How to Use a Pattern of Strengths and Weaknesses in PASS Neurocognitive Processes for SLD Identification and Intervention Planning

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Disclosures

➢ Basic psychological processes called PASS (Naglieri & Das, 1997) is used to reinvent the concept of intelligence as measured by the Cognitive Assessment System first (1997) and second (2014) editions

40 or 60 minutes   **20 minutes**

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Presentation Outline

➡ Introduction
- Using groups to stimulate thinking
- How traditional IQ has influenced us

➢ A new way of thinking about intelligence
- PASS theory defines basic psychological processes
  - Each PASS ability, case studies and interventions
- How to measure PASS neurocognitive processes

➢ Final thoughts

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➢ Core Groups
➢ Think Partners

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Core Groups → Deeper Learning

➢ **Groups of 3-5, First task decide who will be**
- **C**oach – Help the group address the topic
- **O**rganizer – Keep the group on task
- **R**ecorder – Keep notes on the conversation
- **E**nergizer – Focus the group !

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Think Partners → Deeper Learning

- Find a small group of 2-3 people
  - First introduce yourself
  - Tell something interesting about yourself
  - Why this session?
  - Your thoughts…

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My Background

- Interest in intelligence and instruction
- Experiences as a school Psychologist

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Traditional IQ and Achievement Tests

- 1975 Charles Champagne Elementary, Bethpage, NY

- Typical assessment
  - Draw A Person
  - Bender-Gestalt
  - WISC
  - Peabody Individual Achievement Test
  - Sentence Completion Test
  - Developmental history
  - other measures as needed

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Traditional IQ and Achievement Tests

- When I conducted my comprehensive evaluations, I noticed that parts of the WISC were VERY similar to parts of the achievement test I was giving
  - In fact the Peabody Individual Achievement Test (1970) had a General Information and Arithmetic subtests JUST LIKE THE WISC!
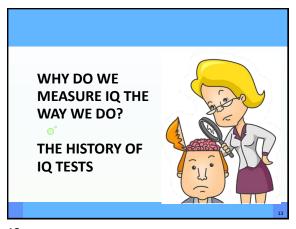- That is still true today…

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Thinking vs Knowing

We should NOT measure intelligence with tests that demand knowledge!
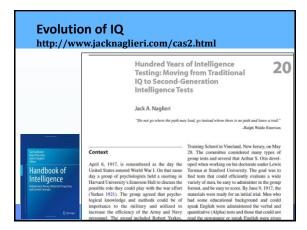
- Scales on IQ tests that are confounded by knowledge
  - WISC-V
    - Verbal Comprehension: Vocabulary, Similarities, Information & Comprehension
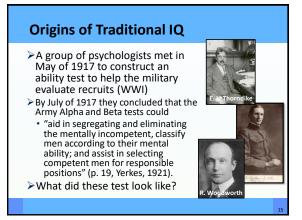   - Fluid Reasoning: Figure Weights, Picture Concepts, Arithmetic
  - WJ-IV
    - Comprehension Knowledge: Vocabulary & General Information
    - Fluid Reasoning: Number Series & Concept Formation
    - Auditory Processing: Phonological Processing

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Cognition or Knowledge?

I know that!

- What does the student have to **know** to complete a task?
  - This is dependent on *instruction*
- How does the student have to **think** to complete a task?
  - This is dependent on the *brain* – *'basic psychological processes'*
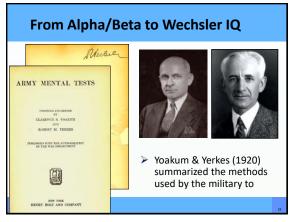- We must assess ability and achievement separately

I need a plan!

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WHY DO WE MEASURE IQ THE WAY WE DO?

THE HISTORY OF IQ TESTS

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Slide 14

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

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

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Jack A. Naglieri

"Do not go where the path may lead, go instead where there is no path and leave a trail."

–Ralph Waldo Emerson

Handbook of Intelligence

Context

April 6, 1917, is remembered as the day the United States entered World War I. On that same day a group of psychologists held a meeting in Harvard University's Emerson Hall to discuss the possible role they could play with the war effort (Yerkes 1921). The group agreed that psychological knowledge and methods could be of importance to the military and utilized to increase the efficiency of the Army and Navy personnel. The group included Robert Yerkes,

Training School in Vineland, New Jersey, on May 28. The committee considered many types of group tests and several that Arthur S. Otis developed when working on his doctorate under Lewis Terman at Stanford University. The goal was to find tests that could efficiently evaluate a wide variety of men, be easy to administer in the group format, and be easy to score. By June 9, 1917, the materials were ready for an initial trial. Men who had some educational background and could speak English were administered the verbal and quantitative (Alpha) tests and those that could not read the newspaper or speak English were given

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Origins of Traditional IQ

➢ A group of psychologists met in May of 1917 to construct an ability test to help the military evaluate recruits (WWI)

➢ By July of 1917 they concluded 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).

➢ What did these test look like?

E. L. Thorndike

R. Woodworth

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From Alpha/Beta to Wechsler IQ

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

Verbal & Quantitative

➢ Army Beta
  ▪ Maze
  ▪ Cube Imitation
  ▪ Cube Construction
  ▪ Digit Symbol
  ▪ Pictorial Completion
  ▪ Geometrical Construction

Nonverbal

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The First IQ TEST: Alpha (Verbal)

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

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

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The First IQ Test: Beta (Nonverbal)

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.

➢ There is no mention of measuring verbal and nonverbal intelligences

➢ Verbal tests posed a **social justice issue**

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From Alpha/Beta to Wechsler IQ

ARMY MENTAL TESTS

COMPILED AND EDITED
BY
CLARENCE S. YOAKUM
AND
ROBERT M. YERKES

PUBLISHED WITH THE AUTHORIZATION
OF THE WAR DEPARTMENT

NEW YORK
HENRY HOLT AND COMPANY

➢ Yoakum & Yerkes (1920) summarized the methods used by the military to
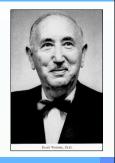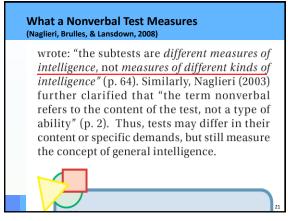
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Wechsler's Definition

➢ 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)"
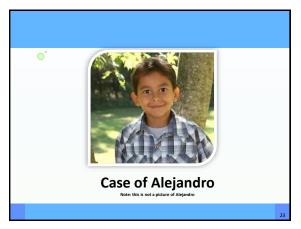
David Wechsler, Ph.D.

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What a Nonverbal Test Measures
(Naglieri, Brulles, & Lansdown, 2008)

wrote: "the subtests are *different measures of intelligence*, not *measures of different kinds of intelligence*" (p. 64). Similarly, Naglieri (2003) further clarified that "the term nonverbal refers to the content of the test, not a type of ability" (p. 2). Thus, tests may differ in their content or specific demands, but still measure the concept of general intelligence.

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Myth of Verbal IQ - Conclusions

➢ The lack of a clear distinction between ability and achievement tests has corrupted the very concept of "verbal ability"

➢ A child who does not have an adequately enriched educational experience (ELL, SLD, etc.) will be at disadvantage when assessed with so-called Verbal and Quantitative reasoning "ability" tests
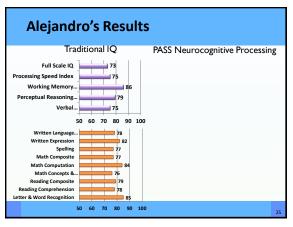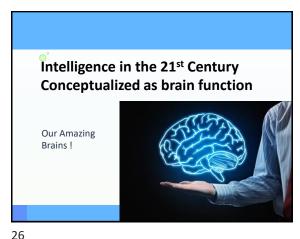
➢ SOLUTION ? **Re**invent intelligence

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Case of Alejandro
Note: this is not a picture of Alejandro
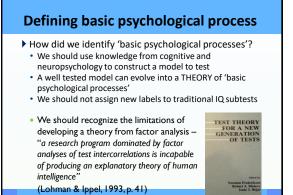
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CASE STUDY: ALEJANDRO (C.A. 7-0 GRADE 1)

REASON FOR REFERRAL

➢ 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

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Alejandro's Results

Traditional IQ | PASS Neurocognitive Processing

Full Scale IQ 73
Processing Speed Index 75
Working Memory... 86
Perceptual Reasoning... 79
Verbal... 75

Written Language... 78
Written Expression 82
Spelling 77
Math Composite 77
Math Computation 84
Math Concepts &... 76
Reading Composite 79
Reading Comprehension 78
Letter & Word Recognition 85

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Intelligence in the 21st Century Conceptualized as brain function

Our Amazing Brains !

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Defining basic psychological process

▶ How did we identify 'basic psychological processes'?
  • We should use knowledge from cognitive and neuropsychology to construct a model to test
  • A well tested model can evolve into a THEORY of 'basic psychological processes'
  • We should not assign new labels to traditional IQ subtests

  • We should recognize the limitations of developing a theory from factor analysis – "*a research program dominated by factor analyses of test intercorrelations is incapable of producing an explanatory theory of human intelligence*"
  (Lohman & Ippel, 1993, p. 41)

TEST THEORY FOR A NEW GENERATION OF TESTS

Edited by
Norman Frederiksen
Robert J. Mislevy
Isaac I. Bejar

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Defining basic psychological process

➢The term 'basic psychological processes' is a modern term for ability (or intelligence)
➢'basic psychological processes' provide us the means to function and acquire knowledge and skills which are measured separtely
  ▶ Tasks like reading decoding, phonological skills, or math calculation, are *not* examples of a cognitive process
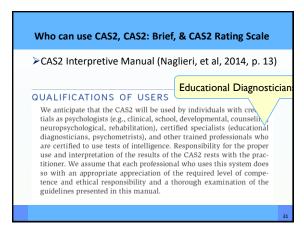
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PASS Neurocognitive Theory

➢**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 theory** is a way to measure neuro-cognitive abilities related to brain function

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PASS Comprehensive System
(Naglieri, Das, & Goldstein, 2014; Naglieri, Moreno & Otero (2017)

CAS2 Rating Scale (4 subtests)	CAS2 Brief (4 subtests)	CAS2 Core (8 subtests)	CAS2 Extended (12 subtests)	CAS2 Spanish (12 & 8 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* Executive Function Working Memory Verbal / Nonverbal Visual-Auditory Speed/Fluency	Cognitive Assessment System 2 Español

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Who can use CAS2, CAS2: Brief, & CAS2 Rating Scale

➢CAS2 Interpretive Manual (Naglieri, et al, 2014, p. 13)

QUALIFICATIONS OF USERS | Educational Diagnosticians

We anticipate that the CAS2 will be used by individuals with credentials as psychologists (e.g., clinical, school, developmental, counseling, neuropsychological, rehabilitation), certified specialists (educational diagnosticians, psychometrists), and other trained professionals who are certified to use tests of intelligence. Responsibility for the proper use and interpretation of the results of the CAS2 rests with the practitioner. We assume that each professional who uses this system does so with an appropriate appreciation of the required level of competence and ethical responsibility and a thorough examination of the guidelines presented in this manual.

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The Case of Alejandro

Putting everything in perspective

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Alejandro's Results

Traditional IQ

- Full Scale IQ — 73
- Processing Speed Index — 75
- Working Memory... — 86
- Perceptual Reasoning... — 79
- Verbal... — 75

50 60 70 80 90 100

- Written Language... — 78
- Written Expression — 82
- Spelling — 77
- Math Composite — 77
- Math Computation — 84
- Math Concepts &... — 76
- Reading Composite — 79
- Reading Comprehension — 78
- Letter & Word Recognition — 85

50 60 70 80 90 100

PASS Neurocognitive Processing

CAS2

- Full Scale — 83
- Successive — 84
- Simultaneous — 96
- Attention — 67
- Planning — 102

50 70 90 110

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Alejandro's Discrepancy Consistency Results

➢Alejandro is not a 'slow learner'
➢He as a specific learning disability
- Basic psychological processing disorders in Attention and Successive processing with academic failure
- He has good scores in Planning and Simultaneous processing
- He has had adequate educational instruction
➢How would we identify his SLD?

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Discrepancy Consistency Method (DCM)

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

Pattern of Strengths and Weaknesses Using the Discrepancy/Consistency Method for SLD Determination

Three methods for detecting a pattern of strengths and weaknesses (PSW) that can be used as part of the process of identifying a student with a specific learning disability (SLD) have been suggested by Naglieri in 1999, Hale and Fiorello in 2004, and by Flanagan, Ortiz, and Alfonso in 2007. These authors share the same goal: to present a procedure to detect a PSW in scores that can be used to identify an SLD (sometimes referred to as a third option; Zirkel & Thomas, 2010). Despite differences in the composition of the scores used and the definitions of what constitutes a basic psychological process, these methods all rely on finding a combination of differences as well as similarities in scores across academic and cognitive tests. Our approach to operationalizing a PSW is called the Discrepancy/Consistency Method (DCM) for the identification of SLD. Determining SLD is essentially based on the combination of PASS and achievement test scores. The method involves a systematic examination of variability of PASS and academic

DON'T FORGET 3.5

The essence of the Discrepancy/Consistency Method is two discrepancies and one consistency.

Discrepancy 1:
Significant variability among the PASS scores indicating a weakness in one or more of the basic psychological processes

Discrepancy 2:
Significant difference between high PASS scores and low achievement test scores

Consistency:
No significant difference between low PASS scores and low achievement

Essentials of CAS Assessment — Jack A. Naglieri

Essentials of CAS2 Assessment — Jack A. Naglieri, Tulio M. Otero — WILEY
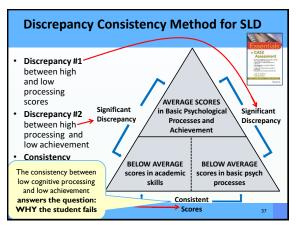
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Discrepancy Consistency Method

- The Discrepancy Consistency Method is used to determine if there is evidence of "a disorder in 1 or more of the basic psychological processes … which manifests itself in the imperfect ability to listen, think, speak, read, write, spell, or do mathematical calculations."
- The disorder in 1 or more basic psychological processes is found when a student shows a pattern of strengths and weaknesses in basic psychological processes, **and**…
- The imperfect ability to listen, think, speak, read, write, spell, or do mathematical calculations is found when a student shows a pattern of strengths and weaknesses in achievement
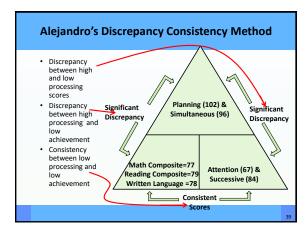- The result is two discrepancies and a consistency

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Discrepancy Consistency Method for SLD

- **Discrepancy #1** between high and low processing scores
- **Discrepancy #2** between high processing and low achievement
- **Consistency**

Significant Discrepancy

Significant Discrepancy

AVERAGE SCORES in Basic Psychological Processes and Achievement

BELOW AVERAGE scores in academic skills

BELOW AVERAGE scores in basic psych processes

The consistency between low cognitive processing and low achievement **answers the question: WHY the student fails**

Consistent Scores

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How to Determine a Disorder

PASS Scales NOT Subtests

➤ Two sets of PASS scores were studied
- Significant variation in relation to student's average has *instructional relevance*
- Significant variation in relation to student's average AND a standard score less than 90 (< 25th %tile) *supports designation as SLD*

Significant Weaknesses

| | Planning | Attention | Simultaneous | Successive |

PASS Profile: 114, 129, 95, 118
PASS Disorder: 104, 119, 85, 108

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Alejandro's Discrepancy Consistency Method

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

Significant Discrepancy

Significant Discrepancy

Planning (102) & Simultaneous (96)

Math Composite=77 Reading Composite=79 Written Language =78

Attention (67) & Successive (84)

Consistent Scores

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IDEA 2004

"(3) ADDITIONAL REQUIREMENTS.—Each local educational agency shall ensure that—
"(A) assessments and other evaluation materials used to assess a child under this section—

non discriminatory assessments

"(i) are selected and administered so as not to be discriminatory on a racial or cultural basis;
"(ii) are provided and administered in the language and form most likely to yield accurate information on what the child knows and can do academically, developmentally, and functionally, unless it is not feasible to so provide or administer;

valid and reliable assessment

"(iii) are used for purposes for which the assessments or measures are valid and reliable;
"(iv) are administered by trained and knowledgeable personnel; and
"(v) are administered in accordance with any instructions provided by the producer of such assessments;
"(B) the child is assessed in all areas of suspected disability;
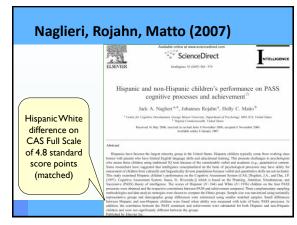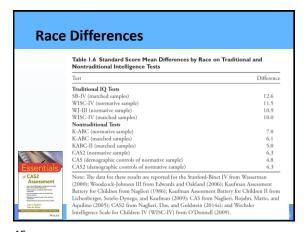"(C) assessment tools and strategies that provide relevant information that directly assists persons in deter-

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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

Jack A. Naglieri
George Mason University

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

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

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English & Spanish CAS

Means, *SDs*, *d*-ratios, Obtained and Correction Correlations Between the English and 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

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Otero, Gonzales, Naglieri (2012)

➢SLD and PASS scores

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Naglieri, Rojahn, Matto (2007)

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

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Race Differences

Table 1.6 Standard Score Mean Differences by Race on Traditional and Nontraditional Intelligence Tests

Test	Difference
Traditional IQ Tests	
SB-IV (matched samples)	12.6
WISC-IV (normative sample)	11.5
WJ-III (normative sample)	10.9
WISC-IV (matched samples)	10.0
Nontraditional Tests	
K-ABC (normative sample)	7.0
K-ABC (matched samples)	6.1
KABC-II (matched samples)	5.0
CAS2 (normative sample)	6.3
CAS (demographic controls of normative sample)	4.8
CAS2 (demographic controls of 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 and Oakland (2006); Kaufman Assessment Battery for Children from Naglieri (1986); Kaufman Assessment Battery for Children II from Lichenberger, Sotelo-Dynega, and Kaufman (2009); CAS from Naglieri, Rojahn, Matto, and Aquilino (2005); CAS2 from Naglieri, Das, and Goldstein (2014a); and Wechsler Intelligence Scale for Children IV (WISC-IV) from O'Donnell (2009).

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Core Groups → Deeper Learning

- Did PASS scores change your mind about Alejandro? How?
- What big "Ah Ha" did you have?
- Your thoughts…

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Think Partners → Deeper Learning

- Did PASS scores change your mind about Alejandro? How?
- What big "Ah Ha" did you have?
- Your thoughts…

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Presentation Outline

➢ Introduction
- Using groups to stimulate thinking
- How traditional IQ has influenced us

A new way of thinking about intelligence
- PASS theory defines basic psychological processes
  - Each PASS ability, case studies and interventions
- How to measure PASS neurocognitive processes

➢Final thoughts

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From IQ to Brain Function

➢ Learning is based on BRAIN function
- Wechsler (traditional IQ) was not based on the brain
- We can now view intelligence as neurocognitive processes based on brain function (A. R. Luria)

➢ **RE**invent understanding of intelligence based on the brain
- Measure brain function, not IQ
- Do not include achievement test questions
- Measure *thinking* not *knowledge*

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Intelligence as Neurocognitive Abilities

➢ In Das and Naglieri's first meeting (February 11, 1984) they proposed that intelligence was better REinvented as PASS processes and began development of the **C**ognitive **A**ssessment **S**ystem (Naglieri & Das, 1997).

- The CAS was the first intelligence *test* to be built on a specific *theory* of intelligence; and one defined as brain function

April 2018

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Intelligence as Neurocognitive Abilities

28 Cognitive Assessment System: Redefining Intelligence From a Neuropsychological Perspective

Jack A. Naglieri and Tulio M. Otero

INTRODUCTION

Handbook of
PEDIATRIC
Neuropsychology

Andrew S. Davis
Editor

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PASS & BRAIN FUNCTION

Third Functional Unit: Planning *Thinking About How to Solve Problems*

Second Functional Unit: Simultaneous *Working With Things or Ideas That Form a Whole*

First Functional Unit: Attention *Focusing With Resistance to Distraction*

Second Functional Unit: Successive *Working With Things or Ideas in Sequence*

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

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PASS Theory: **Planning**

▶ **Planning** is a neurocognitive process that a person uses to determine, select, and use efficient solutions to problems
- problem solving
- developing plans and using strategies
- retrieval of knowledge
- impulse control and self-control

➢ These can also be described as executive function, metacognition, strategy use

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Which Lemming has good Planning?

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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

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Planned Codes 1

- Jack jr at age 5
- Child fills in the codes in the empty boxes
- Children are encouraged to think of a good way to complete the page

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Planned Codes Page 2 Jack Jr age 10

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Math Strategies

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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Does a 13 month old Plan?

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Age 19 mos: Knowledge & Planning

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Planning Learning Curves

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

Role of PASS

Role of Knowledge & Skills

Maximum Use

Minimum Use

Over time and with effort

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

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The Case of Rocky

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

65

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

Significant Discrepancy

Processing Strengths in Simultaneous = 102 & Attention = 98

Significant Discrepancy

Academic Skills Weakness(es)

Processing Weaknesses in Planning (72) and Successive (76)

Consistent Scores

66

Interventions

- 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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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

68

Intervention Plan for Rocky – K Kryza

- 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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Intervention Plan for Rocky – K Kryza

Stop and THINK
Make a PLAN
Take **A**ction!
Review/Reflect/Revise
Ta da! (or) Try Again
Developed by Naglieri and Kryza, 2014

70

Learning & the Brain Summer Institute 2019
July 8-12 by Naglieri & Kryza

- https://www.learningandthebrain.com/Event-395/Neuroscience-and-the-Learning-Brain/
- In this highly interactive Institute, you will learn about the four PASS neurocognitive abilities that are critical to students' academic and social-emotional success and how to match those abilities to specific instructional methods. You will leave with readily implementable strategies to teach students to effectively self-regulate their own academic and social-emotional lives.

Jack A. Naglieri & Kathleen M. Kryza

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Married May 17, 2014

72

12

Think and Talk Time

➢ In your group, discuss how you might help students with low planning learn better

➢ Consider how he could self-assess his own needs and increase his use of strategies

➢ Your thoughts…

STOP &

73

74

PASS & BRAIN FUNCTION

Third Functional Unit: Planning *Thinking About How to Solve Problems*

Second Functional Unit: Simultaneous *Working With Things or Ideas That Form a Whole*

First Functional Unit: Attention *Focusing With Resistance to Distraction*

Second Functional Unit: Successive *Working With Things or Ideas in Sequence*

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

75

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

No Response

Response

No Response

76

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 being 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

77

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

78

READY ?

79

80

BLUE!

Expressive Attention - Italiano

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

81

Number Detection

➢ Items 1 - 4 have 180 numbers on each page
➢ Each child is given two pages
➢ Targets appear at the top of the page
➢ Score for targets found and

false detections

82

Attention

Reading comprehension is difficult because of the similarity of the options

83

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.

84

Slide 85

Frankie Discrepancy Consistency Results

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

Significant Discrepancy

Plan (94), Sim (94), Succ (92), Math Calc (104); PPVT-III=111

Scores of 81 (LWid), 86 (Comp), 85 (WA), WRAT-3 Spell=83

Cognitive Weakness in Attention (71)

Consistent Scores

85

Slide 86

Measure of Mindset (From Naglieri & Otero, 2017)
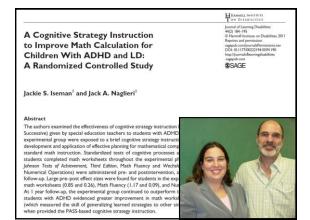

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Slide 87

Intervention Plan for Frankie (K. Kryza)

- ➤ 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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Slide 88

Frankie - Use Planning Strength

88

Slide 89

Frankie – Metacognitive (Planning) Interventions

- ➤ Discourage passivity / encourage independence
  - Teacher should only provide as much assistance as is needed
  - Discourage exclusive use of teacher's solutions
  - Child needs to correct own work
  - Child needs to learn to be self-reliant (Scheid, 1993).

89

Slide 90

Frankie

Help Frankie better manage his attention problem

90

15

Frankie - Interventions

- ➤ Teach rules for approaching tasks
  - Define tasks accurately
  - Assess child's knowledge of the problem
  - Consider ALL possible solutions
  - Evaluate value of all possible solutions
  - Checking work carefully is required
  - Correct your own test strategy (see Pressley & Woloshyn, 1995, p. 140).

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What Should Teachers & Parents do?

92

92

Pay Attention

- Intentionally and Transparently Teach Students…
  - *Focus* and know what to focus on
  - Learn to *Resist* distractions
  - *Sustain* attention over time
  - From K. Kryza (2018)

93

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Frankie and Successive Processing

- ➤**Spelling**
  - Strategies for Spelling (pp.102–103)
  - Segmenting Words for Reading/Decoding and Spelling (p. 89)
- ➤These are designed to help him perform better when tasks require a lot of Successive processing.

94

94

Core Groups → Deeper Learning

- ➤Thoughts about Attention
- ➤Have you seen students like Frankie?
- ➤Your reactions…

95

95

Think Partners → Deeper Learning

- Did PASS scores change your mind about Alejandro? How?
- What big "Ah Ha" did you have?
- Your thoughts…

96

96

16

Slide 97

Is Frankie a Typical ADHD Child?

Note the Hyperactive-Impulsive Type

97

Slide 98

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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Slide 99

Christopher Discrepancy Consistency

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

Significant Discrepancy

Significant Discrepancy

Successive = 101
Simultaneous = 106
Reading Comp = 106
Word Attack 108

Math Computation = 86
Written Language = 81

Planning (82)

Consistent Scores

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Slide 100

ADHD Profiles by Ability Test

CHAPTER 6

Assessment of Cognitive and Neuropsychological Processes

JACK A. NAGLIERI
SAM GOLDSTEIN

Learning and Attention Disorders in Adolescence and Adulthood

Assessment and Treatment

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Slide 101

Profiles for students with ADHD

ADHD

	WISC-V	WISC-IV	WJ-III	KABC-II	CAS

WISC-V: Verbal Comp, Visual Spatial, Fluid Reasn, Working Mem, Processing Spd

WISC-IV: Verbal Comprehension, Perceptual Reasoning, Working Memory, Processing Speed

WJ-III: Comprehension..., Long-Term Retrieval, Visual-Spatial Thinking, Auditory Processing, Fluid Reasoning, Processing Speed, Short-Term Memory

KABC-II: Sequential/Gsm, Simultaneous/Gv, Learning/Glr, Planning/Gf, Knowledge/Gc

CAS: Planning, Simultaneous, Attention, Successive

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Slide 102

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   Allison R. Gaboury
Eastern Illinois University   Puyallup School District, Puyallup, WA

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

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Intervention Plan (K. Kryza)

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

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Helping Children Learn Resources

➤Planning Facilitation
➤Strategies for Learning Basic Math Facts
➤Touch Math for Calculation
➤Seven Step Strategy for Math Word Problems
➤Chunking Strategy for Multiplication

Helping Children Learn
Intervention Handouts for Use in School and at Home
2nd edition
Jack A. Naglieri
Eric B. Pickering

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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 ...

105

Design of the Study

Experimental and Comparison Groups
7 worksheets with Normal Instruction

Experimental Group
19 worksheets with Planning Facilitation

Comparison Group
19 worksheets with Normal Instruction

106

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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

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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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108

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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 out what I can put in for X to make the problem work."
> "I did all the prob[...] one first."

"I try not to fall asleep."

109

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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PASS & BRAIN FUNCTION

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

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Modern Theory: Successive

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

Cow → Wall → Car → Girl

112

CAS2: Rating Scale Successive

113

A Successive processing test using WORDS

114

Let's Take a TEST !

➢First a word repetition test
➢I will say some words. AFTER I finish saying the words you need to write them in order

➢*DO NOT ADVANCE SLIDE*

115

➢Man Cow Key
➢Book Shoe Girl Dog Car
➢Girl Book Dog Car Wall Cow Key Shoe

116

Now a Successive processing test using numbers

117

CAS2

Write down the numbers

Item 12

118

CAS2

Write down the numbers

119

CAS2

Write down the numbers

120

Insights...

➤ Even thought tasks were different in content (numbers and words) and modality (auditory and visual), they required the same kind of thinking – Successive processing

121

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Speech and Successive processing (Samantha at age 3 ½ yrs)

122

122

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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123

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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Successive Reading Practices

The sequence of the sounds is emphasized in this work sheet

125

Phonemic Awareness = Successive

"Now I am going to say parts of words. I want you to put the parts together to make a whole word."

Blending: Advantage

Item	Correct response	# of syllables	Score	
ad : van : tage	advantage	3	0	1

From the Feifer Assessment of Reading (2016)

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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
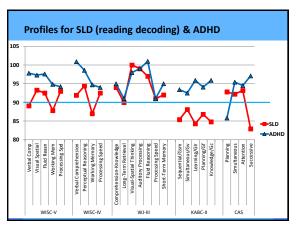

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PASS - ADHD and SLD weaknesses

➤ Students with SLD in Reading Decoding, Spelling, phonological skill deficits and related problems have difference PASS profiles from those with ADHD
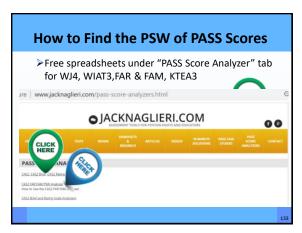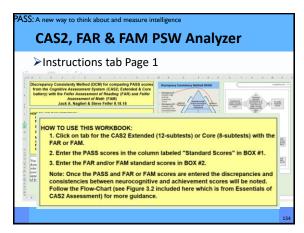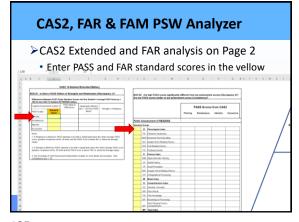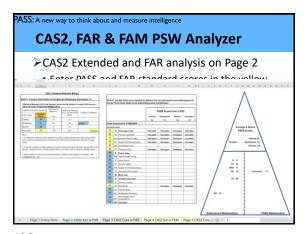
128

Profiles for SLD (reading decoding)

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Profiles for students with ADHD

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Profiles for SLD (reading decoding) & ADHD

131

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]1

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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Slide 133

How to Find the PSW of PASS Scores

➢ Free spreadsheets under "PASS Score Analyzer" tab for WJ4, WIAT3, FAR & FAM, KTEA3

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Slide 134

PASS: A new way to think about and measure intelligence

CAS2, FAR & FAM PSW Analyzer

➢ Instructions tab Page 1

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Slide 135

CAS2, FAR & FAM PSW Analyzer

➢ CAS2 Extended and FAR analysis on Page 2
• Enter PASS and FAR standard scores in the yellow

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Slide 136

PASS: A new way to think about and measure intelligence

CAS2, FAR & FAM PSW Analyzer

➢ CAS2 Extended and FAR analysis on Page 2
• Enter PASS and FAR standard scores in the yellow

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Slide 137

CAS2, FAR & FAM PSW Analyzer

Note: This is a traditional Ability Achievement Discrepancy

➢ Discrepancy #1 Successive processing is a weakness
➢ Discrepancy #2 between good PASS and poor FAR scores
➢ Consistency between Successive & FAR achievement scores

Significant Discrepancy #2

Significant Discrepancy #1

The Consistency tells you WHY the student fails

Consistency

PASS: A better way to think about and measure intelligence

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Slide 138

FAR Phonological Index Subtests
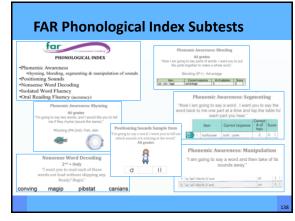

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Thoughts on intervention

JN and KK
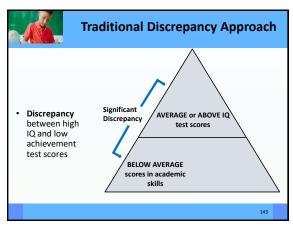
139

Case of Paul: 4th grade referral

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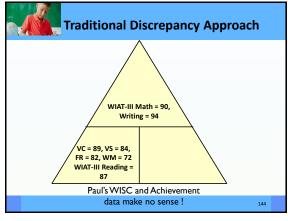- Can't remember the sequence of steps when doing math and math facts

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Paul – age 9 years

WISCV	COMPOSITE SCORE	RANGE	PERCENTILE RANK
Verbal Comprehension	89	Below Average	23%
Visual Spatial	84	Below Average	14%
Fluid Reasoning	82	Below Average	12%
Working Memory	72	Very Low	3%
Processing Speed	76	Very Low	6%
FULL SCALE SCORE	81	Below Average	10%
WIAT III Reading	87	Below Average	19%
WIAT III Math	90	Average	25%
WIAT III Writing	94	Average	34%

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Paul – age 9 years

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

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

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Traditional Discrepancy Approach

- **Discrepancy** between high IQ and low achievement test scores

Significant Discrepancy

AVERAGE or ABOVE IQ test scores

BELOW AVERAGE scores in academic skills

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Traditional Discrepancy Approach

WIAT-III Math = 90, Writing = 94

VC = 89, VS = 84, FR = 82, WM = 72 WIAT-III Reading = 87

Paul's WISC and Achievement data make no sense !

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Slide 145 — Discrepancy Consistency Method - Paul

Poor Successive + Poor Phonological = SLD in Reading Decoding

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

Significant Discrepancy

Significant Discrepancy

Planning = 92
Simultaneous = 92
Attention= 110
Math = 90
Writing = 94

Phonological Index = 75
Nonsense Word Decoding = 71

Successive = 72

Consistency

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Slide 146 — Types of Dyslexia

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Slide 147 — Using CAS2 and Far for Dyslexia

- Naglieri & Feifer provide an 8-page summary of how to use CAS2 and FAR to identify four subtypes of Dyslexia using the Discrepancy Consistency Method

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Slide 148 — CAS2 DCM with WJ-IV Achievement

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Slide 149 — CAS2 DCM with KTEA3

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Slide 150 — Comparing PASS scores with other Achievement Tests
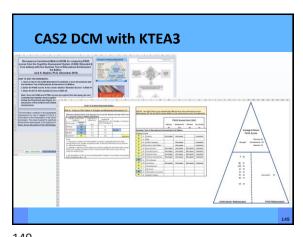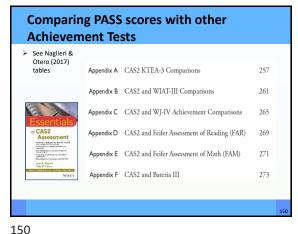
- See Naglieri & Otero (2017) tables
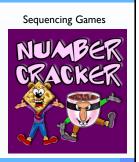
150

K. Kryza's Intervention Plan for Paul

➢ Be Intentional and Transparent
  • Explain what PASS scores mean to engage the student in the solutions and build confidence
➢ Build on His Strengths
  • Help him use his Planning, Attention, Simultaneous and Strengths to support his learning challenges with Successive Processing
➢ Offer and encourage the use of metacognitive strategies that can improve his Successive Processing skills.
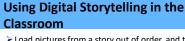➢ Encourage a Growth Mindset and Self Efficacy

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Math Sequencing

➢ Encouraging students to write out the steps for solving problems. (For example: Steps for solving addition and subtraction problems that include regrouping)
➢ Use a simple sheet of paper folded into four squares. Ask students to write the steps in order in the squares.

Sequencing Games

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Using Digital Storytelling in the Classroom

➢ Load pictures from a story out of order, and then save the file as a project.
➢ Have students rearrange the pictures to assess them for their understanding of sequencing.

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PASS & BRAIN FUNCTION

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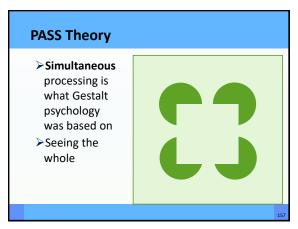From: *Essentials of CAS2 Assessment.* Naglieri & Otero, 2017
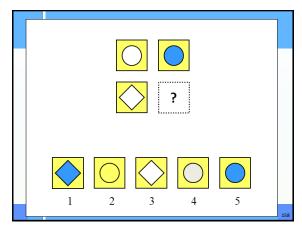
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PASS Theory

➢ **Simultaneous** processing is used to integrate stimuli into groups
  • Stimuli are seen as a whole
  • Each piece must be related to the other
  • Whole language
  • Seeing word as a whole
  • Verbal concepts
  • Geometry, math word problems

Simultaneous Processing

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CAS2: Rating Scale Simultaneous

156

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PASS Theory

➢**Simultaneous** processing is what Gestalt psychology was based on

➢Seeing the whole

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Test Yourself !

Solve these analogies:

Girl is woman as boy is to _____?

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

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Simultaneous Verbal Task

➢Simultaneous processing using verbal content

➢Who is this song about?

My momma's daddy was his oldest son.

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CAS2 Verbal-Spatial Relations

Which picture shows a boy behind a girl?

161

Heteromodal Association Cortex
(Goldberg, 2006)

➢Our brains merge stimuli coming in from the senses into one stream of information

➢This helps us understand the relationship between modality and processing

https://goo.gl/images/cyphg7

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Numbers from 1 to 100

Simultaneous processing facilitated by this work sheet

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Case Study – Let's do it together…

- ➢ The case of Nelson
- ➢ We will determine if he has a PASS weakness?
- ➢ What interventions are appropriate?

Detecting a Pattern of Strengths and Weaknesses Using the PASS Theory as Measured by CAS2

Jack A. Naglieri, Ph.D.
University of Virginia &
Devereux Center for Resilient Children
jnaglieri@gmail.com www.jacknaglieri.com

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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.

Essentials of CAS2 Assessment

Jack A. Naglieri
Tulio M. Otero

WILEY

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Case of Nelson (Naglieri & Feifer, 2017)

INTERVENTION 171

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)

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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 (Naglieri & Feifer, 2017)

- 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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Core Groups → Deeper Learning

➤ Thoughts about PASS and these cases
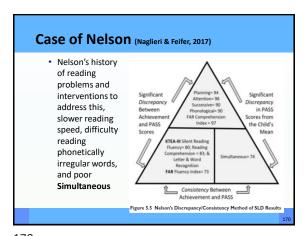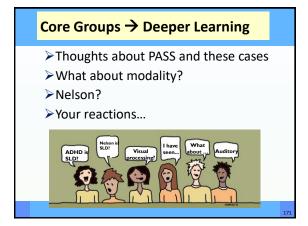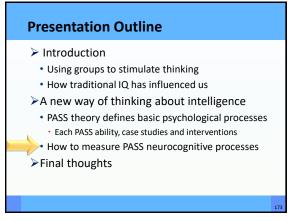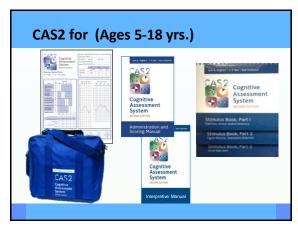➤ What about modality?
➤ Nelson?
➤ Your reactions…

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Think Partners → Deeper Learning

➤ Thoughts about PASS and these cases
➤ What about modality?
➤ Nelson?
➤ Your reactions…

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Presentation Outline

➤ Introduction
- Using groups to stimulate thinking
- How traditional IQ has influenced us
➤ A new way of thinking about intelligence
- PASS theory defines basic psychological processes
  - Each PASS ability, case studies and interventions
- How to measure PASS neurocognitive processes
➤ Final thoughts

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CAS2 for (Ages 5-18 yrs.)

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CAS2 in English & Spanish

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

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CAS2

- Supplementary Scales: Executive Function, Working Memory, Verbal, Nonverbal,
- A Visual and Auditory comparison
- Speed/Fluency scale is new

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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

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CAS2 Online Score & Report

- Narrative report can be obtained in Word or PDF

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Provide Help

The examiner can explain the demands of the task in any manner deemed appropriate and in any language

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CAS2: Brief for Ages 4-18 years

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CAS2: Brief

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

Figure 3.1. Example of page 1 of the CAS2: Brief Examiner Record Form, completed for Tommy.
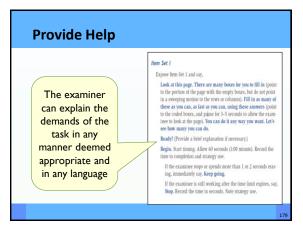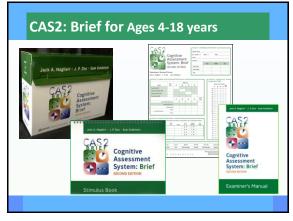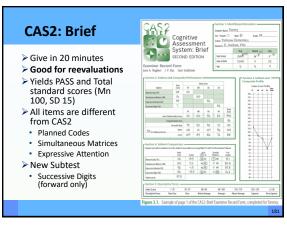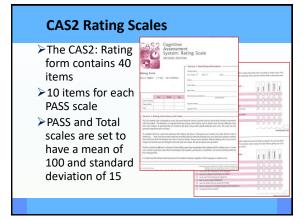
181

CAS2 Rating Scales (Ages 4-18 yrs.)

- The CAS2: Rating measures behaviors associated with PASS constructs
- Normed on a nationally representative sample of 1,383 students rated by teachers

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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

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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

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

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Reactions…

- Are you comfortable with the PASS approach to psychological processes and its measurement using the various CAS2 measures?
  - Does it… make sense?
  - help you justify an SLD determination?
  - give you ideas for intervention?
- Your questions and reactions?

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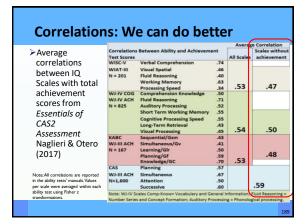
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Presentation Outline

➢ Introduction
- Using groups to stimulate thinking
- How traditional IQ has influenced us

➢ A new way of thinking about intelligence
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➡ Final thoughts

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PASS theory and CAS

➢ Does it work?
- PASS scores are strongly correlated with achievement test scores
- PASS profiles are different for SLD, ADHD, ASD, etc. supporting the Discrepancy Consistency Method
  - DCM answers the question: WHY does the student fail?
- PASS theory is the fairest way to test diverse groups
- PASS scores are strongly related to regular and special educational instructional decisions
- PASS is easily measured in 40-60 minutes

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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)

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

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

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THANK YOU !

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