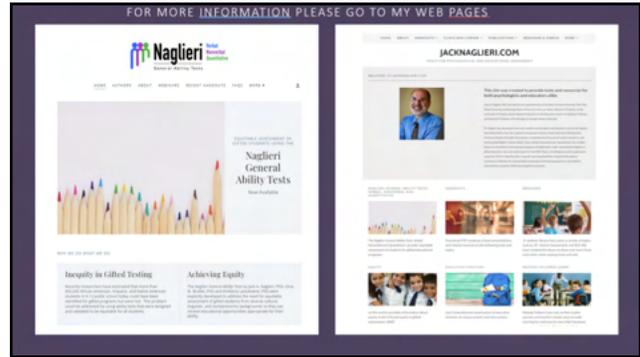


# Equitable Assessment Using the PASS Theory & Cognitive Assessment System-2<sup>nd</sup> Edition

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[https://youtube.com/channel/UCtH7c827V-wfnda6\\_XNdosew](https://youtube.com/channel/UCtH7c827V-wfnda6_XNdosew)

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 Senior Research Scientist Devereux  
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## Disclosures

Executive Function	Social Emotional	Autism & Impairment	Gifted Identification	PASS Neurocognitive Theory: Assessment & Intervention Handouts

Coming 2022  
 CAS2 Online Admin & Scoring

## The BIG picture

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

## Ideas to Consider

- My Professional Journey**
  - An Awakening About Traditional Intelligence Tests
- A Theory Based on Brain Function**
  - Thinking vs Knowing and Social Justice
- From PASS to CAS2**
  - A Different View of People
- Research Update**
  - PASS and Equity – Measure Thinking not Knowing
  - To g or not to g
- Eligibility Determination**
  - What to use
- Reasons To Change**
  - Validity of PASS Theory

## Traditional IQ and Achievement Tests

- When I started working as a school psychologist in 1975...I noticed that parts of the intelligence tests we used were VERY similar to parts of the achievement tests
- In fact the Peabody Individual Achievement Test (1970) had a General Information and Arithmetic subtests JUST LIKE THE WISC! We noticed that parts of the WISC we were administering was VERY similar to parts of the achievement tests
- THAT DID NOT MAKE SENSE



1975 Charles Champagne Elementary, Bethpage, NY

## 1980 – First Academic Job @ NAU

- Lecture on Navajo Indians
  - Havasupai Reservation
- My work in equitable assessment began in 1982



- First Research
  - Naglieri, J. A. (1982). Does the WISC-R measure verbal intelligence for non-English speaking children? *Psychology in the Schools*, 19, 478-479.
- First Test
  - Matrix Analogies Tests Individual and Group administrations (1985)
- First Book on Gifted
  - Helping All Gifted Students Learn (Naglieri, Brulles & Lansdowne, 2009)



## Tests Created with Equity as a Goal

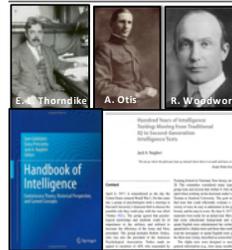
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- Naglieri, J. A. (2021). *Naglieri Ability Test: Nonverbal*. Markham, Canada: Multi-Health Systems.
- Naglieri, J. A. & Brulles, D. (2021). *Naglieri Ability Test: Verbal*. Markham, Canada: Multi-Health Systems.
- Naglieri, J. A. & Lansdowne, K. (2021). *Naglieri Ability Test: Quantitative*. Markham, Canada: Multi-Health Systems.

## Why do we measure intelligence the way we do?

The History of IQ tests

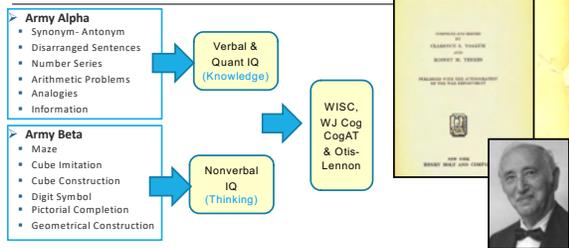


## Evolution of IQ <http://www.jacknaglieri.com/cas2.html>



- A group of psychologists met at Harvard in April of 1917 to construct an ability test to help the US military evaluate recruits (WWI)
- By July 1917 their research showed that the Army Alpha (Verbal & Quantitative) and Beta (Nonverbal) 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).
- This was the foundation of the Wechsler Scales – Verbal, Performance (Nonverbal) and Quantitative subtests as well as the Otis-Lennon and CogAT

## Alpha & Beta → Wechsler



## Knowledge is Included in "Ability" Tests

Stanford-Binet-5	WISC-V	WJ-IV	KABC-II	OLSAT	CogAT
<ul style="list-style-type: none"> <li>Verbal</li> <li>Knowledge</li> <li>Quantitative Reasoning</li> <li>Vocabulary</li> <li>Verbal Analogies</li> </ul>	<ul style="list-style-type: none"> <li>Verbal Comprehension</li> <li>Vocabulary, Similarities, Information &amp; Comprehension</li> <li>Fluid Reasoning: Figure Weights, Arithmetic</li> </ul>	<ul style="list-style-type: none"> <li>Comprehension Knowledge: Vocabulary &amp; General Information</li> <li>Fluid Reasoning: Number Series &amp; Concept Formation</li> <li>Auditory Processing: Phonological Processing</li> </ul>	<ul style="list-style-type: none"> <li>Knowledge / GC</li> <li>Riddles, Expressive Vocabulary, Verbal Knowledge</li> </ul>	<ul style="list-style-type: none"> <li>Verbal</li> <li>Following directions</li> <li>Verbal Reasoning</li> <li>Quantitative</li> <li>Verbal Arithmetic Reasoning</li> </ul>	<ul style="list-style-type: none"> <li>Verbal Scale</li> <li>Analogies</li> <li>Sentence Completion</li> <li>Verbal Classification</li> <li>Quantitative</li> <li>45 pages of oral instructions</li> </ul>

### Very Similar Items on “Different” Tests

WV Items from Cognitive and Achievement Tests

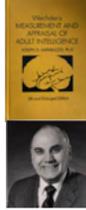
**Cognitive: Oral Vocabulary Subtest 1**

... vocabulary words ...

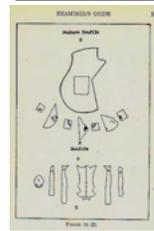
**Achievement: Reading Vocabulary Synonyms Subtest 17**

... synonyms ...

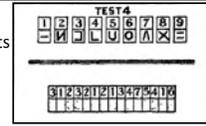
- Matarazzo (1972) wrote about the Wechsler Scales
  - "...Vocabulary is necessarily influenced by ... education and cultural opportunities (p. 218)"
  - when referring to the Arithmetic subtest, "...its merits are lessened by the fact that it is influenced by education (p. 203)."



### The US Army Beta Test (Nonverbal)



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



**Test 1.—Digit Symbol**

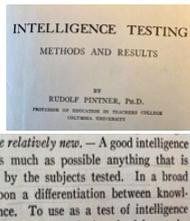
E. shows S. the record sheet, points to blank below 2 in the sample, then to symbol for 2 at top of page, writes in symbol, proceeds in the same way with the other parts of the sample, then gives S. pencil, points to space below 3 in the test, and nods affirmatively.

### Army Testing (Yoakum & Yerkes, 1920) & Pintner (1923)

METHODS AND RESULTS 19

**Why Beta?**

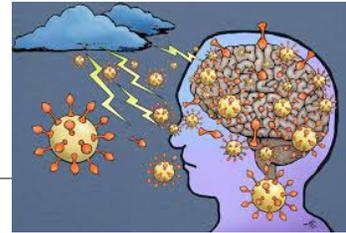
Men who fail in alpha are sent to beta in order that injustice by reason of relative unfamiliarity with English may be avoided. Men who fail in beta are referred for individual examination by means of what may appear to be the most suitable and altogether appropriate procedure among the varied methods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



1. Tests must be relatively new. — A good intelligence test must avoid as much as possible anything that is commonly learned by the subjects tested. In a broad sense this rests upon a differentiation between knowledge and intelligence. To use as a test of intelligence

### Learning loss due to school closures during the COVID-19 pandemic

Choose your intelligence test WISELY



### “You didn’t make me feel stupid”

- Dr. Naglieri,
  - I've been using the CAS2 for approximately nine months now and have been amazed by some of the results. Not only has ... the instrument provided useful information. But the student's reactions following the administration of the test have been even more remarkable.
  - Recently, I ... administer the CAS2 to a ... student placed in foster care. This young man was black, had significant medical problems, a history of trauma, multiple behavioral placements, multiple retentions ... a history of chronic absenteeism
  - When I arrived to test him he had been locked in the bathroom for 20 minutes. However, he agreed to meet with me and do his best.
  - The information the CAS2 provided me was far more useful in designing an effective program than the WISC-V. Even more important to me than any of the scores was what the student shared with me following the testing. The student said, "Mr. H, that testing wasn't as bad as I thought it was going to be and I appreciated that you didn't talk down to me or make me feel "stupid".
- Take care, Tom

Feb 25, 2021

#### My Professional Journey

- An Awakening About Traditional Intelligence Tests

#### A Theory Based on Brain Function

- Thinking vs Knowing and Social Justice

#### From PASS to CAS2

- A Different View of People

#### Research Update

- PASS and Equity – Measure Thinking not Knowing
- To g or not to g

#### Eligibility Determination

- What to use

#### Reasons To Change

- Validity of PASS Theory



Shift from Traditional To Second Generation Intelligence Tests

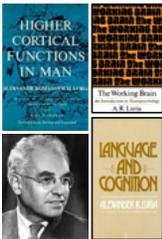
- Wechsler, et al
- Cognitive Assessment System 2<sup>nd</sup> Edition

### Intelligence as Neurocognitive Functions

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



### PASS Neurocognitive Theory



- **P**lanning = THINKING ABOUT HOW YOU DO WHAT YOU DECIDE TO DO
  - **A**ttention = BEING ALERT AND RESISTING DISTRACTIONS
  - **S**imultaneous = GETTING THE BIG PICTURE
  - **S**uccessive = FOLLOWING A SEQUENCE
- PASS** = 'basic psychological processes'
- NOTE: Easy to understand concepts!

### PASS Provides a Common Language

- Psychologists, teachers, parents, and students can all use a common language to describe abilities without the esoteric terms we have used for years – NO psychobabble

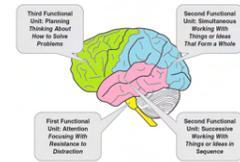


Figure 1.2 Three Functional Units and Associated Brain Structures  
From: *Essentials of CAS2 Assessment*. Naglieri & Otero, 2017

### CAS2 Measures Thinking (PASS) 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



### Neuropsychological Correlates of PASS

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



### PASS Theory Based on Brain Function – Planning

Figure 1.2 Three Functional Units and Associated Brain Structures  
From: *Essentials of CAS2 Assessment*. Naglieri & Otero, 2017

25

### 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
- Math calculation, written expression, social contexts, life success

26

### 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"

27

### 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 carries 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?	<input type="checkbox"/>				
2. evaluate his or her own actions?	<input type="checkbox"/>				
3. produce several ways to solve a problem?	<input type="checkbox"/>				
4. have many ideas about how to do things?	<input type="checkbox"/>				
5. have a good idea about how to complete a task?	<input type="checkbox"/>				
6. solve a problem with a new solution when the old one did not work?	<input type="checkbox"/>				
7. use information from many sources when doing work?	<input type="checkbox"/>				
8. effectively solve new problems?	<input type="checkbox"/>				
9. have well-described goals?	<input type="checkbox"/>				
10. consider new ways to finish a task?	<input type="checkbox"/>				

Planning Raw Score

28

### 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)

29

### 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.

30

### PASS Theory Based on Brain Function — Attention

Figure 1.2 Three Functional Units and Associated Brain Structures  
From: *Essentials of CAS2 Assessment*, Naglieri & Otero, 2017

31

### PASS Theory: Attention

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

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

32

### Expressive Attention – Italian and Korean versions

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

빨강	파랑	초록	노랑
노랑	초록	빨강	파랑
빨강	노랑	노랑	초록
초록	파랑	초록	빨강
초록	노랑	빨강	노랑

33

### CAS2: Rating Scale Attention

Directions for Items 21–38. 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?	<input type="checkbox"/>				
22. stay with one task long enough to complete it?	<input type="checkbox"/>				
23. not allow the actions or conversations of others to interrupt his or her work?	<input type="checkbox"/>				
24. stay on task easily?	<input type="checkbox"/>				
25. concentrate on a task until it was done?	<input type="checkbox"/>				
26. listen carefully?	<input type="checkbox"/>				
27. work without getting distracted?	<input type="checkbox"/>				
28. have a good attention span?	<input type="checkbox"/>				
29. listen to instructions or directions without getting off task?	<input type="checkbox"/>				
30. pay attention in class?	<input type="checkbox"/>				

Attention Raw Score

34

Attention

READING COMPREHENSION IS DIFFICULT BECAUSE OF THE SIMILARITY OF THE OPTIONS

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.

35

### PASS Theory Based on Brain Function — Successive Processing

Figure 1.2 Three Functional Units and Associated Brain Structures  
From: *Essentials of CAS2 Assessment*, Naglieri & Otero, 2017

36

### PASS Theory: Successive

- Successive processing is a basic psychological process we use to manage stimuli in a specific serial order
  - Stimuli form a chain-like progression
  - Recall a series of words
  - Decoding words
  - Letter-sound correspondence
  - Phonological tasks
  - Understanding the syntax of sentences
  - Comprehension of written instructions

Recall of Numbers in Order  
Successive Processing

### 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?**

### 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.

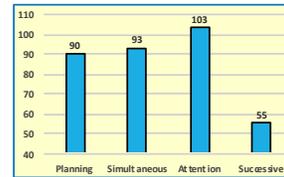
During the past month, how often did the child or adolescent ...

	Never	Rarely	Sometimes	Frequently	Always
31. recall a phone number after hearing it?	1	2	3	4	5
32. remember a list of words?	1	2	3	4	5
33. sound out hard words?	1	2	3	4	5
34. correctly repeat long, new words?	1	2	3	4	5
35. remember how to spell long words after seeing them once?	1	2	3	4	5
36. imitate a long sequence of sounds?	1	2	3	4	5
37. recall a summary of ideas word for word?	1	2	3	4	5
38. repeat long words easily?	1	2	3	4	5
39. repeat sentences easily, even if unsure of their meaning?	1	2	3	4	5
40. follow three to four directions given in order?	1	2	3	4	5

Successive Raw Score

### PASS and Handwriting

- Acquisition of handwriting demands Successive processing



**Two Five Handwriting, 1991**

\*Subject shall not be free regarding an establishment of religion, or prohibiting the free exercise thereof, or abridging the freedom of speech, or of the press, or the right of the people peaceably to assemble, and to petition for redress of grievances.\*

Directions: Read the Case Background and the First Handwriting. Do you think the subject has the right to wear symbolic speech or do people have the right to use symbolic speech to protest government?

Answer: I do not think the Case Background and the First Handwriting. Do you think the subject has the right to wear symbolic speech or do people have the right to use symbolic speech to protest government?

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

### PASS Theory Based on Brain Function - Simultaneous Processing

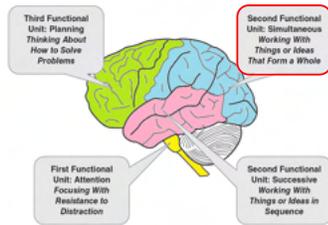


Figure 1.2 Three Functional Units and Associated Brain Structures  
From: Essentials of CAS2 Assessment. Naglieri & Otero, 2017

### PASS Theory: Simultaneous

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

Which picture shows a boy behind a girl?

### 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 situation things as a whole.

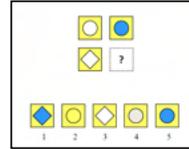
During the past month, how often did the child or adolescent ...

	Never	Seldom	Sometimes	Often
11. find his/her designs?	1	2	3	4
12. figure out how parts of a design go together?	1	2	3	4
13. classify things into groups correctly?	1	2	3	4
14. work well with patterns and designs?	1	2	3	4
15. see how objects and ideas are alike?	1	2	3	4
16. work well with physical objects?	1	2	3	4
17. like to use visual materials?	1	2	3	4
18. see the links among several things?	1	2	3	4
19. show interest in complex shapes and patterns?	1	2	3	4
20. recognize faces easily?	1	2	3	4

Simultaneous Raw Score

### Thinking vs Knowing

Solving these analogies demands the same kind of thinking

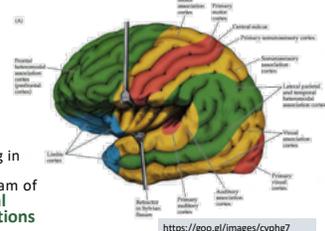


Girl is woman as boy is to \_\_\_\_?

C<sup>7</sup> is to F as E<sup>7</sup> is to \_\_\_\_?

3 is to 6 as 4 is to \_\_\_\_?

### 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 portions on the brain image)

<https://goo.gl/images/cyphg?>

### PASS → CAS2



- My Professional Journey**
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### How to Measure PASS with CAS2

	20 min	40 min	60 min
<b>CAS2 Core &amp; Extended English &amp; Spanish for comprehensive Assessment</b>	<b>CAS2 Rating Scale</b> (4 subtests)	<b>CAS2 Brief</b> (4 subtests 20 minutes)	<b>CAS2 Core</b> (8 subtests 40 minutes)
<b>CAS2 Brief for re-evaluations, instructional planning, gifted screening</b>	Total Score Planning Simultaneous Attention Successful	Total Score Planning Simultaneous Attention Successful	Full Scale Planning Simultaneous Attention Successful Supplemental Scales Executive Function Working Memory Verbal / Nonverbal Visual / Auditory Speed / Fluency
<b>CAS2 Rating Scale for teacher ratings</b>	Cognitive Assessment System: Rating Scale	Cognitive Assessment System: Brief	Cognitive Assessment System: Full Scale
<b>CAS2: Online coming soon</b>	Available in Spanish	Available in Spanish	Available in Spanish

### CAS2 for (Ages 5-18 yrs.)

**NEW! CAS2 Digital (English and Spanish) coming in 2021 with integrated scoring and narrative report**

### CAS2 Online Score & Report

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

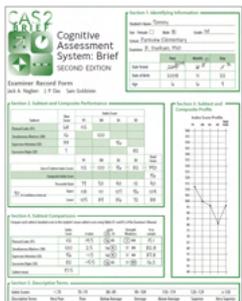
- Enter data at the subtest level or enter subtest raw scores
- Online program converts raw scores to standard scores, percentiles, etc. for all scales.
- A narrative report with graphs and scores is provided



### CAS2: Brief for Ages 4-18 years

For special educators and others with some assessment training

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



### CAS2: Brief

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

Figure 1.1. Sample of page 1 of the CAS2: Brief Examiner Record Form, copyright by Pro-Ed.

### Alternative High School

- Small school in medium sized city in the west
- Special education faculty administered CAS2: Brief to their students and found nearly ALL had a weakness in some PASS area
- Many undetected learning disabilities are suggested by these data

Item	CAS2: Brief Standard Scores			
	Planning	Attention	Simultaneous	Successive
1	93.0	81	103	128
2	84	82	84	78
3	81	81	87	100
4	81	82	87	80
5	83	78	88	80
6	80	82	100	78
7	87	87	87	85
8	88	88	101	85
9	88	103	101	85
10	88	88	88	85
11	88	81	88	85
12	88	88	103	128
13	88	82	82	85
14	103	83	82	85
15	87	88	100	118
16	84	88	89	90
17	84	88	87	123
18	85	108	100	75
19	85	88	88	85
20	75	88	88	118
21	78	114	114	110
22	117	85	100	85
23	88	82	82	85
24	88	148	108	118
25	88	88	78	85
26	88	74	82	78
27	88	78	75	85
28	138	83	83	100
29	88	88	88	85
30	88	128	88	121
31	88	88	88	85
32	88	88	78	85
33	88	88	88	85
34	88	88	88	85
35	88	88	88	85
36	88	88	88	85
37	88	88	88	85
38	88	88	88	85
39	88	88	88	85
40	88	88	88	85
M	83.8	81.2	89.2	88.8
SD	20.1	18.8	12.4	20.4

### 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



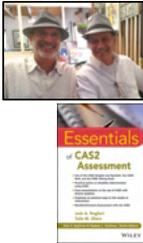
### CAS2 Rating Scales

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

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



55

Elephant in the room

- Traditional intelligence tests require too much knowledge
  - We should be measuring THINKING (intelligence) in a way that is not dependent upon academic skills like vocabulary and arithmetic
- Traditional intelligence tests were not developed on the basis of a theory of intelligence (i.e. the definition of thinking)
  - Theory defines what a test of intelligence should test
  - Theory provides the basis of test interpretation
  - It is the test authors' responsibility to inform the user how to interpret the intelligence test scores NOT the user

56

CASE by Tulio Otero: ALEJANDRO (C.A. 7-0 GRADE 1)

REASON FOR REFERRAL

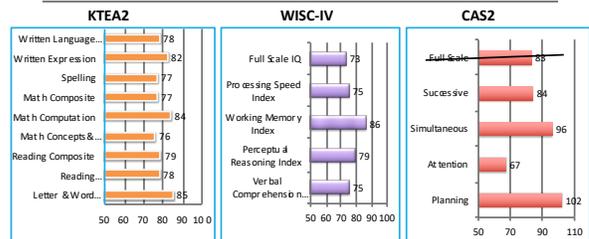
- Does he have ID?
  - Could not identify letters/sounds
  - October. Could only count to 39
  - All ACCESS scores of 1
- Behavior:
  - Difficulty following directions
  - Attention concerns
  - Refusal/defiance



Note: this is not a picture of Alejandro

57

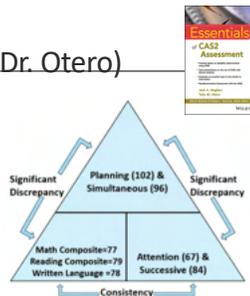
WISC-IV ASSESSMENT



58

Alejandro and PASS (by Dr. Otero)

- Alejandro is not a slow learner.
- He has good processing scores:
  - Simultaneous = 96 and Planning = 102
- He has a "disorder in one or more of the basic psychological processes"
  - Attention = 67 and Successive = 84
- Using the Discrepancy Consistency Method (1999, 2017) he meets criteria for SLD (see Naglieri & Otero, 2017).



59

Intervention Protocol (Naglieri & Kryza, 2019)

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

60

## Be Intentional and Transparent

- Give Alejandro the PASS handouts
  - "The test showed that your brain is strong in seeing the **BIG PICTURE** (Simultaneous Processing) and recognizing sequences. (Successive Processing) Does that make sense to you?"
- Explain to him the PASS areas that are challenges for him
  - The part of your brain that makes learning challenging for you is the part that **PLANS** (PFC).
  - We're going to work on using your strengths and helping you develop your **PLANNING** skills.



61

## Your Questions or Thoughts?



62

## CAS2 is Different



- My Professional Journey**
  - An Awakening About Traditional Intelligence Tests
- A Theory Based on Brain Function**
  - Thinking vs Knowing and Social Justice
- From PASS to CAS2**
  - A Different View of People
- Research Update**
  - PASS and Equity – Measure Thinking not Knowing
  - To g or not to g
- Eligibility Determination**
  - What to use
- Reasons To Change**
  - Validity of PASS Theory

63

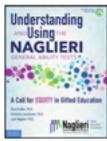
## Differences in Mean Scores = Impact

- 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* and ...
- And ... **if a person has had limited opportunities to learn the content in a test of intelligence, that test may be considered unfair** if it penalizes students for not knowing the answers **even if the norming data do not demonstrate test bias.**



64

## Race and Ethnic Differences for Ability Tests that Demand Knowledge and those that require minimal Knowledge



From: Brulles, O., Larsooene, K. & Naglieri, J.A. (2022). Understanding and Using the Naglieri General Ability Tests: A Call to Equity in Gifted Education. Minneapolis, MN: Free Spirit Publishing.

Race and Ethnic Standard Score Differences Across Intelligence Tests	By Race	By Ethnicity
<b>Tests that require knowledge</b>	<b>Mn = 11.5</b>	<b>Mn = 9.2</b>
Otis-Lennon School Ability Test (district wide)	13.6	
Stanford-Binet IV (normative sample)	12.6	
WISC-V (normative sample)	11.6	
WI-III (normative sample)	10.9	10.7
CogAT7 (Nonverbal scale)	11.8	7.6
WISC-V (statistical controls normative sample)	8.7	
<b>Tests that require minimal knowledge</b>	<b>Mn = 4.1</b>	<b>Mn = 2.6</b>
K-ABC (normative sample)	7.0	
K-ABC (matched samples)	6.1	
CAS-2 (normative sample)	6.3	4.5
CAS (statistical controls normative sample)	4.8	4.8
CAS-2 (statistical controls normative sample)	4.3	1.8
CAS-2 Brief (normative samples)	2.0	2.8
NNAT (matched samples)	4.2	2.8
Naglieri General Ability Test-Verbal	2.2	1.6
Naglieri General Ability Test-Nonverbal	1.0	1.1
Naglieri General Ability Test-Quantitative	3.2	1.3

Note: The Naglieri General Ability Tests were approved by the Gifted/Talented/Advanced Ability Test by Adams and Thomas (2002). Standard Score by Brulles and Larsooene (2022). Multiple standard score references by Brulles & Larsooene (2022) and other references by Brulles, Larsooene, & Naglieri (2022). Copyright © 2022 by Free Spirit Publishing. All rights reserved. This work is licensed under a Creative Commons Attribution-NonCommercial-ShareAlike 4.0 International License. For more information, visit www.free-spirit.com.

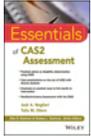
## PASS Validity

- Measures of neurocognitive processes do not have academic content which is great for fair assessment, but does it limit the power of processing scores to correlate with achievement?



### Correlations: We can do better!

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



Test Scores	Average Correlation	
	All Scales	Scales without achievement
WISC-IV	.53	.47
WISC-IV CQG	.54	.50
WISC-IV ACH	.53	.48
CAS	.59	

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

### PASS Research



- "The results clearly show that when CAS Full Scale is used it correlates **.60 with reading** and **.61 with mathematics.**"
- "These correlations are significantly stronger ... than the correlations reported in previous meta-analysis for other measures of intelligence (e.g., Peng et al., 2019; Roth et al., 2015)...(e.g., WISC) that include tasks (e.g., Arithmetic, Vocabulary)..."
- "if we conceptualize intelligence as ... cognitive processes that are linked to the functional organization of the brain" it leads to significantly higher relations with academic achievement."
- "and these processes have direct implications for instruction and intervention..."

Georgiou, G., Guo, K., Naveenkumar, N., Vieira, A. P. A., & Das, J. P. (2019). PASS theory of intelligence and academic achievement: A meta-analytic review. *Intelligence*, 79.

### 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. 23, No. 3, 435-444

Jack A. Naglieri  
George Mason University

Taha Otero  
Columbia College, Elgin Campus

Rehana DeLander  
George Mason University

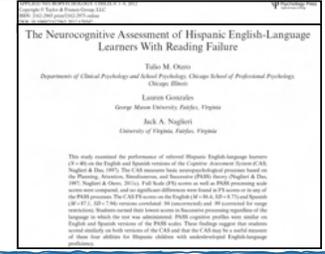
Holly Mathis  
Virginia Commonwealth University

	CAS English		CAS Spanish		d-ratio	Correlations
	Mean	SD	Mean	SD		
Planning	92.6	13.1	92.6	13.4	.00	.56
Simultaneous	89.0	12.8	93.0	13.7	-.30	.50
Attention	94.8	13.9	95.1	13.5	-.02	.58
Successive	78.0	13.1	83.1	12.6	-.40	.42
Full Scale	84.6	13.6	87.6	13.8	-.22	.56

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

### 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



### Wechsler vs CAS for Students with ID

- **WISC-III**
  - **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 resulting in Full Scale scores low enough to qualify as ID
- **CAS**
  - **Black** children earned **higher** scores on CAS than on the WISC-III because CAS DOES NOT HAVE TESTS OF KNOWLEDGE
  - **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, 106, No. 4, 239-257

**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 Bojahn  
The Ohio State University

### Illinois School District U-46

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

The district with 42% Hispanics but only 2% of students in gifted were Hispanic.



On July 11, 2013, Judge Robert Gettleman issued a decision holding that District U-46 intentionally discriminated against Hispanic students specific to their gifted programming (placement), and found problems with policies and instruments 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

## California

Many of you may already be familiar with the CASI. Use of the CASI with an African-American student was successfully defended by our office before the Office of Administration (OAO). Further in 2006, the Special Education Department of the California Department of Education presented a list of acceptable tests for African-American children and the CASI was included. While the CASI is similar to the CASL, the CASI provides an even more accurate picture with minorities.

Since Larry P. was decided we can more accurately assess cognitive ability. When education are developing educational programming for students, a more comprehensive and accurate picture of the student will lead to more successful Individualized Education Programs. In lieu of evidence assessment through interviews and surveys about the student, we recommend using the CASI or other similar options. If you would like a list of similar options, one is available in footnote 4 or you may contact our office.

If you need any further assistance or advice, please feel free to contact our office.

-STEPHANIE VIRREY GUTCHER

This very difference - that the CASI is not reliant on knowledge and the IQ - is the reason these conventional tests are acceptable for assessing any student. The CASI correlates strongly to a student's cognitive ability than the IQ test, although it uses the achievement component. Moreover, the CASI identifies cognitive processing weaknesses with greater clarity than almost any other assessment tool.

73

## Academic Learning Loss & COVID

- COVID-19 has deepened the impact of disparities in access and opportunity for students of color
- Students of color are even further behind than they were before the pandemic
- ELL students had the dual challenge of learning content and English.
- These students' **intellectual scores on traditional tests** will reflect that larger learning gap related to COVID

Education in a Pandemic: The Disparate Impacts of COVID-19 on America's Students. US Dept. of Ed-Office of Civil Rights. June, 21, 2021. <https://www2.ed.gov/about/offices/list/ocr/docs/20210608-impacts-of-covid19.pdf>

74

## American Psychological Association Apology

- 'APA recognizes the roles of psychology in promoting...racism, and the harms that have been inflicted on communities of color ...'
- 'Psychologists created and promoted the widespread application of psychological tests that have been used to disadvantage many communities of color'
- 'APA and its leadership failed to take action in response to calls from Black psychologists for an end to the misuse of tests developed by psychologists that perpetuated racial inequality... and the ways measurement of intelligence has been systemically used to create the ideology of White supremacy'

Apology to People of Color for APA's Role in Promoting, Perpetuating, and Failing to Challenge Racial, Discrimination, and Human Hierarchy in U.S.

Resolution adopted by the APA Council of Representatives on October 29, 2020

75

## IQ Tests Role in Promoting Racism

Lewis Terman – promoter of eugenics (Greek for good birth) and author of the Stanford-Binet (1916) wrote that his test would reveal "significant racial differences in general intelligence...which cannot be wiped out by any culture" and that identification of low-intelligence children and adults who would be involuntarily institutionalized and sterilized... would improve society. (p. 68, Brookwood, 2021)

THE ORPHANS OF DAVENPORT

TABLE II  
RACIAL DIFFERENCES IN THE INTELLIGENCE OF SCHOOL CHILDREN

IQ	DISTRIBUTION OF INTELLIGENCE QUOTIENTS BY RACE															
	American	Italian	Polish	English	Swedish	Scandinavian										
Total cases	200	143	497	270	56	543	72	11	41	39	11	14	14	11	11	11
Mean	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
SD	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
Coeff. of var.	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0

76

## Support for 'g'

...The small portions of variance uniquely captured by [subtests]... render the group factors [scales] of questionable interpretive value independent of g (FSIQ general intelligence)

Present CFA results confirm the EFA results (Canivez, Watkins, & Dombrowski, 2015); Dombrowski, Canivez, Watkins, & Beaqueam (2015); and Canivez, Dombrowski, & Watkins (2015).

The results of this study indicate that most cognitive abilities specified in John Carroll's three-stratum theory have little-to-no interpretive relevance above and beyond that of general intelligence.

77

## Research Supports 'g' but little More

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

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

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

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

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

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

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

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

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

78

### Support for PASS Scales

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

Gary L. Canivez  
Eastern Illinois University

Orthogonal higher-order factor structure of the Cognitive Assessment System (CAS; Naglieri & Das, 1997a) for the 5-7 and 8-17 age groups in the CAS standardization sample is reported. Following the same procedure as recent studies of other prominent intelligence tests (Chenoweth, Watkins, & Bergan, 2009; Canivez, 2008; Canivez & Watkins, 2010a, 2010b; Nelson & Canivez, 2011; Nelson, Canivez, Lindstrom, & Hatt, 2007; Watkins, 2001; Watkins, Wilson, Katz, Carbone, & Habala, 2006), three- and four-factor CAS exploratory factor extractions were analyzed with the Schmid and Leiman (1957) procedure using MacOrtho (Watkins, 2004) to assess the hierarchical factor structure by sequentially partitioning variance to the second- and first-order dimensions as recommended by Carroll (1993, 1995). Results showed that greater portions of total and common variance were accounted for by the second-order, global factor, but compared to other tests of intelligence CAS subtests measured less second-order variance and greater first-order Planning, Attention, Simultaneous, and Successive (PASS) factor variance.

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

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



**My Professional Journey**

- An Awakening About Traditional Intelligence Tests

**A Theory Based on Brain Function**

- Thinking vs Knowing and Social Justice

**From PASS to CAS2**

- A Different View of People

**Research Update**

- PASS and Equity – Measure Thinking not Knowing
- To g or not to g

**Eligibility Determination**

- What to use

**Reasons To Change**

- Validity of PASS Theory

CAS2 is Different

PASS

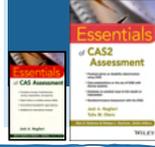


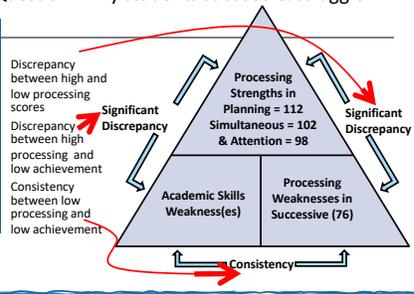
➤ Given that PASS scales CAN be interpreted it is important to know

- if these scales yield PROFILES that can be used in a Pattern of Strengths and Weaknesses approach to eligibility determination
- How exactly can the PASS profile be examined?

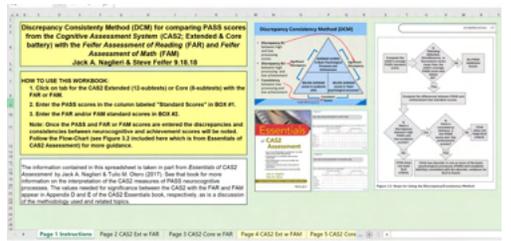
### Answering the Question: Why students succeed & struggle

• The Discrepancy Consistency Method (DCM) was first introduced in 1999 and most recently in 2017



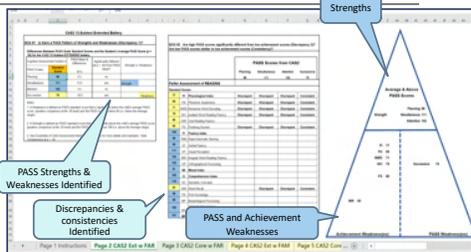


### FREE CAS2 PSW Analyzer for FAR, FAM, & FAW, WJ4, KTEA3, WIAT4



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

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



### Research on PASS Profiles

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

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

Lenora N. Haines\*, Rochelle N. Barkley, and Rick Curt D'Amico\*

**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 testing an individualized analysis of children's profiles as a test of ability was studied. The Planning, Attention, Simultaneous, and Successive (PASS) process measured by the Cognitive Assessment System was used to illustrate how profiles and/or could be conceptualized. These profiles were used to measure the PASS profiles for a nationally representative sample of 1,297 children from ages 7 through 17 years. This sample included children in both regular (n = 475) and special (n = 822) educational settings. Children with significant (special) PASS scores, valid IQ scores, and reading scores were included in the analysis.

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

### Research on PASS Profiles

"the CAS...yields information that contributes to the differential diagnosis of students suspected of having a learning disability in writing"

**Cognitive Assessment System Construct and Diagnostic Utility in Assessing ADHD**

Gary L. Carter  
Eastern Illinois University

Alison R. Gabary  
Purdue School District, Purdue, IN

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

Comprehensive abstract for paper should be submitted to Gary L. Carter, Ph.D., Department of Psychology, Eastern Illinois University, 612 South Main Street, Charleston, IL 61810. Dr. Carter can be reached via email at g.l.carter@eiu.edu or by mail: Gary L. Carter, Department of Psychology, Eastern Illinois University, 612 South Main Street, Charleston, IL 61810. This abstract is based on a manuscript previously submitted for publication in a peer-reviewed journal.

**DISCRIMINANT VALIDITY OF THE COGNITIVE ASSESSMENT SYSTEM FOR STUDENTS WITH WRITING EXPRESSION DISABILITIES**

Robert A. Johnson  
University of Missouri - Kansas  
University of Northern Iowa  
Kathleen M. Hayslett  
East Tennessee State University

"the present study demonstrated the potential of the CAS to correctly identify students who demonstrated behaviors consistent with ADHD diagnosis."

### Specific Learning Disabilities

Definition of a **specific learning disability** (e.g., dyslexia) is...

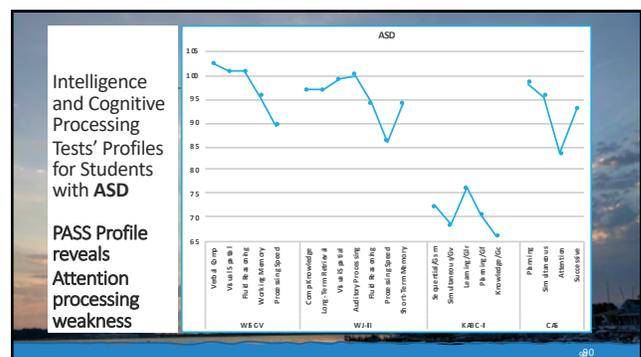
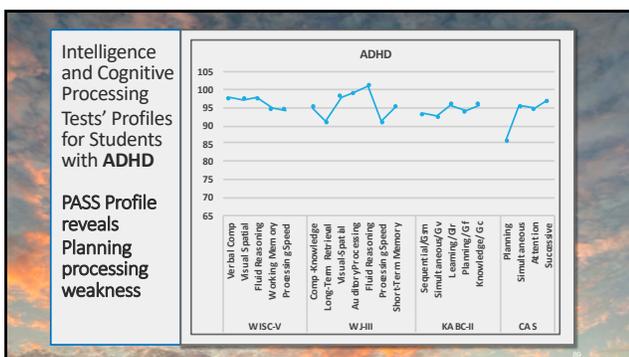
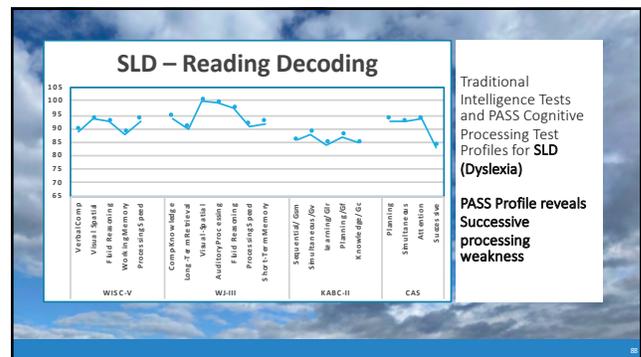
- Specific learning disability assessment involves intellectual and academic assessment typically by a school or private psychologist

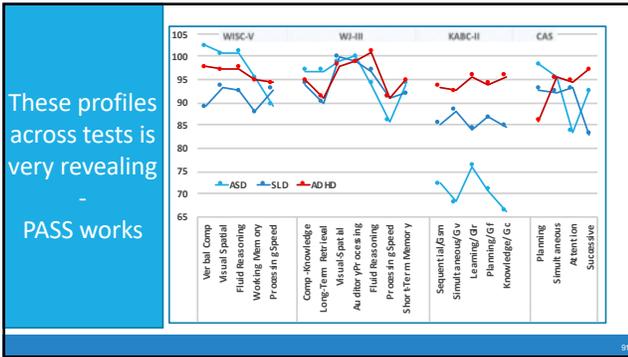
**1300 SPECIFIC LEARNING DISABILITY.—**

(A) IN GENERAL.—The term "specific learning disability" means a disorder in 1 or more of the basic psychological processes involved in understanding or in using language, spoken or written, which disorder may manifest itself in the imperfect ability to listen, think, speak, read, write, spell, or do mathematical calculations.

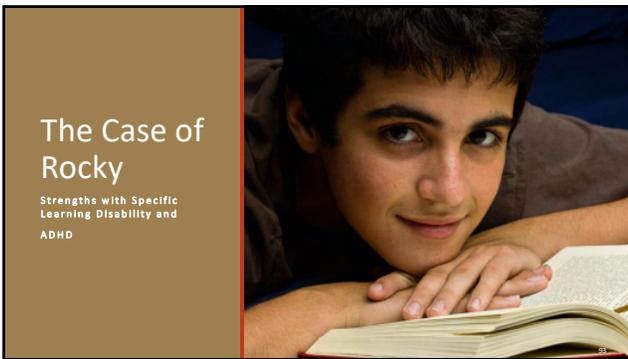
(B) DISORDERS INCLUDED.—Such term includes such conditions as perceptual disabilities, brain injury, minimal brain dysfunction, dyslexia, and developmental aphasia.

(C) DISORDERS NOT INCLUDED.—Such term does not include a learning problem that is primarily the result of visual, hearing, or motor disabilities, of mental retardation, of emotional disturbance, or of environmental, cultural, or economic disadvantage.





### PASS Scales = Pattern of Strengths & Weaknesses



### The case of Rocky

- ▶ Rocky<sup>1</sup> went to school in a large middle-class district
- ▶ In first grade Rocky was significantly below grade benchmarks in reading, math, and writing.
  - He received group reading instruction weekly and six months of individual reading instruction but minimal progress → retained
- ▶ By the middle of his second year in first grade he still struggling
  - decoding, phonics, and sight word vocabulary; math problems, addition, 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 in reading, writing, and math

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

### CAS2 Achievement Analyzer for PSW

Note: These **FREE** analyzers can be downloaded from [www.jacknaglieri.com](http://www.jacknaglieri.com)

Handouts on [jacknaglieri.com](http://jacknaglieri.com)  
TEACH THE STUDENT YOU ASSESSED ABOUT THEIR STRENGTHS TO MANAGE ANY WEAKNESSES

## Interventions for Rocky

- Using Plans to Overcome Anxiety
- Graphic Organizers for Connecting and Remembering Information
- Segmenting Words for Reading/Decoding and Spelling
- Chunking for Reading/Decoding

- 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.

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

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### 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 assigned to a brief cognitive strategy instruction for 10 days, which was designed to encourage

### 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.

## 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 math worksheet	10-20 minutes Planning Facilitation or Normal Instruction	10 minutes math worksheet
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**Experimental Group**  
19 worksheets with Planning Facilitation

vs.

**Control Group**  
19 worksheets with Normal Instruction

## Planning (Metacognitive) Strategy Instruction

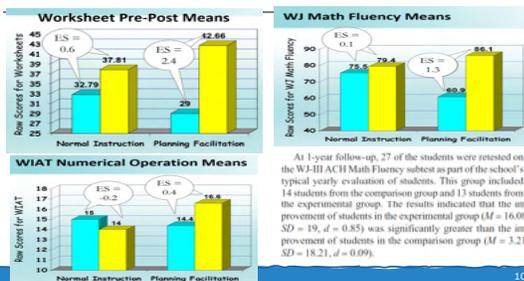
### Teachers Asked

- 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?

### Students Responded

- "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 draw lines to keep the columns straight"
- "I did the ones that took the least time"

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



## Summary of PASS Intervention Research in Essentials of CAS2



**10 REASONS WHY YOU SHOULD EMBRACE CHANGE**

- An Awakening About Traditional Intelligence Tests
- Thinking vs Knowing and Social Justice
- A Different View of People
- PASS and Equity – Measure Thinking not Knowing
- To g or not to g
- What to use
- Validity of PASS Theory

103

### Summary: PASS theory and CAS2 (see Naglieri & Otero, 2017)

1. The PASS scales on the CAS2 measure *thinking* (i.e. basic psychological processing) rather than *knowing* (e.g., vocabulary, arithmetic etc.), making the test good for assessment of diverse populations and those with limited educational opportunity.
2. PASS scores can be easily obtained in 20 minutes (using the 4-subtest CAS2 Brief), 40 minutes (using the 8-subtest Core Battery) or 60 minutes (using the 12-subtest Extended Battery), scored and a narrative reports provided using the online program.
3. PASS results are easy for teachers, parents and the students themselves to understand because the concepts can be explained in non-technical language.
4. The PASS theory and the CAS2 provide a way to both define and assess 'basic psychological processes' so that practitioners can obtain scores that are consistent with state and federal IDEA guidelines.
5. The PASS scores are strongly correlated to achievement, show distinct patterns of strengths and weaknesses, are very useful for intervention planning.
6. The CAS2 in combination with achievement (especially the FAR, FAM and/or FAW) provides examiners with a reliable and defensible Discrepancy Consistency Method to identify students with SLD.
7. Research has shown that PASS scores have relevance to instruction and intervention.
8. CAS2 is the most Equitable Assessment

104