

DAFFODIL Summer Course

Innovative Assessment of Functioning Oriented at Development and Inclusive Learning



Colégio Luís Antonio Verney
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Das•Naglieri Cognitive Assessment System (CAS)

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“The mind is a wonderful thing. It starts working the minute you’re born and never stops until you get to speak in public.”

Roscoe Drummond

... Specially in English...

Cognitive Assessment System (Rapid Reference)

Authors: Jack A. Naglieri and J. P. Das

Publication Date: 1997

What the Test Measures: PASS Theory of Cognitive Processing

Age Range: 5 years through 17 years 11 months

Two Versions of CAS: **Standard Battery:** includes three subtests in each of the four PASS scales; **Basic Battery:** includes two subtests from each of the four PASS scales

Administration Time: **Standard Battery** = 60 minutes; **Basic Battery** = 40 minutes

Guidelines for Development of the CAS (Naglieri, 1999)

1. A test of intelligence should be based on a theory of ability.
2. A theory of ability should be based on the view that intelligence is best described as cognitive processes, and the term *cognitive processes* should replace the term *intelligence*.
3. A theory of cognitive processes should:
 - (a) inform the user about those specific abilities that are related to academic and job successes and difficulties,
 - (b) have relevance to differential diagnosis, and
 - (c) provide guidance to the selection and/or development of effective programming for intervention.

Guidelines for Development of the CAS (Naglieri, 1999)

4. A theory of cognitive functioning should be firmly based on a sizable research base and should have been proposed, tested, modified, and shown to have several kinds of validity.
5. A test of cognitive processing should follow closely from the theory of cognition on which it is based.
6. A test of cognitive processing should evaluate an individual through items that are as free from acquired knowledge as possible.

Structure of the CAS Scales and Subtest (Naglieri, 1999)

Planning Determining, selecting, applying and evaluating solutions to problems	Matching Numbers	✓
	Planned Codes	✓
	Planned Connections	✓
Simultaneous Integrating separate stimuli into a single whole or group	Nonverbal Matrices	✓
	Verbal-Spatial Relations	✓
	Figure Memory	✓
Attention Selectively focus on particular stimulus (inhibiting responses to competing stimuli)	Expressive Attention	✓
	Number Detection	✓
	Receptive Attention	✓
Successive Integrating stimuli into a specific serial order	Word Series	✓
	Sentence Repetition	✓
	Speech Rate or Sentence Questions	✓

Planning - Matching Numbers (Naglieri & Das, 1997)

18	22	25	17	33	22
61	44	27	33	27	42
22	54	25	52	21	54
90	34	29	91	92	92
254	245	255	524	254	242
438	348	384	348	483	383
914	942	941	491	945	941
884	842	824	848	284	824

Materials Administration and Scoring Manual, pages 13-18
Response Book for Ages 5-7, pages 1-3
Response Book for Ages 8-17, pages 1-4
Red pencil
Stopwatch

Administer Ages 5-7: Demonstration, Samples A & B, Items 1-2
Ages 8-17: Demonstration, Samples A & B, Items 2-4

Time Limits See below

Record Time in seconds
Number correct
Strategy Assessment

Item	Time Limit	Time in seconds	Accuracy Score (Number Correct)		Ratio Score (see pp. 14-16)	
			Ages 5-7	Ages 8-17	Ages 5-7	Ages 8-17
All Ages						
Demo						
Sample A						
Sample B						
5-7 Years						
1.	150*(2:30)					
8-17 Years						
2.	150*(2:30)					
5-7 Stop						
3.	150*(2:30)					
8-17 Stop						
4.	180*(3:00)					
Raw Score						
			Sum of ratio scores, Items 1-2		Sum of ratio scores, Items 2-4	

Planning - Planned Codes (Naglieri & Das, 1997)

A	B	C	D	A	B	C	D
O X	X X	O O	X O	O X	X X	O O	X O
A	B	C	D	A	B	C	D
O X							
A	B	C	D	A	B	C	D
O X							
A	B	C	D	A	B	C	D
O X							
A	B	C	D	A	B	C	D
O X							
A	B	C	D	A	B	C	D
O X							

Materials Administration and Scoring Manual, pages 19-23
Response Book for Ages 5-7, pages 4-7
Response Book for Ages 8-17, pages 5-8
Red pencil
Stopwatch

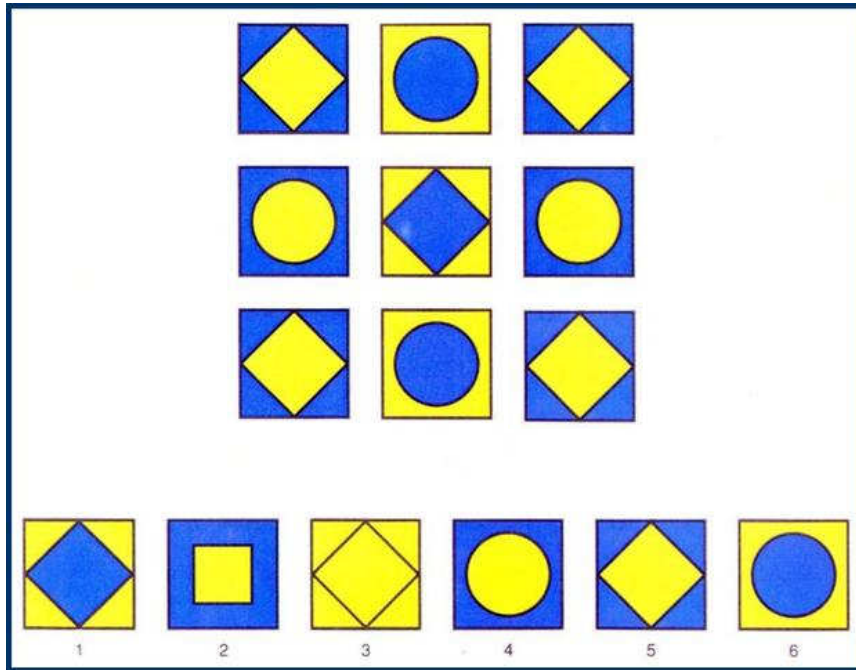
Administer All samples and items

Time Limits See below

Record Time in seconds
Number correct
Strategy Assessment

Item	Time Limit		Time in seconds	Accuracy Score (Number Correct)		Ratio Score (see pp. 14-16)	
	Ages 5-7	Ages 8-17		Ages 5-7	Ages 8-17	Ages 5-7	Ages 8-17
All Ages							
Sample A							
1.	120*(2:00)	60*(1:00)					
Sample B							+
2.	120*(2:00)	60*(1:00)					
Raw Score							=

Simultaneous - Nonverbal Matrices (Naglieri & Das, 1997)



Materials Administration and Scoring Manual, pages 31-34
Stimulus Book, pages 1-67

Start Ages 5-7: Sample, Item 1
Ages 8-17: Sample, Item 7

Discontinue After 4 consecutive items failed

Drop Back If a child ages 8-17 fails Item 7, then give Item 1 (using the directions for ages 5-7) and administer forward until the discontinue rule has been met.

Record Child's response

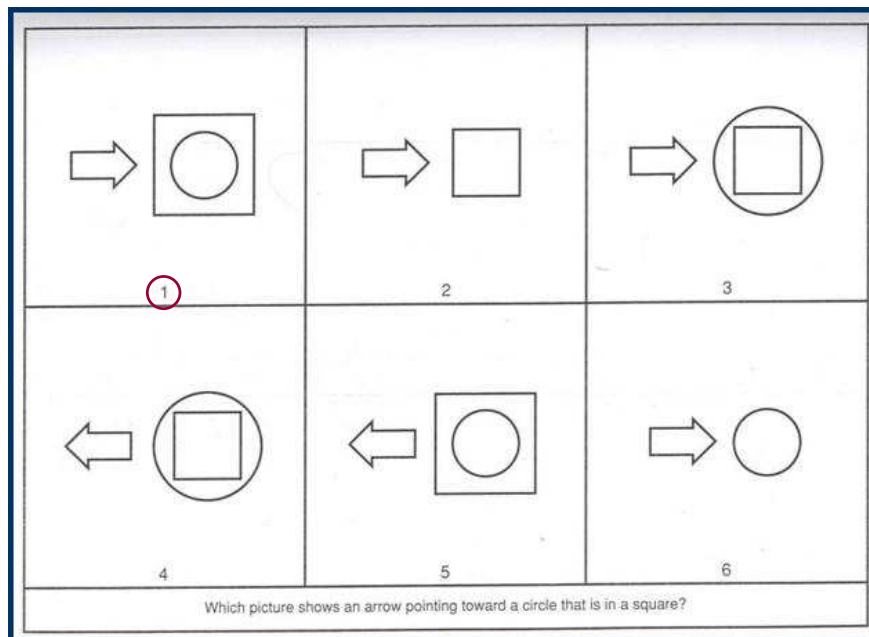
Score Pass = 1, Fail = 0

All Ages	Item	Correct Response	Child's Response	Score 1 or 0
Sample	1	1		
5-7 Years	1	4		
	2	2		
	3	5		
	4	5		
	5	5		
	6	5		
8-17 Years	7	1		
	8	4		
	9	2		
	10	4		
	11	5		
	12	2		
	13	4		
	14	2		
	15	1		
	16	3		
	17	2		
	18	5		
	19	5		
	20	4		
	21	4		
	22	2		
	23	6		
	24	2		
	25	3		
	26	6		
	27	3		
	28	1		
	29	1		
	30	2		
	31	5		
	32	6		
	33	4		

Raw Score: _____

Sum all item scores, giving credit (1) for each item not administered below the starting point.

Simultaneous - Verbal-Spatial Relations (Naglieri & Das, 1997)



Materials Administration and Scoring Manual, pages 35-40
Stimulus Book, pages 69-125
Stopwatch

Start Ages 5-7: Sample, Item 1
Ages 8-17: Sample, Item 7

Discontinue After 4 consecutive items failed

Drop Back If a child ages 8-17 fails Item 7, then give Item 1 (using the directions for ages 5-7) and administer forward until the discontinue rule has been met.

Time Limit 30 seconds per item

Record Child's response

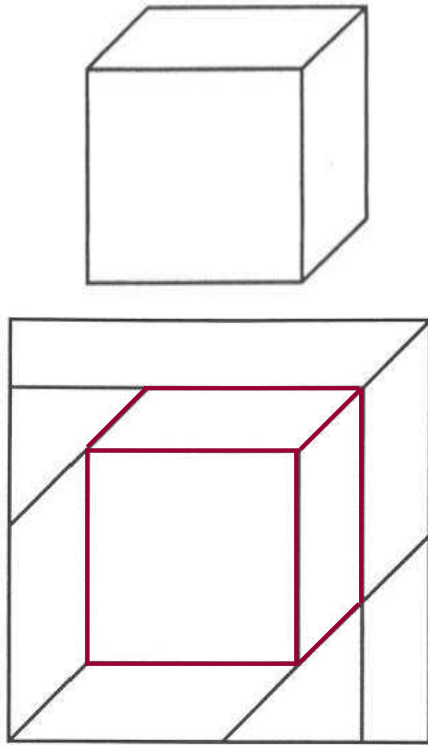
Score Pass = 1, Fail = 0

All Ages	Item	Correct Response	Child's Response	Score 1 or 0
Sample	1	1		
5-7 Years	1	3		
	2	2		
	3	4		
	4	5		
	5	6		
	6	2		
8-17 Years	7	1		
	8	4		
	9	3		
	10	5		
	11	1		
	12	3		
	13	2		
	14	6		
	15	2		
	16	5		
	17	3		
	18	4		
	19	5		
	20	2		
	21	1		
	22	4		
	23	6		
	24	5		
	25	4		
	26	1		
	27	6		

Raw Score: _____

Sum all item scores, giving credit (1) for each item not administered below the starting point.

Simultaneous - Figure Memory (Naglieri & Das, 1997)



Materials Administration and Scoring Manual, pages 41-50
Stimulus Book, pages 125-237
Figure Memory Response Book, pages 1-57
Red pencil
Stopwatch

Start Ages 5-7: Demonstration, Sample, Item 1
Ages 8-17: Demonstration, Sample, Item 3

Discontinue After 4 consecutive items failed

Drop Back If a child ages 8-17 fails Item 5, then give item 1 (using the directions for ages 5-7) and administer forward until the discontinue rule has been met.

Time Limit Expose each stimulus for 5 seconds

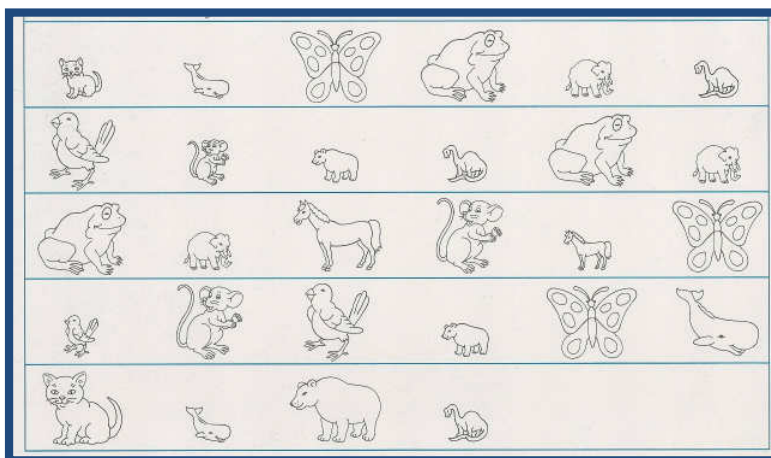
Score Pass = 1, Fail = 0

Item	Score 1 or 0
All Ages	
Demonstration	
Sample	
5-7 Years	
1.	
2.	
8-17 Years	
3.	
4.	
5.	
6.	
7.	
8.	
9.	
10.	
11.	
12.	
13.	
14.	
15.	
16.	
17.	
18.	
19.	
20.	
21.	
22.	
23.	
24.	
25.	
26.	
27.	
Raw Score	

Sum all item scores, giving credit (1) for each item size administered below the starting point.

Attention - Expressive Attention (Naglieri & Das, 1997)

This subtest is composed of two sets of items.
The first set is administered to children ages 5-7.
The second set of items is administered to children ages 8-17.



The child's task is to identify the stimulus pictures as either large or small animals, regardless of the relative size of the pictures on the page.

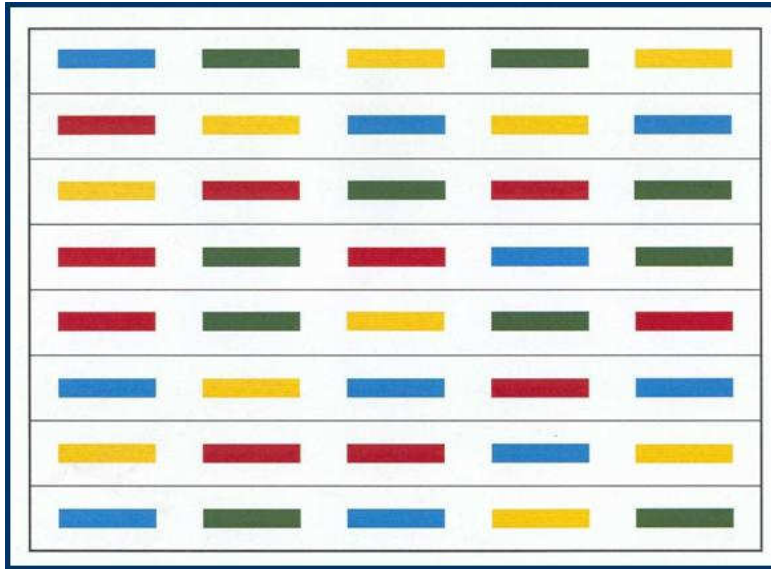
The three items represent the animals in the same size (Item 1), in a size relative to actual size (Item 2), and in a size usually opposite actual size (Item 3).

Only Item 3 is used for scoring purposes.

This subtest is included in Standard and Basic Batteries.

Attention - Expressive Attention (Naglieri & Das, 1997)

This subtest is composed of two sets of items. The first set is administered to children ages 5-7. The second set of items is administered to children ages 8-17.



Materials Administration and Scoring Manual, pages 51-58
Stimulus Book, pages 241-253 (ages 5-7) or 255-265 (ages 8-17)
Stopwatch

Administer Ages 5-7: Demonstration, Samples A-C, Items 1-3
Ages 8-17: Samples D-F; Items 4-6

Time Limit 180 seconds per item

Record Time in seconds
Number correct

Item	Time Limit	Time in seconds	Accuracy Score (Number Correct)	Ratio Score (see pp. 14-16)
5-7 Years				
Demo				
Sample A				
1.	180(3:00)			
Sample B				
2.	180(3:00)			
Sample C				
3.	180(3:00)			
8-17 Final Item				
8-17 Years				
Sample D				
4.	180(3:00)			
Sample E				
5.	180(3:00)			
Sample F				
6.	180(3:00)			
8-17 Final Item				

Attention - Number Detection (Naglieri & Das, 1997)

Find the numbers that look like this: 1 2 3

5	<u>2</u>	1	2	<u>3</u>	6	4	<u>3</u>	6	3	<u>3</u>	4
5	2	3	1	6	4	<u>1</u>	4	4	6	<u>1</u>	5
4	5	<u>2</u>	2	3	4	1	<u>2</u>	6	<u>3</u>	2	<u>3</u>
6	5	2	3	6	3	1	4	1	5	4	1
6	3	3	5	2	1	5	2	6	3	6	4
5	2	4	5	1	4	1	5	3	6	1	6
4	3	2	5	3	4	2	2	4	2	1	4
6	1	6	1	5	5	2	4	5	3	2	1
1	6	3	6	6	3	1	6	5	5	4	2
4	1	1	2	3	2	4	1	6	5	3	4
4	5	2	6	3	3	4	1	6	5	3	5
1	1	6	4	2	6	1	4	6	1	3	5
2	6	4	1	2	5	5	2	5	4	6	3
1	5	5	2	3	3	2	6	5	2	4	1
4	6	1	5	4	3	2	4	2	5	3	6

Materials Administration and Scoring Manual, pages 59-64
Response Book for Ages 5-7, pages 15-18
Response Book for Ages 8-17, pages 18-21
Red pencil
Stopwatch

Administer Ages 5-7: Samples A & B, Items 1-2
Ages 8-17: Samples C & D, Items 3-4

Time Limit 150 seconds per item

Record Time in seconds
Number correct
Number of false detections

Item	Time Limit	Time in seconds	Number Correct	Number of False Detections	Accuracy Score (Number Correct minus False Detections)	Ratio Score (see pp. 14-16)
5-7 Years						
Sample A						
1.	150(2:30)					
Sample B						
2.	150(2:30)					
8-17 Stop						
8-17 Years						
Sample C						
3.	150(2:30)					
Sample D						
4.	150(2:30)					
8-17 Stop						

Attention - Receptive Attention (Naglieri & Das, 1997)

EB	<u>bb</u>	TR	nb	RA	eR	nA	<u>rr</u>	An	AA
EE	bN	NR	eT	Tb	<u>TT</u>	EN	bT	rE	ne
rt	<u>RR</u>	ta	Tr	<u>EE</u>	bE	NE	<u>BB</u>	Te	Rn
Rb	nr	aT	NN	aE	aa	tr	Ne	ee	br
er	Ar	tn	tt	na	rB	nn	ar	rT	bt
ra	EE	te	rN	nB	aR	Nt	tt	Ea	tB
rb	et	bb	Tn	TT	nR	ee	TE	Nb	BB
aa	rn	Br	Ae	RE	rA	Nr	AA	Be	TN
AB	tE	nn	Bn	Er	ab	rr	BA	TT	eb
AR	En	bn	rr	eB	aN	AE	NT	bR	eN
TR	nn	EE	Ta	NB	rr	At	tN	ER	NN
ea	tt	ET	bb	RT	tb	Ab	BN	BB	re
AA	nt	at	BE	Ra	AT	en	Na	Bt	an
nT	EA	TA	ae	nn	RN	Ba	AA	NA	ee
RR	be	aB	AN	TB	Eb	BT	Rb	ba	tt
Rt	ta	aa	bA	Re	nE	EE	eA	bb	bE
NE	Te	Rn	TT	Rb	nr	aT	aE	tr	NN
ee	Ne	br	er	Ar	RR	tn	tt	Be	na
rB	Et	ar	rT	bt	ra	te	rN	BB	nB
aR	Nt	NN	Ea	BR	aa	tB	rb	et	RR

Materials Administration and Scoring Manual, pages 65-71
Response Book for Ages 5-7, pages 19-25
Response Book for Ages 8-17, pages 22-25
Red pencil
Stopwatch

Administer Ages 5-7: Samples A & B, Items 1-4
Ages 8-17: Samples C & D, Items 5-6

Time Limits See below

Record Time in seconds
Number correct
Number of false detections

Item	Time Limit	Time in seconds	Number Correct	Number of False Detections	Accuracy Score (Number Correct minus False Detections)	Ratio Score (see pp. 14-16)
5-7 Years						
Sample A						
1.	120*(2:00)			◇	◇	
2.	120*(2:00)			◇	◇	
Sample B						
3.	120*(2:00)			◇	◇	
4.	120*(2:00)			◇	◇	
						Raw Score
8-17 Years						
Sample C						
5.	120*(2:00)			◇	◇	
Sample D						
6.	180*(3:00)			◇	◇	
						Raw Score

Successive - Word Series (Naglieri & Das, 1997)

The child's task is to repeat a series of words in the same order in which the examiner says them.

This subtest is included in Standard and Basic Batteries.

Materials Administration and Scoring Manual, pages 73-76
Stopwatch

Start Ages 5-7: Sample, Item 1
Ages 8-17: Sample, Item 4

Discontinue After 4 consecutive items failed

Drop Back Ages 8-17: If the child fails Item 4, then give Item 1 (using the directions for ages 5-7) and administer forward until the discontinue rule has been met.

Score Pass = 1, Fail = 0

Item	Score 1 or 0
Sample Book-Car	
5-7 Years	
1. Car-Wall	
2. Key-Shoe	
3. Man-Cow-Key	
8-17 Years	
4. Dog-Girl-Book	
5. Car-Shoe-Wall	
6. Shoe-Dog-Man-Book	
7. Book-Wall-Key-Dog	
8. Man-Wall-Car-Shoe	
9. Girl-Car-Shoe-Cow	
10. Wall-Car-Girl-Cow	
11. Book-Shoe-Girl-Dog-Car	
12. Cow-Key-Man-Wall-Dog	
13. Shoe-Car-Dog-Man-Key	
14. Girl-Key-Shoe-Dog-Wall-Book	
15. Dog-Key-Man-Cow-Shoe-Girl	
16. Man-Girl-Shoe-Car-Cow-Wall	
17. Car-Girl-Wall-Key-Book-Shoe	
18. Book-Car-Wall-Man-Dog-Shoe-Key	
19. Key-Girl-Man-Book-Car-Shoe-Wall	
20. Man-Car-Girl-Wall-Book-Dog-Cow	
21. Car-Dog-Key-Cow-Shoe-Girl-Man	
22. Dog-Girl-Car-Shoe-Key-Wall-Cow	
23. Girl-Book-Dog-Car-Wall-Cow-Key-Shoe	
24. Wall-Girl-Dog-Man-Book-Car-Shoe-Cow	
25. Man-Shoe-Key-Book-Wall-Dog-Girl-Car	
26. Key-Wall-Man-Shoe-Book-Cow-Car-Dog-Girl	
27. Book-Key-Girl-Man-Car-Wall-Shoe-Dog-Cow	
Raw Score	

Sum all item scores, giving one point for each item not administered below the starting point.

Successive - Sentence Repetition

(Naglieri & Das, 1997)

The child's task is to repeat a series of sentences spoken by the examiner.

Each sentence contains color names in place of content words.

This subtest is included in Standard and Basic Batteries.

Materials		Administration and Scoring Manual, pages 77-80	
Start		Sample A	
Discontinue		After 4 consecutive items failed	
Score		Pass = 1, Fail = 0	
			Score 1 or 0
All Ages	Item		
	Sample A.	The blue is yellowing.	
	Sample B.	The red browned.	
	1.	The white is blue.	
	2.	The reds are black.	
	3.	The yellow greened the blue.	
	4.	The yellow and green brown the purple.	
	5.	The yellows have pinked a blue brown.	
	6.	The purple is blacking to tan the gray.	
	7.	The blue whites the gray the red.	
	8.	The red blueed the green with a yellow.	
	9.	The purple yellows are green and the reds are white.	
	10.	The green reds the blue and yellows the brown.	
	11.	The red who blues yellow, browned on the green.	
	12.	The tan greened to the black, and the purple grayed to the white.	
	13.	The purple blueed at the green, when the gray yellowed at the pink.	
	14.	Red blues to pink the green purple, but not the brown purple.	
	15.	The white that greened a yellow pink, blacked a tan that browned the red.	
	16.	The brown that grayed the blue white, pinked the green to black a red.	
	17.	The red that tanned the blue to the black, greened before pink yellowed gray.	
	18.	Brown blues green, but green blues the pink who reds in the purple white.	
	19.	The purple blacked the gray with a pink, when the tan greened the yellow to brown.	
	20.	The blue reds a green yellow of pinks, that are purple in the brown, and then grays the tan.	
Raw Score			<input type="text"/>
Sum all item scores			

Materials		Administration and Scoring Manual, pages 81-84		
		Stopwatch		
Administer		Sample, Items 1-8		
Time Limit		30 seconds per item		
Record		Time in seconds		
5-7 Years	Item	Time Limit	Number of Repetitions	Time in seconds
	Sample: Key-Dog-Book		1 2 3 4 5 6 7 8 9 10	
	1. Man-Cow-Key	30"	1 2 3 4 5 6 7 8 9 10	
	2. Blue-Red-Green	30"	1 2 3 4 5 6 7 8 9 10	
	3. Dog-Girl-Book	30"	1 2 3 4 5 6 7 8 9 10	
	4. Purple-Yellow-Brown	30"	1 2 3 4 5 6 7 8 9 10	
	5. Wall-Car-Shoe	30"	1 2 3 4 5 6 7 8 9 10	
	6. Yellow-Black-Purple	30"	1 2 3 4 5 6 7 8 9 10	
	7. Shoe-Girl-Car	30"	1 2 3 4 5 6 7 8 9 10	
	8. Purple-Orange-Yellow	30"	1 2 3 4 5 6 7 8 9 10	
Raw Score			<input type="text"/>	
Sum all item times				

Successive - Speech Rate

(Ages 5-7 Only)

(Naglieri & Das, 1997)

This subtest requires the child to say a series of words as fast as possible ten times.

There are eight items, each of which contains a series of one- or two-syllable words.

This subtest is included in Standard Battery only.

Successive - Sentences Questions (Ages 8-17 Only)

(Naglieri & Das, 1997)

The child's task is to answer a question about a sentence read by the examiner. Each sentence contains color names in place of content words. This subtest is included in Standard Battery only.

Materials Administration and Scoring Manual, pages 85-89				
Start Ages 8-17: Samples A & B, Item 1				
Discontinue After 4 consecutive items failed				
Score Pass = 1, Fail = 0				
Item	Sentences and Questions	Correct Response	Score 1 or 0	
8-17 Years	Sample A	The blue is yellowing. Who is yellowing?	(The) blue	
	Sample B	The red browned. What did the red do?	Brown(ed)	
	1.	The white is blue. What is blue?	(The) white	
	2.	The reds are black. What are black?	(The) red(s)	
	3.	The pinks are yellowing the tans. What are the pinks doing?	Yellow(ing)	
	4.	The yellow greened the blue. Who greened the blue?	(The) yellow	

CAS in Portugal

- Cruz, V. (2005). *Cognitive Education and Reading Disabilities*. PhD in Special Education.
- Rosário, A. C. (2008). *Evaluation of Cognitive Processes in Pupils with Reading Comprehension Difficulties*. Master Degree in Psychology: Development and Intervention in Educative Contexts.
- ...

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Colégio Luís Antonio Verney
5-11 September 2010

Thank You!

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