratings



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Social Emotional Skills

Five key social-emotional skills from CASEL

What is Social and Emotional Learning?

The Collaborative for Academic, Social, and Emotional Learning (CASEL) describes SEL as the process of developing the following five sets of core competencies in the context of safe, caring, well-managed, academically rigorous, and engaging learning environments:

1. **Self-awareness**—being able to accurately assess one's feelings, interests, values, and strengths; maintaining a well-grounded sense of self-confidence
2. **Self-management**—being able to regulate one's emotions to handle stress, control impulses, and persevere in overcoming obstacles; setting and monitoring progress toward personal and academic goals; expressing emotions effectively
3. **Social awareness**—being able to take the perspective of and empathize with others; recognizing and appreciating individual and group similarities and differences; recognizing and using family, school, and community resources
4. **Relationship skills**—being able to establish and maintain healthy and rewarding relationships based on cooperation; resisting inappropriate social pressure; preventing, managing, and resolving interpersonal conflict; seeking help when needed
5. **Responsible decision-making**—being able to make decisions based on consideration of reason, ethical standards, safety concerns, social norms, respect for self and others, and likely consequences of various actions; applying decision-making skills to academic and social situations; contributing to the well-being of one's school and community.[1]

Autism Spectrum Disorder 299.00 (F84.0)

A. Persistent deficits in social communication and social interaction across multiple contexts, as manifested by the following, currently or by history (examples are illustrative, not exhaustive; see text):

1. Deficits in social-emotional reciprocity, ranging, for example, from abnormal social approach and failure of normal back-and-forth conversation; to reduced sharing of interests, emotions, or affect; to failure to initiate or respond to social interactions.
2. Deficits in nonverbal communicative behaviors used for social interaction, ranging, for example, from poorly integrated verbal and nonverbal communication; to abnormalities in eye contact and body language or deficits in understanding and use of gestures; to a total lack of facial expressions and nonverbal communication.
3. Deficits in developing, maintaining, and understanding relationships, ranging, for example, from difficulties adjusting behavior to suit various social contexts; to difficulties in sharing imaginative play or in making friends; to absence of interest in peers.

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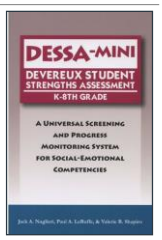
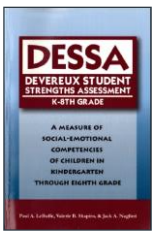
The DESSA Comprehensive System (https://apertureed.com/dessa-overview/)

- Universal screening with an 8-item, strength-based behavior rating scale, the *DESSA-mini* f(Naglieri, LeBuffe & Shapiro) or universal screening and ongoing progress monitoring
- 72-item *DESSA* (LeBuffe, Shapiro & Naglieri) to find specific areas of need
  - 72 items and 8 scales for K-8th graders
  - Completed by parents, teachers, and/or after-school / community program staff
  - Takes 15 minutes to complete
  - On-line administration, scoring and reporting available
- Normed on 2,475 children, grades K-8 from all 50 states and is closely representative of US Population





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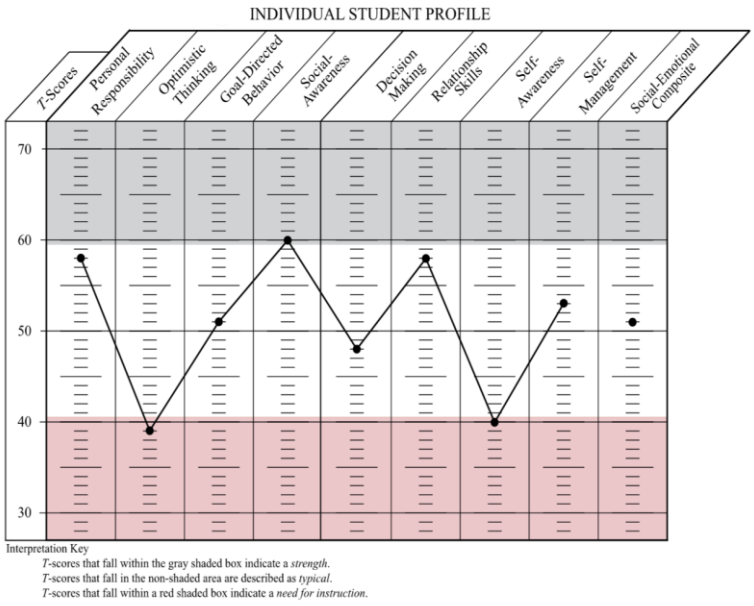
CASEL and DESSA Scales

- DESSA is closely aligned with CASEL except we expanded Responsible Decision-Making into three scales
- The scales are conceptual not factorially derived

Dessa Scales

- Dessa scales are T-scores where high scores are good.
- All scales are strength based
- Scales are used to better understand the person who was rated by Parent or Teacher



DESSA

Devereux Student Strengths Assessment (DESSA)

Group Profile Report

Record Form:	DESSA	**Program:**	DCRC
Date:	10/18/2015 to 6/27/2016	**Group:**	Fourth Grade
Site:	Wilson Elementary		
Rater Names:	Jennifer Robitaille		
Rating Periods:	A: Rating Period 1		

Scale Descriptions

PR	Personal Responsibility	**OT**	Optimistic Thinking	**GB**	Goal-Directed Behavior
SO	Social Awareness	**DM**	Decision Making	**RS**	Relationship Skills
SA	Self-Awareness	**SM**	Self-Management	**SEC**	Social-Emotional Composite

Name	Rating Date	Rating Period	Rater Name	Rater Contact	PR	OT	GB	SO	DM	RS	SA	SM	SEC
B, Mikayla	10/19/2015	A	Jennifer Robitaille	Teacher	44	69	30	45	43	44	30	45	43
C, Simon	10/19/2015	A	Jennifer Robitaille	Teacher	47	40	47	29	48	45	52	43	43
D, Isabella	10/19/2015	A	Jennifer Robitaille	Teacher	50	51	51	45	48	52	52	69	53
G, Tyler	10/19/2015	A	Jennifer Robitaille	Teacher	63	30	69	64	65	62	67	66	61
K, Charles	10/19/2015	A	Jennifer Robitaille	Teacher	45	49	61	41	31	37	35	32	40
K, Michael	10/19/2015	A	Jennifer Robitaille	Teacher	63	49	29	45	48	53	65	66	53
L, William	10/19/2015	A	Jennifer Robitaille	Teacher	48	32	28	31	31	46	34	30	33
M, Braedon	10/19/2015	A	Jennifer Robitaille	Teacher	54	51	51	51	57	54	59	49	54
M, Christina	10/19/2015	A	Jennifer Robitaille	Teacher	51	49	67	69	65	72	67	68	63
N, Eliza	10/19/2015	A	Jennifer Robitaille	Teacher	47	45	29	66	46	45	65	44	49
P, Sara	10/19/2015	A	Jennifer Robitaille	Teacher	50	51	51	54	48	52	44	69	53
X, Jessica	10/19/2015	A	Jennifer Robitaille	Teacher	54	39	49	56	48	58	40	53	50
Y, Cori	10/19/2015	A	Jennifer Robitaille	Teacher	50	53	45	41	57	30	48	52	47

DESSA Intervention Strategies

- Provided as part of Apperson EvoSEL assessment platform
- 5 different levels of strategies for each of the eight DESSA scales
  - Teacher Reflection & Action
  - Universal
  - Group
  - Individual Student
  - Home
- 3 different age groupings: primary, intermediate elementary, and middle school

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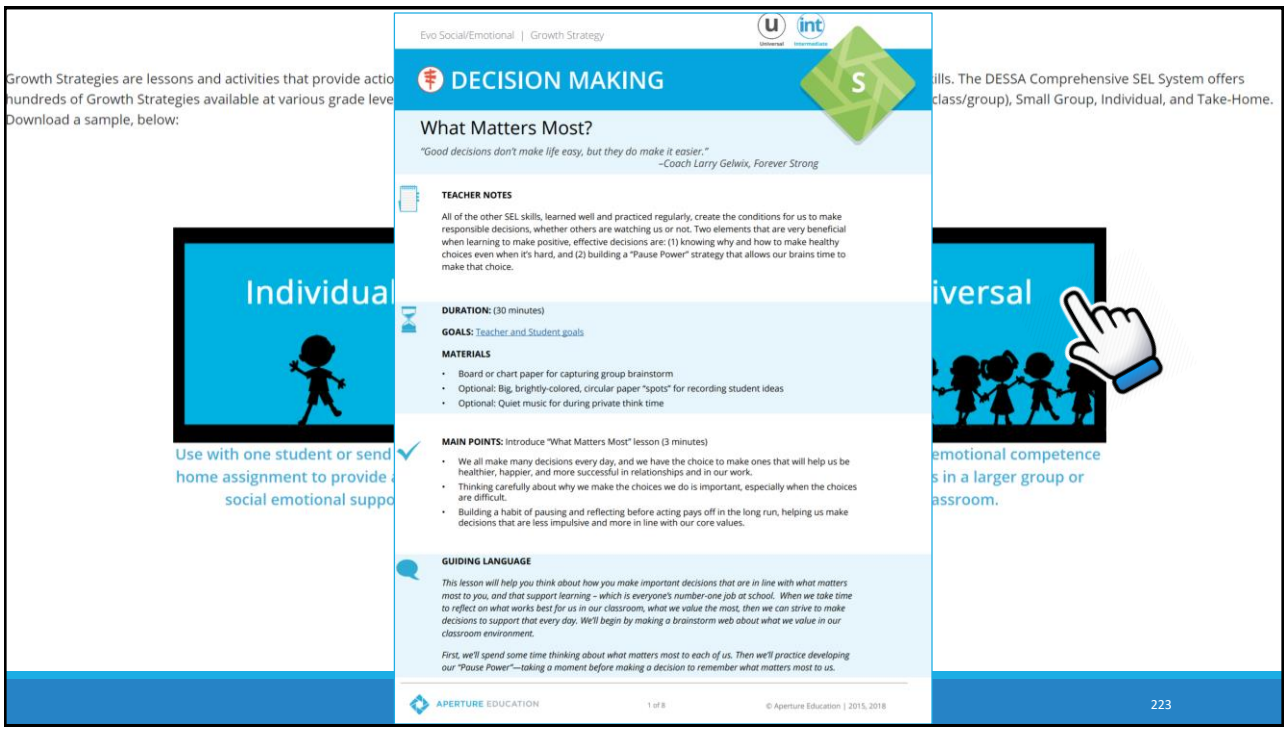

Growth Strategies are lessons and activities that provide actio ills. The DESSA Comprehensive SEL System offers hundreds of Growth Strategies available at various grade leve class/group), Small Group, Individual, and Take-Home. Download a sample, below:

Individual

Use with one student or send home assignment to provide social emotional suppo

iversal

emotional competence s in a larger group or assroom.

Evo Social/Emotional | Growth Strategy

DECISION MAKING

S

What Matters Most?

"Good decisions don't make life easy, but they do make it easier."
–Coach Larry Gelwix, Forever Strong

TEACHER NOTES

All of the other SEL skills, learned well and practiced regularly, create the conditions for us to make responsible decisions, whether others are watching us or not. Two elements that are very beneficial when learning to make positive, effective decisions are: (1) knowing why and how to make healthy choices even when it's hard, and (2) building a "Pause Power" strategy that allows our brains time to make that choice.

DURATION: (30 minutes)

GOALS: Teacher and Student goals

MATERIALS

- Board or chart paper for capturing group brainstorm
- Optional: Big, brightly-colored, circular paper "spots" for recording student ideas
- Optional: Quiet music for during private think time

MAIN POINTS: Introduce "What Matters Most" lesson (3 minutes)

- We all make many decisions every day, and we have the choice to make ones that will help us be healthier, happier, and more successful in relationships and in our work.
- Thinking carefully about why we make the choices we do is important, especially when the choices are difficult.
- Building a habit of pausing and reflecting before acting pays off in the long run, helping us make decisions that are less impulsive and more in line with our core values.

GUIDING LANGUAGE

This lesson will help you think about how you make important decisions that are in line with what matters most to you, and that support learning – which is everyone's number-one job at school. When we take time to reflect on what works best for us in our classroom, what we value the most, then we can strive to make decisions to support that every day. We'll begin by making a brainstorm web about what we value in our classroom environment.

First, we'll spend some time thinking about what matters most to each of us. Then we'll practice developing our "Pause Power"—taking a moment before making a decision to remember what matters most to us.

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If SEL is based on the brain (frontal lobes) does it relate to achievement?

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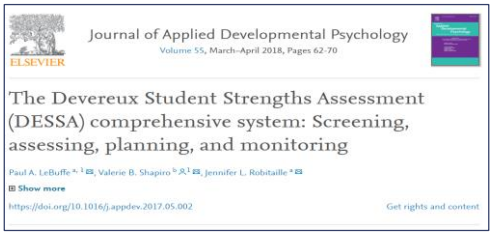
Prediction of Challenging Behaviors

- Allentown Social Emotional Learning Initiative
  - approximately 12,000 students K-8th grade (ages 6-16)
- All students screened in October with the DESSA-Mini
  - 9,248 students; 65% Hispanic, 17% Black, 14% white, 4% other.
- Random 5 students per classroom assessed in October with DESSA
- Analysis Sample (n=1875)

Students who were identified as having a Need for SEL Instruction on the 8-item DESSA-Mini in October were 4.5 times more likely to have a record of serious infraction by the end of the academic year as compared to those with typical scores.


Journal of Applied Developmental Psychology
Volume 55, March–April 2018, Pages 62-70

The Devereux Student Strengths Assessment (DESSA) comprehensive system: Screening, assessing, planning, and monitoring

Paul A. LeBuffe, Valerie B. Shapiro, Jennifer L. Robitaille

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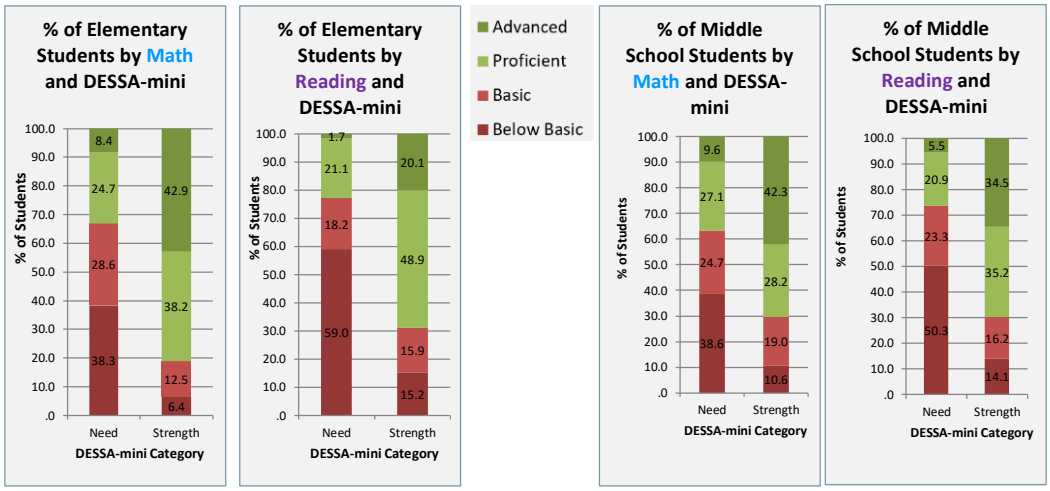
Relationship Between Academic skills and Social-Emotional Competence for **Elementary & Middle School Students**



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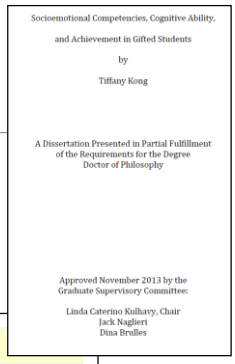
Kong (2013): IQ, SEL & Achievement

- Tiffany Kong studied CogAT, DESSA, and achievement scores for 276 elementary students in grades K-8
- All gifted based on scores on verbal, quantitative, or nonverbal test scores at least 97th percentile


Socioemotional Competencies, Cognitive Ability, and Achievement in Gifted Students

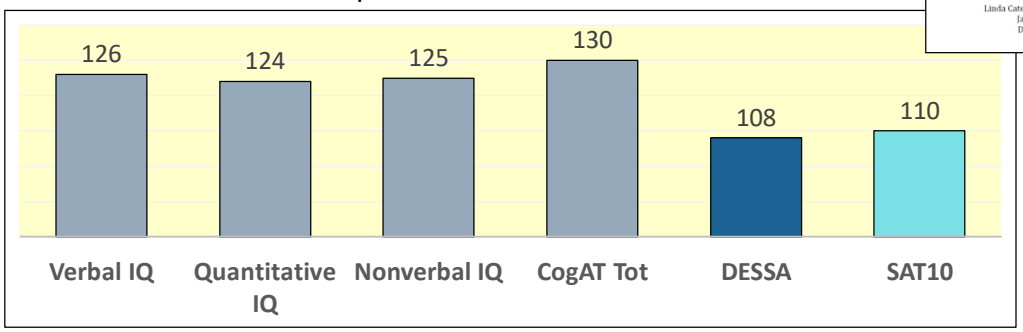
by

Tiffany Kong

A Dissertation Presented in Partial Fulfillment of the Requirements for the Degree Doctor of Philosophy

Approved November 2013 by the Graduate Supervisory Committee:

Linda Caterino Kulhavy, Chair
Jack Naglieri
Dina Brulles



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Kong (2013) SEL Predicts Beyond IQ (p. 44)

SEL predicted reading, language and math scores over IQ (CogAt) scores

Relations between Cognitive Ability, Socioemotional Competency,

Achievement Variables

Hierarchical regression analyses were conducted to determine whi

and subtests predicted the most variance in the dependent achievement va

Composite CogAT scores were not found to significantly predict composite

achievement, $R^2\Delta = .03$, $F(1, 121) = 3.27$, $p > .05$, reading, language, or mat

over-and-above the DESSA Total scores (Table 11). On the other hand, the

Total scores significantly predicted composite achievement, $R^2\Delta = .05$, $F(1,$

6.99, $p < .05$; language scores, $R^2\Delta = .03$, $F(1, 121) = 4.26$, $p < .05$; and math scores,

$R^2\Delta = .05$, $F(1, 121) = 6.09$, $p < .05$, over-and-above the composite CogAT scores.

I suggest that DESSA correlated with school success because it reflects PLANNING

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Conclusions

Reinventing The Concept of Intelligence: What it is & What it is not

- Intelligence is better described as the four PASS neurocognitive abilities which are the foundation of success
- You CAN improve students' use of PASS abilities and increase academic and life success
- Helping students be aware of the power of their BRAIN will change… EVERYTHING !

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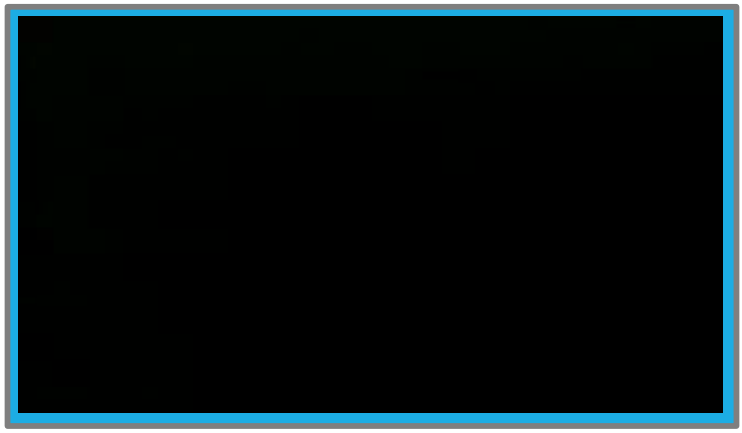
Crazy Ones…start a movement!



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Thank You!

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